CONCUSSION IN SPORTS

Return to Play Policies

This document contains the Return to Play policies for every state athletic/activities association as of **May 2018**. You can scroll through the document to find your state, or you can use the bookmarks embedded in this document. If you have any questions, please contact your state athletic/activities association for more information.

RETURN TO PLAY POLICIES

Alabama

SECTION 28. CONCUSSION POLICY: Any student-athlete who exhibits signs, symptoms or behaviors consistent with a concussion shall be removed from the contest and **shall not return that day**. Following the day the concussion symptoms occur, the student-athlete may return to practice or play **only after a medical release** has been issued by a medical doctor.

Any health care professional or AHSAA certified coach may identify concussive signs, symptoms or behaviors of a student athlete during any type of athletic activity. Once concussive signs are identified, only a medical doctor can clear the athlete to return to play. Any school in violation of the AHSAA policy application of National Federation rule will be subject to sanctions.

An online NFHS Concussion Course is required for all certified coaches (faculty and non-faculty). The free educational course will aid in identifying symptoms of a concussion and the procedure to follow when these symptoms are recognized. The course is available at www.nfhs.org.

A Concussion Information Form signed by each student and his/her parent must be kept on file in the principal's office where the student is enrolled. (The form will satisfy the requirement for one school year.)

(NFHS Suggested Guidelines for Management of a Concussion are found in the Appendix in the back of each NFHS Rules Book).

RETURN TO PLAY POLICIES

Alaska

HEALTHCARE PROVIDER RELEASE CONCUSSION RETURN TO PLAY PROTOCOL

Student Name: _____

Sport: _____ **School:** _____ **Birthdate:** _____

Date of Injury: _____ **Description:** _____

IMPORTANT NOTE TO HEALTHCARE PROVIDER

Per AS 14.30.142, as amended, a student who has been removed from participation in a practice or game for suspicion of concussion may not return to play until the student has been evaluated and cleared for participation by an Athletic Trainer OR by a qualified person who verifies that he or she is currently trained in the evaluation and management of concussions.
"Qualified person" means either:

1) A health care provider licensed in Alaska, or exempt from licensure under Alaska law(AS 08.64.370(1), (2), or (4), **OR**
2) a person acting at the direction and under the supervision of a physician licensed in Alaska, or exempt from licensure.

As interpreted by ASAA, Athletic Trainer means a Certified Athletic Trainer.
As interpreted by ASAA, "Trained" means that the provider:

1) Has completed the online CDC Concussion Course for Clinicians (www.preventingconcussions.org) in the last two years, **AND**
2) Has **a)** completed 2 hours of CME in Sports Concussion Management in the last 2 years, or **b)** has completed a one-year Sports Medicine Fellowship, a Certifacte of Added Qualifications in Sports Medicine, or a Residency in Neurology or Neurosurgery.

IF YOU DO NOT MEET THESE CRITERIA, PLEASE REFER THE STUDENT ATHLETE TO A HEALTHCARE PROVIDER WHO DOES

If an athlete is removed from participation in an activity because of a suspected concussion:

BUT is found **not to have a concussion**, the athlete's return to play should be determined by the athlete's medical provider in accordance with the provider's assessment of the athlete's condition and readiness to participate;

AND is **determined to have sustained a concussion**, the athlete's readiness to return to participation should be assessed in accordance with the Alaska School Activities Association's graduated Return to Play (RTP) protocol. All student athletes with a concussion must successfully complete an appropriate RTP Protocol that lasts a minimum of six days before resuming full athletic activity. The Return to Play protocol recommended by ASAA's Sports Medicine Advisory Committee is described below.

Students should begin with a period of complete rest in which they avoid cognitive and physical exertion. As symptoms diminish, and the athlete feels able, he/she can begin trials of cognitive work, e.g. reading, texting, computer, TV, school. The introduction of cognitive work should be in short increments which increase progressively in length and intensity so long as concussion symptoms do not recur or worsen. When several hours of cognitive work are well tolerated at home, then attendance at a half day of school is appropriate. When a full day of school is tolerated, then homework may be added. Academic accommodations may be necessary for student athletes as they return to school following a concussion. If cognitive work at any time provokes or exacerbates symptoms, then the work should be discontinued, additional cognitive work should be minimized until symptoms regress, and the student can attempt to advance cognitive work again on the following day.

Only when the concussion symptoms have been entirely absent for 24 hours, does Day 1 of the progressive return to physical activity begin. The ***Return To Play Protocol*** is to take place over a ***minimum of six days, with at least 24 hours between each step.*** The rate of progression through the steps in the program should be individualized. Factors which may slow the rate are young age, history of previous concussions, number/severity/duration of concussion symptoms, medical risk factors, and the concussion risk of the sports to which the athlete will return. Physical or cognitive activity that provokes recurrence of concussive symptoms will delay recovery and increase the risk of future concussion. Therefore, if symptoms recur at any step, then physical activity should stop until 24 hours after resolution of the symptoms, and then resume at the previous step.

HEALTHCARE PROVIDER RELEASE - RETURN TO PLAY PROTOCOL

Student Name: _____

SYMPTOMATIC STAGE: Physical and Cognitive Rest; Then Incremental Cognitive Work, without Provoking Symptoms.	
Day 1	Begin when symptom free for 24 hours. 15 min of light aerobic activity: walk, swim, stationary bike. **NO** resistance training.
Day 2	30 min light-moderate aerobic activity: jog, more intense walk, swim, stationary bike. **NO** resistance training. START PE class at previous day's activity level. As RTP Protocol activity level increases, PE activity level remains 1 day behind
Day 3	30 min mod-heavy aerobic activity: run, swim, cycle, skate, Nordic ski. **NO** resistance training.
Day 4	30 min heavy aerobic activity: hard run, swim, cycle, skate, Nordic ski. 15 min Resistance Training: push-up, sit-up, weightlifting
Day 5	Return to Practice, Non-contact Limited Participation: Routine sport-specific drills
Day 6	Return to Full-Contact Practice
Day 7	Medically Eligible for Competition after completing RTP Protocol and is cleared by Healthcare Professional. ASAA Eligibility Criteria must be met before return to competition.

SECTION 1: THE CONCUSSED ATHLETE - to be completed by Healthcare Provider

☐ Student has sustained a concussion and is not yet ready to begin the Return to Play Protocol.

☐ Student is cleared to begin ASAA's **Return to Play Protocol** with any modifications noted below. *This clearance is no longer effective if student's symptoms return and persist.*

☐ **Student is entirely free of concussion symptoms and has completed the ASAA Return to Play Protocol as described above. The athlete is medically eligible to return to competition.**

Please note any additional modifications to ASAA's Return to Play Protocol below [attach more pages if needed]:

SECTION 2: THE NON-CONCUSSED ATHLETE - to be completed by Healthcare Provider

☐ Student has **NOT** sustained a concussion. The **Medical Diagnosis** which explains his/her symptoms is:
This is **REQUIRED** if checking the first box:_____

☐ Student is cleared to return to full sports participation. Medical Dx:_____

☐ Student is cleared for limited participation with the following restrictions [attach more pages if needed]:

SECTION 3: HEALTHCARE PROFESSIONAL ATTESTATION

By signing this form, I attest that I am a **Qualified Healthcare provider authorized under AS 14.30.142** and that I meet the ASAA definition of "Currently Trained" in the evaluation and management of concussion, as explained above. I do hereby take responsibility for the daily monitoring and decision making in managing this student athlete's concussion.

_____
Healthcare Provider Signature | HCP Printed Name | AK License Number | Date

SECTION 3: ATHLETE AND PARENT CONSENT

The **Return to Play Protocol** incorporates an internationally recognized process by which concussed athletes are returned to athletic participation as safely as possible. Participation in athletics is accompanied by the risk of injury, permanent disability, and death. Having recently sustained a concussion, an athlete is at more risk for another head injury with risk of permanent disability or death. By signing this form, the athlete and the parent indicate their understanding that the completion of the **Return to Play Protocol** is not a guarantee of safe return to athletic participation. The parent accepts the risk of additional injury in requesting and consenting to the athlete's return to athletic participation.

_____ _____
Student Athlete Signature | Date — Parent Signature | Date

_____ _____
Student Athlete Printed Name — Parent Printed Name

RETURN TO PLAY POLICIES

Arizona

AIA CONCUSSION POLICY

- Education
  - All AIA participating schools must have a concussion policy on file. The policy must address the following:
    - Concussion education
    - Removal from play
    - Return to play
  - Parents and athletes must sign a form acknowledging education regarding concussion

- Mechanics and Criteria for Removal from Play
  - An athlete, coach, licensed athletic trainer, team physician, official or parent can remove an athlete from play.
  - Only an appropriate health care professional can refute the diagnosis of a concussion.

- Return to Play Criteria.
  - Return to play policy:
    - No athlete should return to play (RTP) or practice on the same day of a concussion.
    - Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
    - Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
    - After medical clearance, return to play shall follow a step-wise protocol with provisions for delayed return to play as directed by an appropriate health care provider.
    - Return to play should only occur after an athlete has returned to full school attendance without academic accommodations

- Appropriate Health-care Professionals for Return to Play
  - An appropriate health-care professional is defined as the following:
    - Licensed Athletic Trainer
    - Physician (MD/DO)
    - Licensed Nurse Practitioner
    - Physician Assistant

- Return to Academics
  - Cognitive rest should be recommended for symptomatic athletes. This may include limiting activities such as reading, texting, and computer usage.
  - In some instances this may also involve school absences and/or the use of academic adjustments or accommodations as prescribed by the appropriate healthcare professional and school academic team (school nurse, school counselor, administration, etc).
  - Returning an athlete to the classroom following concussion should follow a return to learn progression

- Other

- At the beginning of a game, the coach must certify to the official that the equipment is in compliance with safety regulations and properly fitted.
- If a helmet comes off or becomes dislodged during play, must remain out for one play or call a time out to have the equipment reassessed.

14.16 DISCRIMINATION

14.16.1 A school may sponsor separate teams for members of each sex in a particular sport or a mixed-sex team in a particular sport, except that a school shall not offer the following sports on a mixed-sex team basis: softball / badminton / volleyball / beach volleyball (emerging sport).

14.16.2 To compensate for the lack of opportunity for girls in interscholastic activities, the following sports shall be offered for girls only: badminton / softball / beach volleyball (emerging sport)

14.16.3 A school may offer volleyball only for girls and not offer volleyball for boys.

14.16.4 Since boys historically have had ample opportunity for participation, and currently have available sufficient avenues for interscholastic participation, boys are not allowed to qualify for girls teams in the following sports: badminton / softball / volleyball / beach volleyball (emerging sport). To allow boys to qualify for girls' teams in these three sports would displace girls from those teams and further limit girls' opportunities for participation in interscholastic athletics.

14.16.5 A school may offer badminton, softball and volleyball for boys if sanctioned by the AIA membership in accordance with the AIA Constitution and Bylaws.

14.16.6 Whenever a school provides a team(s) for boys and a team(s) for girls in the same sport, girls shall not be permitted to qualify for the boys' team(s) in that sport, nor shall boys be permitted to qualify for the girls' team(s) in that sport.

DETERMINATION: *The Executive Board determined that baseball and softball are considered two separate sports and that the current AIA Constitution and Bylaws does not contain a rule, which excludes girls from participating in baseball. (Ex. Bd. 2/20/96)*

14.16.7 In the case of a mixed-sex team and a single-sex team, the mixed-sex team shall compete only against a boys' team or another mixed-sex team.

14.17 HEAT ACCLIMATIZATION & EXERTIONAL HEAT ILLNESS MANAGEMENT POLICY

14.17.1 It is the position of the AIA that prevention is the best way to avoid exertional heat stroke. Prevention includes educating athletes and coaches about:

1. Recognition and management of exertional heat illness;
2. The risks associated with exercising in hot, humid environmental conditions;
3. The need for gradual acclimatization over a 14 day period;
4. Guidelines for proper hydration;
5. Implementing practice/competition modifications according to local temperature and relative humidity readings.

14.17.2 **Definitions**

Exertional heat illness includes the following conditions, ordered from the least to the most dangerous:

1. Exercise associated muscle cramps: an acute, painful, involuntary muscle contraction usually occurring during or after intense exercise, often in the heat, lasting approximately 1-3 minutes.
2. Heat syncope: also known as orthostatic dizziness, it refers to a fainting episode that can occur in high environmental temperatures, usually during the initial days of heat exposure.
3. Exercise (heat) exhaustion: the inability to continue exercise due to cardiovascular insufficiency and energy depletion that may or may not be associated with physical collapse.
4. Exertional heat stroke: a severe condition characterized by core body temperature > 40°C (104°F), central nervous system (CNS) dysfunction, and multiple organ system failure induced by strenuous exercise, often occurring in the hot environments.

Heat Acclimatization Protocol

Days 1 – 5: (The team amount cannot choose to train in a less severe climate.)

- Days 1 through 5 of the heat-acclimatization period consist of the first 5 days of formal practice. During this time, athletes may not participate in more than 1 practice per day.
- If a practice is interrupted by inclement weather or heat restrictions, the practice should recommence once conditions are deemed safe. Total practice time should not exceed 3 hours in any 1 day. In additional to practice, a 1-hour maximum walk-through is permitted during days 1-5 of the heat-acclimatization period. However, a 3-hour recovery period should be inserted between the practice and walk-through (or vice versa). (Note: A walk-through is defined as no contact with other individuals, dummies, sleds or shields).

(Section 14.17 cont'd. on next page)

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(Section 14.17 cont'd. on next page)

- During days 1-3 of the heat-acclimatization period, in sports requiring helmets or should pads, a helmet is the only protective equipment permitted. The use of shields and dummies during this time is permissible as a non-contact teaching tool.
- During days 4-6, only helmets and shoulder pads may be worn.
    - Football only: on days 4-6, contact with blocking sleds and tackling dummies may be initiated.

Days 6 – 14:

- Beginnings no earlier than day 6 and continuing through day 14, double-practice days must be followed by a single-practice day.
- On single-practice days, 1 walk-through is permitted, separated from the practice by at least 3 hours of continuous rest. When a double-practice days is followed by a rest day, another double-practice day is permitted after the rest day.
- On a double-practice day, neither practice should exceed 3 hours in duration, nor should student-athletes participate in more than 5 total hours of practice. Warm-up, stretching, cool-down, walk-through, conditioning and weight-room activities are included as part of practice time. The 2 practices should be separated by at least 3 continuous hours in a cool environment.
- Beginning on day 7, all protective equipment may be worn and full contact may begin.
- Full-contact sports may begin 100% live contact drills no earlier than day 7.
- Because the risk of exertional heat illnesses during the preseason heat-acclimatization period is high, we strongly recommend that an athletic trainer be on site before, during and after all practices.

14.17.3 **Hydration Strategies**

- Sufficient, sanitary and appropriate fluid should be readily accessible and consumed at regular intervals before, during and after all sports participation and other physical activities to offset sweat loss and maintain adequate hydration while avoiding overdrinking.
- Generally, 100 to 250 mL (approximately 3– 8 oz) every 20 minutes for 9- to 12-year-olds and up to 1.0 to 1.5 L (approximately 34 –50 oz) per hour for adolescent boys and girls is enough to sufficiently minimize sweating-induced body-water deficits during exercise and other physical activity as long as their pre-activity hydration status is good.
- Pre-activity to post-activity body-weight changes can provide more specific insight to a person's hydration status and rehydration needs. Athletes should be well-hydrated before commencing all activities
- (see guideline box format)
- The following guidelines are suggested:

Condition	% Body Weight Change
Well Hydrated	+1 to -1
Minimal dehydration	-1 to -3
Significant dehydration	-3 to -5
Serious dehydration	> -5

% Body weight change = [(pre-exercise body weight – post-exercise body weight) / pre-exercise body weight] x 100

14.17.4 **Return to Play Following Exertional Heat Stroke**

The following is the protocol for return to play following heat stroke:

1. Refrain from exercise for at least 7 days following the acute event.
2. Follow up in about 1 week for physical exam by licensed physician (MD, DO)
3. When cleared for activity by a licensed physician, begin exercise in a cool environment and gradually increase the duration, intensity, and heat exposure for 2 weeks to acclimatize and demonstrate heat tolerance under the direction of a licensed healthcare professional.
4. If return to activity is difficult, consider a laboratory exercise-heat tolerance test about one month post-incident.
5. Athlete may be cleared for full competition if heat tolerance exists after 2 – 4 weeks of training.

The AIA also recommends that any athlete suspected of having suffered *exertional heat exhaustion* be referred to a licensed physician for follow-up medical examination and clearance.

AIA ARIZONA INTERSCHOLASTIC ASSOCIATION

OUR STUDENTS, OUR TEAMS . . . OUR FUTURE.

Anyone Can Save A Life - Emergency Action Plan - POLICY

Administrators,

On a motion duly made, seconded and unanimously carried during the April 15, 2013 AIA Executive Board meeting, the Board approved the following effective 2013-2014:

- Every school must have an emergency action plan in place in order to host a post season tournament.

Example:

- Calling 911
- CPR
- Automated external defibrillator (AED)

It was noted that all AIA Tournament Guides will have information related to emergency action plans. The AIA will also assist schools in finding grants to help schools purchase defibrillators.

Contact the AIA, primarily AIA Multimedia Contributor **Mr. Jose Garcia** at jgarcia@aiaonline.org, for more information about acquiring an AED.

Please refer to the December 10, 2012 Board minutes for additional information.

The following link is posted on aiaonline.org for preparing and submitting AIA host school required Emergency Action Plan (EAP).

http://aiaonline.org/files/15211/emergency-action-plan-template.pdf

This form is a quick and simple. Please email the completed form to the AIA office to **Ms. Jess Garcia** at jegarcia@aiaonline.org

A list of current EAP submissions may be found at:

https://www.google.com/url?q=http://aiaonline.org/files/14197/anyone-can-save-a-life-emergency-action-plans-submissions.xlsx&sa=U&ved=0ahUKEwjI2OaR_qzMAhWFkh4KHQeLDs8QFggIMAI&client=internal-uds-cse&usg=AFQjCNFYzI46xocgckK9XyeyehNDwaUFqQ

Please contact Ms. Garcia at jegarcia@aiaonline.org should questions remain.

dld 4/2016

AIA EMERGENCY ACTION PLAN

Please e-mail this Emgency Action Plan to the AIA - Jess Garcia - jegarcia@aiaonline.org

Emergency Action Plan Worksheet

Enter SCHOOL & area on campus for Site:

Sport: Site: Your Name: _____

Call 911 for all medical emergencies. If unresponsive and not breathing normally, begin CPR and get the AED.

911 TEAM

CALL 911. Explain emergency. Provide location.

Nearest Phone:

Responder 1:

Responder 2:

MEET AMBULANCE at EMS Access Point. Take to victim.

EMS Access Point:

Cross Streets:

Responder 1:

Responder 2:

CPR/AED TEAM

START CPR.

1. Position person on his/her back.
2. Put one hand on top of the other on middle of person's chest. Keeping arms straight, push hard and fast, 100 presses/minute. Let chest completely recoil after each compression.
3. Take turns with other responders as needed.

Responder 1:

Responder 2:

Responder 3:

WHEN AED ARRIVES, TURN IT ON AND FOLLOW VOICE PROMPTS.

1. Remove clothing from chest.
2. Attach electrode pads as directed by voice prompts.
3. Stand clear while AED analyzes heart rhythm.
4. Keep area clear if AED advises a shock.
5. Follow device prompts for further action.
6. After EMS takes over, give AED to Athletic Administrator for data download.

AED TEAM

GET THE AED.

Nearest AED:

Responder 1:

Responder 2:

AIA

OUR STUDENTS, OUR TEAMS . . . OUR FUTURE.

ANYONE CAN SAVE A LIFE

Plan. Learn. Save.

TRANSGENDER POLICY:

GENDER IDENTITY PARTICIPATION – All students should have the opportunity to participate in Arizona Interscholastic Association (AIA) activities in a manner that is consistent with their gender identity, irrespective of the sex listed on a student's records. The student and/or the student's school may seek review of the student's eligibility for participation in interscholastic athletics in a gender that does not match the sex assigned to him or her at birth, via the following procedure below. Once the student has been granted eligibility to participate in interscholastic athletics consistent with his/her gender identity, the eligibility is granted for the duration of the student's participation and does not need to be renewed every sports season or school year. All discussion and documentation will be kept confidential, and the proceedings will be sealed unless the student and family make a specific request.

1. NOTICE TO SCHOOL: The student and/or parents shall contact the school administrator or athletic director indicating that the student has a consistent gender identity different than the sex listed on the student's registration records, and that the student desires to participate in activities in a manner consistent with his/her gender identity.

2. NOTICE TO THE AIA: The school administrator shall contact the AIA office, which will assist the school and student in preparation and completion of the AIA Gender Identity eligibility process.

3. FIRST LEVEL OF REVIEW: The requesting student should provide the AIA with the following documentation and information:

    a. A letter from the student requesting to participate on an athletic team that differs from their birth sex.
        i. The letter should state their intent to participate on an athletic team of their affirmed gender
        ii. The reasons they are making this request
        iii. At what point they feel they first identified in their full time gender role
        iv. If they have participated in sports previously and if so were they allowed to participate in their affirmed gender and what that experience was like
        v. Steps he/she has taken to assume his/her affirmed gender
        vi. Any additional information the student feels is important
    b. Documentation of student's consistent gender identification affirmed by the student's parent or guardian.
    c. A letter of support from a school administrator.
    d. A letter of support from a qualified health provider.
        i. The AIA shall schedule a meeting with the Gender Identity Eligibility Committee, a sub-committee of the AIA Sports Medicine Advisory Committee as expeditiously as possible after receipt of all required documentation. The committee may request an in-person meeting with the student and parents

and/or guardian. The Gender Identity Eligibility Committee shall provide a recommendation to the AIA Executive Board.

4. SECOND LEVEL OF APPEAL: Per AIA Bylaw 15.13.2 in all other cases, a member school may appeal on behalf of a student his/her ineligibility by notifying the AIA Executive Board of the appeal in writing, setting out fully and completely the basis for the appeal. The Executive Board, utilizing the authority under AIA Bylaw 7.2.3.7, shall respond in writing within a reasonable time.

RETURN TO PLAY POLICIES

Arkansas

Research-Based Practice

Return to Learning: Going Back to School Following a Concussion

By Karen McAvoy

The Centers for Disease Control and Prevention (CDC) estimate that approximately 1.6 to 3.8 million sports and recreational concussions occur each year (Langlois, Rutland-Brown, & Wald, 2006). Countless more children sustain concussions from nonsports activities such as motor vehicle accidents, falls, and assaults. While not all children who sustain concussions are athletes, all children who sustain concussions are *students*.

Almost everyone understands the rationale for physical rest following a concussion. The cases of second impact syndrome, the phenomenon in which a student can suffer permanent brain damage or death from a second blow to the head during recovery from an initial blow (Cantu, 1998), highlight the importance of not returning to play (RTP) before the concussion is 100% healed. In just the past few years, experts in the field of concussion have come to the realization that cognitive demands, much like physical demands, can worsen symptoms and can delay recovery (Majerske et al., 2008). While the end result of continuing to push through cognitive exertion has yet to cause catastrophic brain damage or death, it would be wrong to believe that there are no risks at all. To date, there are no agreed upon formulas for return to learning (RTL). This is due largely to the fact that the return to school following concussion is an extremely individualized process. In concussion management, both RTP and RTL are common and important terms, but they are not parallel processes. The school psychologist and/or the school nurse are uniquely poised to facilitate the transition of a student with a concussion from the medical setting back to the educational setting.

Learn to Read the Symptoms : Symptoms Determine the Return to Learning

A concussion, no matter how mild it may seem at the time, is a brain injury. We know from animal studies that a concussion disrupts the brain on a cellular level. It challenges the balance between chemicals within the cell (potassium) and chemicals outside the cell (calcium). As a result, the brain cell, whose job is to efficiently supply the brain with fuel (glucose), is compromised. The more demand placed on the brain for fuel, the more potential for the student to flare a symptom (Giza & Hovda, 2001).

Immediately after a concussion, the simplest physical or mental demand can bring about severe symptoms. Pumps in the cells try desperately to reestablish the fragile balance between chemicals. Within a few days, the brain cells begin to heal themselves; therefore, light cognitive activity may still flare symptoms, yet symptoms usually become more tolerable, short-lived, and respond well to intermittent periods of rest.

The reregulation of the pumps in the brain cells occurs naturally and usually without medications, typically over a 1 to 3 week period of time (Collins, Lovell, Iverson, Ide, & Maroon, 2006). Prescription medications are not commonly used at this time, and even over the counter pain medications have been found to be minimally effective in addressing the concussion headache. Physical and cognitive rest are the best interventions for healing the brain cells. In the first few days, sleeping as much as possible has the highest yield.

Using symptoms as our lab work becomes our best ongoing measure of recovery. The rule of thumb is that if a student is physically or mentally exerting to the point of flaring a symptom, then physical/mental activity should be cut back. As the cells improve daily, so do symptoms. The reregulation of the pumps is ever-shifting and ever-improving. This is what makes a one size fits all RTL formula a challenge.

Since a concussion is a medical event, and its recovery spans the home and school setting for 3 or more weeks, the management of the concussion is best accomplished by a seamless system of communication and collaboration among parents, the school, and the healthcare providers (McAvoy, 2009). This multidisciplinary team approach to concussion management lends itself to consensus decision-making. It is best practice that the concussed student always returns to school with a signed release of information in place allowing for two-way communication between the school and the healthcare provider.

Returning to School

When a student returns to school following any injury, the school team's responsibility is to (a) assess the needs, (b) design an intervention plan, (c) monitor the effectiveness of the plan, and (d) adjust and readjust

Arkansas Activities Association Concussion Guidelines

1. Every coach and registered volunteer must receive training on concussions once every three years.
2. Every athlete and parent must read and sign a “Concussion Fact Sheet for Athletes and Parents”.
3. Any athlete who is suspected by their school’s personnel or school medical staff of having a concussion should not return to play or practice on the same day.
4. Any athlete suspected of having a concussion should be evaluated by an appropriate healthcare professional that day (Neuropsychologist, MD, DO, Advanced Practice Nurse, Certified Athletic Trainer, or Physician Assistant).
5. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
6. After medical clearance, return to play should follow a 5 day step-wise protocol for delayed return to play based upon the return of any signs or symptoms.

until the student no longer has special needs resulting from the condition. Returning a student to school following a concussion is no different.

It is common for emergency departments to suggest the student not return to school until they have either been seen or been cleared by the healthcare provider. This recommendation often leads to a student being out of school for up to 1 or more week(s) while awaiting an appointment with a doctor, which may not be reasonable or necessary. It is also common for a medical professional to suggest the student not return to school until they are symptom-free. While it is true that an athlete must be 100% symptom-free before RTP, they do not need to be 100% symptom-free to RTL. The student may return to school when symptoms are tolerable and manageable, *as long as the school makes appropriate adjustments for the student* (the key point is that the school must understand concussions and necessary accommodations in order for the student who is still exhibiting symptoms to return to learn).

The school psychologist and/or the school nurse are the most skilled professionals at the school to help advise the parent and doctor when it is best to return the student to school. However, as the ultimate decision often/usually falls upon the parent, parents can utilize symptoms to determine when to safely return their student to school.

- If symptoms prevent the student from concentrating on mental activity for even up to 10 minutes at a time, rest is required. The student should be kept home from school on total bed rest with no (or very limited) television, video games, texting, reading, homework, or driving. Parents should consult a healthcare professional if this state lasts longer than a few days.

- If symptoms allow the student to concentrate on mental activity for up to 20 minutes at a time, parents should still consider keeping their student home from school, but total bed rest may not be necessary. Between periods of resting and napping, the student may engage in light mental activity, such as light reading or television, as long as these activities do not provoke symptoms.

When the student is beginning to tolerate 30 minutes of light mental activity, parents can consider returning him or her to school. Best practice suggests that (a) parents communicate with the school (school nurse, teacher, and/or school mental health professional) and sign a release of information for the school personnel to coordinate with the healthcare provider, and (b) parents and the school decide together the level of academic adjustment needed at school depending upon the type and severity of the symptoms present and the times of day when the student feels better or worse.

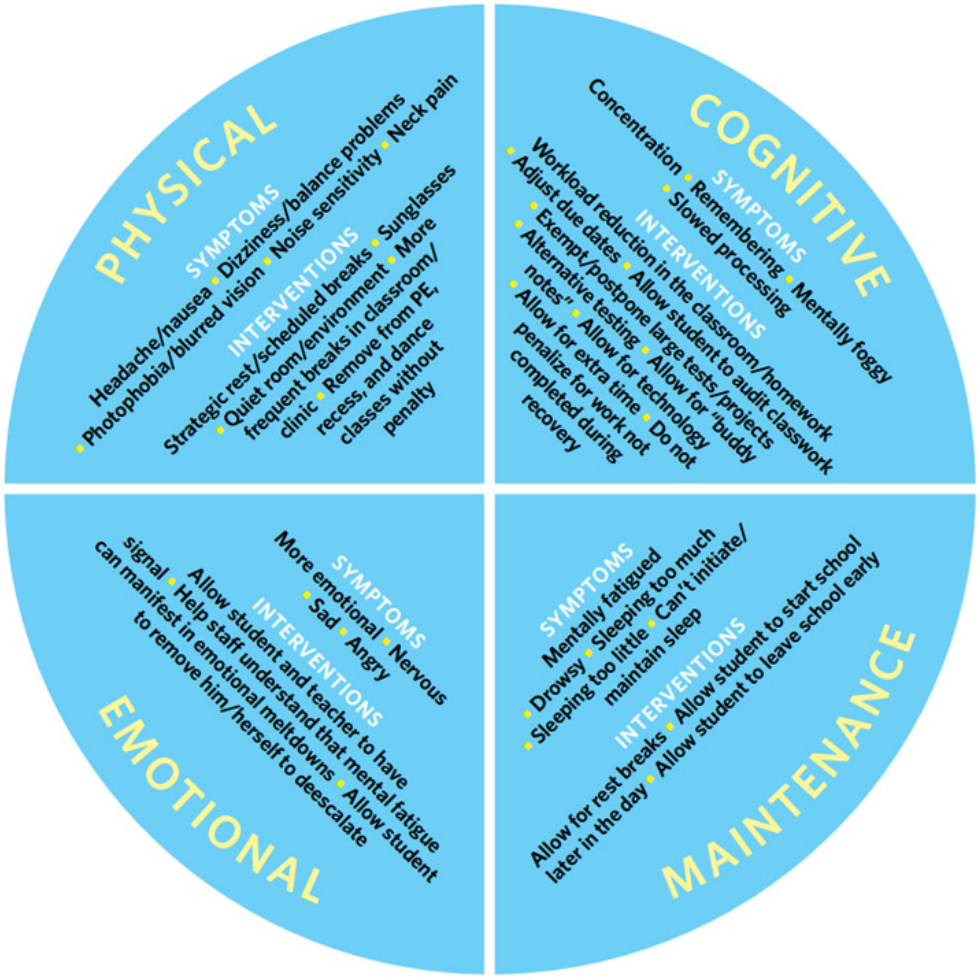
Academic Adjustments

The school psychologist and/or the school nurse are in an ideal position to help facilitate the RTL of a student with a concussion. As allied health professionals, school psychologists and school nurses understand the complex overlap between medical and psychological conditions. They also know how to guide administrators, teachers, counselors, and other staff through the maze of academic, emotional, and behavioral demands following any medical condition. The diagnosis of a concussion is a medical decision. Clearance from a concussion is also a medical decision. However, how to adjust academic demands during the recovery from a concussion is a task uniquely suited to professionals at the school—the school psychologist, social worker, school nurse, counselor, and/or teacher.

The balance between the student's medical and academic needs should be closely coordinated between the school personnel and the healthcare provider. As each concussed student will have a different combination of symptoms, a different level of severity, and a different rate of recovery, each student should have an individualized academic adjustment plan. The term academic *adjustment* is used intentionally in this article to reflect classroom changes that are more flexible and transient than *accommodations* (as in reference to Section 504) or *modifications* (as in reference to IDEA).

Practitioners in concussion management have found it challenging to create a onesize- fits-all graduated RTL formula for academics. The complexities of the learning environment do not lend themselves to a linear stepwise RTL model. Instead, as symptoms of a concussion are cyclical and ever changing, the Symptom Wheel (see Figure 1) reflects the fluidity needed to choose interventions that are logical, reasonable, and flexible.

Figure 1. Symptom Wheel



Reprinted by permission of the Colorado Department of Education from: McAvoy, K., & Werther, K. (2012). *Concussion management guidelines* (http://www.cde.state.co.us/HealthAndWellness/BrainInjury.htm).

Most Commonly Affected Mental and Functional Areas

Mental Fatigue. During recovery, the concussed brain is starved for energy whenever it exerts. As a result, it tires more easily with almost all physical or mental demands. This underlying issue is the primary explanation for most of the physical, cognitive, emotional, and sleep/energy symptoms. Understanding the need to reduce the physical and/or mental exertion is the key to reducing mental fatigue. Suggested interventions include:

- Shortened day, if needed. This typically means a later start or an early dismissal, depending upon the student's peak time of the day. This is the crux of the return to school part-time or full-time question. If the student's symptoms are so severe that he/she can only tolerate a partial day, then that must be the temporary, initial plan. However, as the student improves on a daily basis, the need for part-time school must be assessed frequently and the student should increase time at school as tolerated. When given the choice to increase academic adjustments or to decrease time at school, the recommendation would be to increase academic adjustments. This keeps the student at school and on the appropriate developmental, social, and academic track during the recovery from the concussion.
- Frequent 15- to 20-minute rest periods throughout the day as needed.
- Even better than random rest periods, the student is advised to take strategic rest periods (i.e., scheduled breaks at regular intervals).
- Cutting back the amount of in-class schoolwork and at-home homework. Cutting back is determined by the teacher and is based upon the material being taught and the style of teaching:
    - Cutting back in a class with sequential instruction may mean reducing the number of problems (e.g., from 20 to 10).

- Cutting back in a lecture-based class may mean allowing the student to audit the lecture. Audit refers to the ability to listen to the lecture without producing the written work.

- Sunglasses for light sensitivity and/or earphones for sound sensitivity. In some cases, removal from loud, congested areas, such as the lunchroom, passing in the hallways, etc.

- Emotional melt downs and behavioral outbursts are a common result of mental fatigue, especially in younger children. Allow the student to leave the room for a rest break or a time away, or a check in with the nurse or mental health professional.

Slowed processing speed. Slowed processing speed is a common symptom of brain injury/concussion. Slowed processing speed will still allow a student to learn and complete work but at a much slower pace, and often with much more mental energy expended. Suggested interventions include:

- Cutting back on the amount of work given in class and for homework. With slowed processing speed, it will take the concussed student much longer to complete work, and too much will undoubtedly cause mental overexertion. The teacher should decide what concepts are most important to teach and the student to learn during the recovery. Strive for quality of work, not quantity at this time.

- Extra time on projects and tests. Note that it is unfair to give a concussed student a test during recovery. Even if the concepts have been learned, giving the test at this time will likely be an unfair assessment of mastery.

- Use of a tape recorder, Smart Pen, note buddy, or copies of teacher's notes.

- Use of organizational helpers and/or technology to make output easier and more efficient.

- Adjust due dates.

Difficulty with new learning. Educators need to be sensitive to the fact that while the goal of school every day is to impart new learning, the compromised brain is inefficient in its ability to create new learning. The material presented to a student during recovery from concussion has a difficult time being converted, not only into memory, but also into conceptual learning. Difficulty with new learning leads to these suggested interventions:

- Be thoughtful about the material most important to impart during a concussion. Because the learning process is compromised, the teacher will need to choose the most salient elements in the lesson plan.

- Remove or exempt from tests or large projects. It would not be fair to test/ assess a student on a high stakes test or project during the recovery from a concussion.

- Focus on understanding the material rather than rote memorization of the facts.

- Remove, do not just postpone, in-class work and homework. It is not possible for the student to make up all the work missed while recovering from a concussion. Simply carrying work over for a later date creates significant anxiety and impedes recovery.

Moving Target

Once the student returns to school with the appropriate interventions in place, the questions will be: Are the interventions working? How long do the academic adjustments need to be in place?

The process of assess – intervene – monitor progress – adjust repeats until the student is recovered from the concussion. On average, 80% to 90% of students recover from their concussion in 1 to 3 weeks (Collins et al., 2006). Therefore, it is well worth front loading academic adjustments to avoid complications and prolonged recovery on the back end. The student will experience the ability to cognitively exert more and more each day, while flaring less and less symptoms.

Due to the quick turnaround of a concussion, the academic adjustments must be flexible and fluid. It is difficult (if not impossible) for healthcare providers to consult on academic interventions on a daily basis; they are simply not available enough, nor do they understand school systems well enough to make daily academic recommendations. Therefore, it is the prerogative of the school team to assess, to add and to remove academic adjustments as needed for the concussed student. Support and input from the healthcare provider is always appreciated; however, a medical prescription is not necessary for academic changes. The school psychologist and/or school nurse, in communication with the healthcare professional, can be instrumental in supporting changes to the academic plan and using observational and/or formal cognitive measures to justify adjustments. The art of making academic adjustments falls within the purview of good teaching. Many master teachers intuitively know how to make these adjustments and also know when to let them lapse. School psychologists are pivotal in providing training, consultation, and support to teachers to effect smooth and appropriate academic adjustments.

School teams should consider academic adjustments for concussion similarly to how they might if being asked by a doctor to watch and adjust for a student during a medication change. For example, when a student undergoes a medication change for epilepsy, diabetes, or bipolar disorder, various physical, cognitive, and/or behavioral changes can affect schoolwork for weeks. A collaborative school team consisting of, but not limited to, a school nurse, a school mental health professional, a teacher, and a counselor should be able to determine how best to make daily classroom adjustments throughout the medication change process. A formal plan is often not needed for these temporary medical adjustments. A school psychologist can help to guide teachers through rounds of assessment, intervention, and progress monitoring until medical clearance for a concussion occurs.

Concussions Outside the Box

A small percentage of concussions will fall outside the 1- to 3-week recovery window. The usual presentation would be a student who continues to have symptoms for 4 or more weeks.

In those cases, academic adjustments will need to remain in place longer and/or may need to be strengthened. More and more schools are incorporating protracted concussion recovery into the response-to-intervention protocol. When academic adjustments are at their maximum and/or when attendance and achievement goals are compromised, the school may want to consider formalizing the adjustments into a Section 504 Plan (making academic *adjustments* into academic *accommodations*). The school psychologist and/or school nurse can help to facilitate an appropriate plan for these struggling students.

If problems persist over a significant amount of time or require specialized instruction, special placement, and/or modification of curriculum, the school team will be obligated to consider a referral for special education. The initial diagnosis of concussion, or the fact that the student received the injury playing a sport, should in no way compromise a referral for special education. A concussion is a brain injury and schools should proceed with a referral as if the brain injury were sustained in any other manner (motor vehicle accident, fall, assault).

It is rare that a student with a concussion will need a Section 504 Plan or IEP. What is infinitely more common is the occasion of a student having one concussion, followed by a second and even third concussion. Each individual concussion may resolve with no apparent problem; however, small effects may add up to a disability further down the road. In those cases, the student may come to the attention of the problem-solving team due to lingering cognitive, emotional, or behavioral concerns. In the past, the history of multiple head injuries may not have been on our radar. But in today's climate, more attention is being focused on the possibility, even plausibility, that multiple concussions may be the underlying cause of the current problem. One benefit of having the school psychologist involved in the management of concussions is that it puts every student and every concussion on the radar of a school professional who can track progress forward.

The state of Colorado has developed a website called Traumatic Brain Injury Networking Team Resource Network (www.COKidswithbraininjury.com). This website provides guidance to school psychologists and related service providers through assessments and interventions for students with a traumatic brain injury.

Return to Learning Before Return to Play

Educators are the newest team members to come to the table on concussion. The experts in concussion management know now that they cannot thoroughly treat the *athlete* unless they also treat the *student*. Current best practices of RTP require that the student be symptom-free before starting back to physical activity (McCrory et al., 2009). If the student is still receiving academic adjustments of any kind due to the presence of any symptoms, they cannot be considered symptom-free. Therefore, a successful RTL is necessary before approval for RTP. In this light, the school psychologist and school nurse are now not only the interventionists; they can play a pivotal role in collecting data to be used in the decision to return an athlete to play.

In summary, a concussion is a brain injury that affects cognitive, emotional, behavioral, physical, and sleep/energy patterns. Having educators understand the underlying neurological issues related to a concussion allows them to use their expertise in helping to create flexible, temporary, and fluid academic adjustments over a period of (typically) 3 weeks. The school psychologist and school nurse are uniquely trained to understand the complex neurological issues related to a concussion. Their role is to help educate and facilitate subtle and profound academic adjustments over the course of recovery from concussion. The result of early intervention and comprehensive management of the concussion by the school team can make all the difference in subsequent cognitive and physical recovery.

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Karen McAvoy, PsyD, was a school psychologist for Cherry Creek School District in Greenwood Village, Colorado from 1990 to 2010 and its former Coordinator of Mental Health Services. She is currently the principal consultant on brain injury with the Colorado Department of Education and the director of the Center for Concussion with Rocky Mountain Hospital for Children.

Arkansas Activities Association Concussion Guidelines

1. Every coach and registered volunteer must receive training on concussions once every three years.
2. Every athlete and parent must read and sign a “Concussion Fact Sheet for Athletes and Parents”.
3. Any athlete who is suspected by their school’s personnel or school medical staff of having a concussion should not return to play or practice on the same day.
4. Any athlete suspected of having a concussion should be evaluated by an appropriate healthcare professional that day (Neuropsychologist, MD, DO, Advanced Practice Nurse, Certified Athletic Trainer, or Physician Assistant).
5. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
6. After medical clearance, return to play should follow a 5 day step-wise protocol for delayed return to play based upon the return of any signs or symptoms.

RETURN TO PLAY POLICIES

California

CIF Concussion Return to Play (RTP) Protocol

CA STATE LAW AB 2127 STATES THAT RETURN TO PLAY (I.E., COMPETITION) CANNOT BE SOONER THAN 7 DAYS AFTER EVALUATION BY A PHYSICIAN (MD/DO) WHO HAS MADE THE DIAGNOSIS OF CONCUSSION, AND ONLY AFTER COMPLETING A GRADUATED RETURN TO PLAY PROTOCOL.

Instructions:

- A graduated return to play protocol MUST be completed before you can return to FULL COMPETITION. Below is the CIF RTP Protocol.
  - A certified athletic trainer (AT), physician, or identified concussion monitor (e.g., athletic director, coach), must initial each stage after you successfully pass it.
  - You should be back to normal academic activities before beginning Stage II, unless otherwise instructed by your physician.
- After Stage I, you cannot progress more than one stage per day (or longer if instructed by your physician).
- If symptoms return at any stage in the progression, IMMEDIATELY STOP any physical activity and follow up with your school's AT, other identified concussion monitor, or your physician. In general, if you are symptom-free the next day, return to the previous stage where symptoms had not occurred.
- Seek further medical attention if you cannot pass a stage after 3 attempts due to concussion symptoms, or if you feel uncomfortable at any time during the progression.

You must have written physician (MD/DO) clearance to begin and progress through the following Stages as outlined below, or as otherwise directed by your physician. Minimum of 6 days to pass Stages I and II.				
Date & Initials	Stage	Activity	Exercise Example	Objective of the Stage
	I	Limited physical activity for at least 2 symptom-free days.	• Untimed walking okay • No activities requiring exertion (weight lifting, jogging, P.E. classes)	• Recovery and elimination of symptoms
	II-A	Light aerobic activity	• 10-15 minutes *(min)* of brisk walking or stationary biking • Must be performed under direct supervision by designated individual	• Increase heart rate to no more than 50% of perceived maximum *(max)* exertion (e.g.,< 100 beats per min) • Monitor for symptom return
	II-B	Moderate aerobic activity *(Light resistance training)*	• 20-30 min jogging or stationary biking • Body weight exercises (squats, planks, push-ups), max 1 set of 10, no more than 10 min total	• Increase heart rate to 50-75% max exertion (e.g.,100-150 bpm) • Monitor for symptom return
	II-C	Strenuous aerobic activity *(Moderate resistance training)*	• 30-45 min running or stationary biking • Weight lifting ≤ 50% of max weight	• Increase heart rate to > 75% max exertion • Monitor for symptom return
	II-D	Non-contact training with sport-specific drills *(No restrictions for weightlifting)*	• Non-contact drills, sport-specific activities (cutting, jumping, sprinting) • No contact with people, padding or the floor/mat	• Add total body movement • Monitor for symptom return
Prior to beginning Stage III, please make sure that written physician (MD/DO) clearance for return to play, after successful completion of Stages I and II, has been given to your school's concussion monitor.				
	III	Limited contact practice	• Controlled contact drills allowed (no scrimmaging)	• Increase acceleration, deceleration and rotational forces • Restore confidence, assess readiness for return to play • Monitor for symptom return
		Full contact practice Full unrestricted practice	• Return to normal training, with contact • Return to normal unrestricted training	
MANDATORY: You must complete at least ONE contact practice before return to competition, or if non-contact sport, ONE unrestricted practice *(If contact sport, highly recommend that Stage III be divided into 2 contact practice days as outlined above)*				
	IV	Return to play (competition)	• Normal game play (competitive event)	• Return to full sports activity without restrictions

Student's Name: _____ Date of Injury: _____ Date of Concussion Diagnosis: _____

Concussion Return to Learn (RTL) Protocol

Instructions:

- Keep brain activity below the level that causes worsening of symptoms (e.g., headache, tiredness, irritability).
- If symptoms worsen at any stage, stop activity and rest.
- Seek further medical attention if your child continues with symptoms beyond 7 days.
- If appropriate time is allowed to ensure adequate brain recovery before progressing mental activity, your child may have a better outcome (do not try to rush through these stages).
- Please give this form to teachers/school administrators to help them understand your child's recovery.

Stage	Home Activity	School Activity	Physical Activity
Brain Rest	• Rest quietly, nap and sleep as much as needed • Avoid bright light if bothersome • Drink plenty of fluids and eat healthy foods every 3-4 hours • Avoid "screen time" (text, computer, cell phone, TV, video games)	• No school • No homework or take-home tests • Avoid reading and studying	• Walking short distances to get around is okay • No strenuous exercise • No driving
	Progress to the next stage when your child starts to improve, but may still have some symptoms		
Restful Home Activity	• Set a regular bedtime/wake up schedule • Allow at least 8-10 hours of sleep and short naps if needed (less than 1 hour) • Drink lots of fluids and eat healthy foods every 3-4 hours • Limit "screen time" to less than 30 minutes total a day; use large font	• No school • May begin easy tasks at home (drawing, baking, cooking) • Soft music and 'books on tape' okay • Once your child can complete 60-90 minutes of light mental activity without a worsening of symptoms they may go to the next step	• Progress physical activity, like untimed walking • No strenuous physical activity or contact sports • No driving
	Progress to the next stage when your child starts to improve and has fewer symptoms		
Return to School - *PARTIAL DAY*	• Allow 8-10 hours of sleep per night • Limit napping to allow for full sleep at night • Drink lots of fluids and eat healthy foods every 3-4 hours • "Screen time" less than 1 hour a day • Limit social time outside of school	• Gradually return to school • Start with a few hours/half-day • Take breaks in the nurse's office or a quiet room every 2 hours or as needed • Avoid loud areas (music, band, choir, shop class, locker room, cafeteria, loud hallway and gym) • Use brimmed hat/earplugs as needed. Sit in front of class • Use preprinted large font (18) class notes • Complete necessary assignments only • No tests or quizzes. Limit homework time • Multiple choice or verbal assignments better than long writing assignments • Tutoring or help as needed • Stop work if symptoms increase	• Progress physical activity and as instructed by physician • No strenuous physical activity or contact sports • No driving
	Progress to the next stage when your child can complete the above activities without symptoms		
Return to School - *FULL DAY*	• Allow 8-10 hours of sleep per night • Avoid napping • Drink lots of fluids and eat healthy foods every 3-4 hours • "Screen time" and social activities outside of school as symptoms tolerate	• Progress to attending core classes for full days of school • Add in electives when tolerated • No more than 1 test or quiz per day • Give extra time or untimed homework/tests • Tutoring or help as needed • Stop work if symptoms increase	• Progress physical activity and as instructed by physician • No strenuous physical activity or contact sports • Okay to drive
	Progress to the next stage when your child has returned to full school and is able to complete all assignments/tests without symptoms		
Full Recovery	• Return to normal home and social activities	• Return to normal school schedule and course load	• Start CIF Return to Play Protocol

RETURN TO PLAY POLICIES

Colorado

Colorado High School Activities Association
'Seeking Excellence in Academics, Activities and Athletics'
14855 E. 2nd Ave.
Aurora, CO 80011
(303) 344-5050
Fax (303) 367-4101
www.chsaa.org
MEMBER SINCE 1924

Colorado High School Activities Association Concussion Policy

Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from participation and shall not return to play until cleared by a licensed healthcare practitioner (Doctor of Medicine, Doctor of Osteopathic Medicine, Licensed Nurse Practitioner, Licensed Physician Assistant, or Licensed Doctor of Psychology with Training in Neuropsychology or Concussion Evaluation and Management).

Any health care professional or CHSAA coach may identify concussive signs, symptoms or behaviors of a student athlete during any type of athletic activity. Once concussive signs are identified, only a licensed healthcare practitioner (as defined above) can clear the athlete to return to play.

An online NFHS Concussion Course or an in-person concussion education seminar is required for all CHSAA coaches. These educational courses will aid in identifying symptoms of a concussion and the procedure to follow when these symptoms are recognized. The online course is available at www.nfhslearn.com. For more information regarding the management of concussions, please visit the CHSAA Sports Medicine Website at http://www2.chsaa.org/sports/medicine/.

Returning to School After a Concussion

Sue Kirelik, MD
Pediatric Emergency Medicine
Concussion Specialist

Karen McAvoy, PsyD
Clinical Psychologist
Director Center for Concussion

For Appointments Call:
720.979.0840

Locations:

At Centennial Medical Plaza
14000 E. Arapahoe Road
Building C, Suite 300
Centennial, CO 80112

At Red Rocks Medical Center
400 Indiana Street
Suite 350
Golden, CO 80401

- Your child has just been diagnosed with a "concussion". He/she should feel better and better each day.
- Here are some helpful suggestions to help you know when your child should go back to school.

HOW SEVERE ARE THE SYMPTOMS?	WHAT TO DO
Severe symptoms Unable to concentrate for even 10 minutes *Call your physician if this lasts more than 2 days	**STAY HOME- BED REST** No texting, driving, reading, video games, homework. Limit TV.
Symptoms are improving but still can only concentrate for 20 minutes at most. *A child does not usually need to stay home from school for more than 2 to 5 days following a concussion.	**STAY HOME – LIGHT ACTIVITY** Stay home from school and start light mental activity (watching TV, light reading), as long as symptoms do not worsen. If they do, cut back the activity and build in more rest.
Beginning to tolerate 30 minutes of light mental activity *A child does not need to be free of symptoms to return to school, symptoms need to be improving.	**TRANSITION BACK TO SCHOOL** Return to school as soon as symptoms are tolerable and manageable, with adjustments as needed

AS YOUR CHILD RETURNS TO SCHOOL

- Communicate with the school (school nurse, teacher, school mental health and/or counselor) when bringing them in to school for the first time after the concussion.
- Parents and the school should decide together the level of academic adjustment needed at school depending upon:
  - ✓ The severity of symptoms present
  - ✓ The type of symptoms present
  - ✓ The times of day when the student feels better or worse
- **NO physical activity** – gym/PE classes, highly physically active classes (dance, weight training, athletic trainings) and active recess until medically cleared.

Follow-up with this clinic, in ___days/weeks,:
_____
_____
_____

OR

Follow up with the Center for Concussion
14000 E Arapahoe Road, Suite 300
Centennial, Co 80112
720.979.0840

SYMPTOM WHEEL

Suggested Academic Adjustments

PCP's – feel free to circle a few suggested adjustments for the school

Schools – feel free to apply/remove adjustments as needed

PHYSICAL:

"Strategic Rest"- scheduled 15 to 20 minute "head on desk" breaks (mid-morning; mid-afternoon and/or as needed)

Sunglasses (inside and outside)

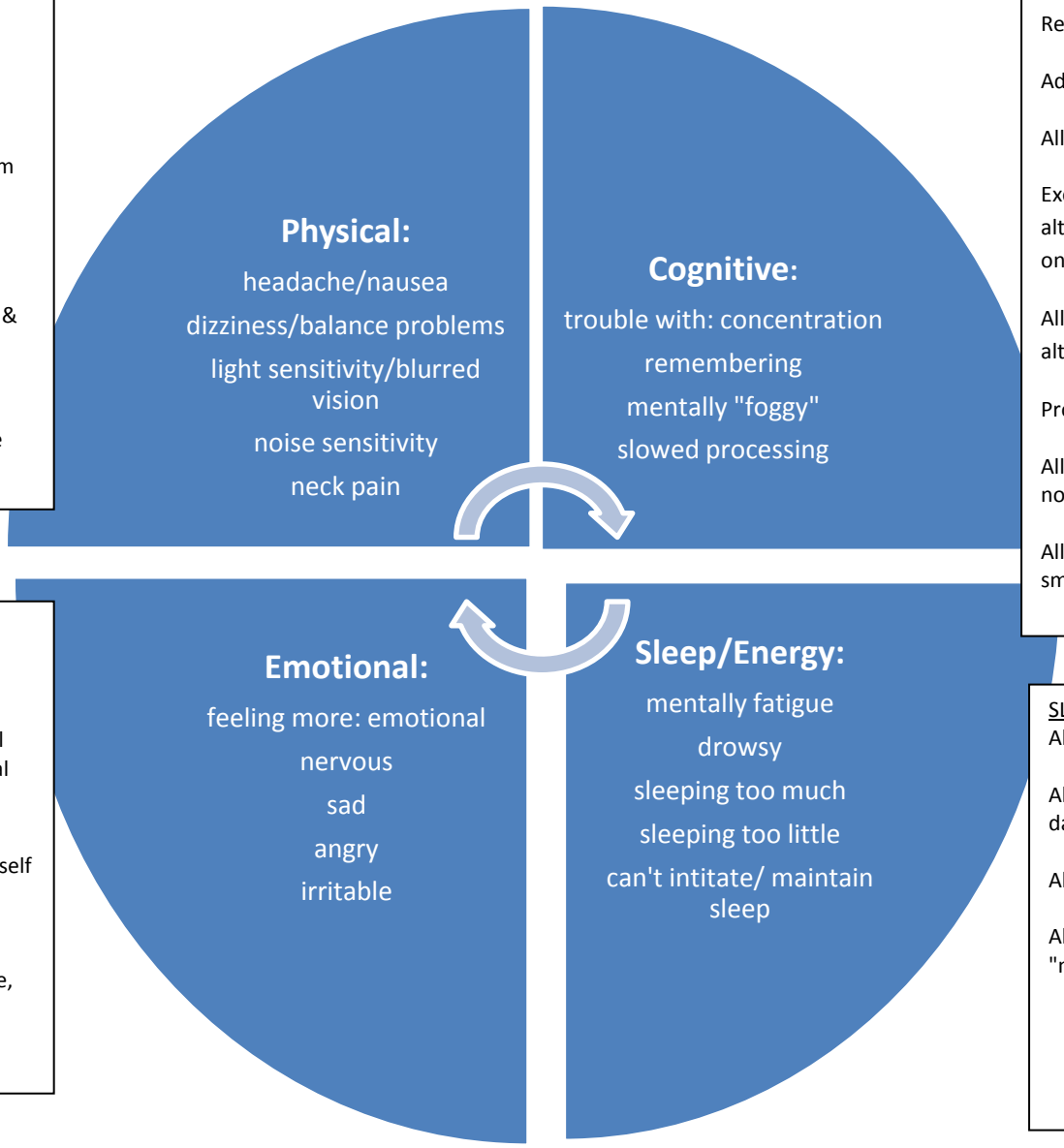
Quiet room/environment, quiet lunch, quiet recess

More frequent breaks in classroom and/or in clinic

Allow quiet passing in halls

Remove from PE, physical recess, & dance classes without penalty

Sit out of music, orchestra and computer classes if symptoms are provoked



COGNITIVE:

Workload reduction in the classroom/homework

Remove non-essential work

Reduce repetition of work

Adjust "due" dates; allow for extra time

Allow student to "audit" classwork

Exempt/postpone large test/projects; alternative testing (quiet testing, one-on-one testing, oral testing)

Allow demonstration of learning in alternative fashion

Provide written instructions

Allow for "buddy notes" or teacher notes, study guides, word banks

Allow for technology (tape recorder, smart pen) if tolerated

EMOTIONAL:

Allow student to have "signal" to leave room

Help staff understand that mental fatigue can manifest in "emotional meltdowns"

Allow student to remove him/herself to de-escalate

Allow student to visit with supportive adult (counselor, nurse, advisor)

SLEEP/ENERGY:

Allow for rest breaks

Allow student to start school later in the day

Allow student to leave school early

Alternate "mental challenge" with "mental rest"

RETURN TO PLAY POLICIES

Connecticut

CONNECTICUT INTERSCHOLASTIC ATHLETIC CONFERENCE

CONCUSSION MANAGEMENT AND RETURN TO PLAY REQUIREMENTS

"WHEN IN DOUBT – SIT IT OUT"

A concussion is a type of traumatic brain injury or (TBI), "that changes how the cells in the brain normally work. A concussion is caused by a blow to the head or body that causes the brain to move rapidly inside the skull. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious. Concussions can also result from a fall or from players colliding with each other or with obstacles, such as a goalpost" (Centers for Disease Control and Prevention, 2009).

PART I -- SIGNS AND SYMPTOMS OF A CONCUSSION
– A concussion should be suspected if any one or more of the following signs or symptoms are present, or if the coach/evaluator is unsure.

1. Signs of a concussion may include (what the athlete looks like):

- Confusion / disorientation / irritability
- Trouble resting / getting comfortable
- Lack of concentration
- Slow response / drowsiness
- Incoherent / slurred speech
- Slow / clumsy movements
- Loss of consciousness
- Amnesia / memory problems
- Act silly / combative / aggressive
- Repeatedly ask same questions
- Dazed appearance
- Restless / irritable
- Constant attempts to return to play
- Constant motion
- Disproportionate / inappropriate reactions
- Balance problems

2. Symptoms of a concussion may include (what the athlete reports):

- Headache or dizziness
- Nausea or vomiting
- Blurred or double vision
- Over sensitivity to sound / light / touch
- Ringing in ears
- Feeling foggy or groggy

Note: Public Act No. 10-62 requires that a coach MUST immediately remove a student-athlete from participating in any intramural or interscholastic athletic activity who (A) is observed to exhibit signs, symptoms or behaviors consistent with a concussion following a suspected blow to the head or body, or (B) is diagnosed with a concussion, regardless of when such concussion or head injury may have occurred.

PART II – RETURN TO PARTICIPATION (RTP)
– Currently, it is impossible to accurately predict how long concussions will last. There must be full recovery before someone is allowed to return to participation. Connecticut Law now requires that no athlete may resume participation until they have received written medical clearance from a licensed health care professional (Physician, Physician Assistant, Advanced practice Registered Nurse, Athletic Trainer) trained in the evaluation and management of concussions.

Concussion management requirements:

1. No athlete SHALL return to participation (RTP) on the same day of concussion.
2. Any loss of consciousness, vomiting or seizures the athlete MUST be immediately transported to the hospital.
3. Close observation of an athlete MUST continue following a concussion. This should be monitored for an appropriate amount of time following the injury to ensure that there is no escalation of symptoms.
4. Any athlete with signs or symptoms related to a concussion MUST be evaluated from a licensed health care professional (Physician, Physicians Assistant, Advanced Practice Registered Nurse, Athletic Trainer) trained in the evaluation and management of concussions.

5. The athlete MUST obtain written clearance from one of the licensed health care professionals mentioned above directing them into a well defined RTP stepped protocol similar to one outlined below. If at any time signs or symptoms should return during the RTP progression the athlete should cease activity*.
6. After the RTP protocol has been successfully administered (no longer exhibits any signs or symptoms or behaviors consistent with concussions), final written medical clearance is required by one of the licensed health care professionals mentioned above for them to fully return to unrestricted participation in practices and competitions.

Medical Clearance RTP Protocol (Recommended one full day between steps)

Rehabilitation stage	Functional exercise at each stage of rehabilitation	Objective of each stage
1. No activity	Complete physical and cognitive rest until asymptomatic. School may need to be modified.	Recovery
2. Light aerobic activity	Walking, swimming or stationary cycling keeping intensity, <70% of maximal exertion; no resistance training	Increase Heart Rate
3. Sport Specific Exercise	Skating drills in ice hockey, running drills in soccer; no head impact activities	Add Movement
4. Non-contact training drills	Progression to more complex training drills, i.e., passing drills in football and ice hockey; may start progressive resistance training	Exercise, coordination and cognitive load
5. Full Contact Practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff

* If at any time symptoms should return during the RTP progression the athlete should stop activity that day. If the athlete's symptoms are gone the next day, s/he may resume the RTP progression at the last step completed in which no symptoms were present. If symptoms return and don't resolve, the athlete should be referred back to their medical provider.

References:

1. NFHS. Concussions. 2008 NFHS Sports Medicine Handbook (Third Edition). 2008: 77-82. http://www.nfhs.org
2. McCrory, Paul MBBS, PhD; Meeuwisse, Willem MD, Phd; Johnston, Karen MD, PhD; Dvorak, Jiri MD; Aubry, Mark MD; Molloy, Mick MB; Cantu, Robert MA, MD. Consensus Statement on Concussion in Sport 3rd International Conference on Concussion in Sport Held in Zurich, November 2008. Clinical Journal of Sport Medicine: May 2009 - Volume 19 - issue 3 - pp 185-200 http://journals.www.com/cjsportsmed/Fulltext/2009/05000/Consensus_Statement_on_Concussion_in_Sport_3rd.1.aspx
3. Centers for Disease Control and Prevention. *Heads Up: Concussion in High School Sports.* http://www.cdc.gov/NCIPC/tbi/Coaches_Tool_Kit.htm.
4. U.S. Department of Health and Human Services Centers for Disease Control and Prevention. *A Fact Sheet for Coaches.* (2009). Retrieved on June 16, 2010. Http://www.cdc.gov/concussion/pdf/coaches_Engl.pdf

Resources:

- Centers for Disease Control and Prevention. *Injury Prevention & Control: Traumatic Brain Injury. Retrieved on June 16, 2010. http://www.cdc.gov/TraumaticBrainInjury/index.html*
- *Centers for Disease Control and Prevention. Heads Up: Concussion in High School Sports Guide for Coaches. Retrieved on June 16, 2010.*

RETURN TO PLAY POLICIES

Delaware

DIAA ACUTE CONCUSSION EVALUATION (ACE) & RETURN TO PLAY FORM

Athlete Name:_____ **Date of Birth**: _____
Sport: _____ **Date of Injury**: _____

Qualified HealthCare Provider (QHP) at school

Name of QHP initially examining athlete on site:_____(please print) Date initially examined: _____
Today the following symptoms are present (please circle): No reported symptoms: _____

Physical		Thinking	Emotional	Sleep
Headache	Light sensitivity	Feeling mentally foggy	Irritability	Drowsiness
Nausea	Noise sensitivity	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Vomiting	Visual problems	Feeling slowed down	Nervousness	Trouble falling asleep
Dizziness	Balance problems			
OTHER:				

Gradual Return to Play (RTP) Plan

RTP Plan must occur in gradual steps under the supervision of a QHP (see DIAA regulations for definition of QHP). This QHP, usually the schools ATC or RN, should be on-site supervising the RTP plan. After completion of a stage without any symptoms, athlete may progress to the next level of activity on the next day. If symptoms return, athlete must regress the stage and be seen by a qualified physician (see DIAA regs) if not seen by a MD/DO prior. Continued or worsening signs or symptoms should be reported to the physician immediately. **Before an athlete may initiate Stage 5 'full contact', they must be cleared by a qualified physician**.

School QHP Signature:_____ **Date**:_____

Stage 1: No physical or cognitive activity. This includes no video games, computers, or school work. If athlete has no signs or symptoms consistent with a concussion they may progress, after 24 hours, to Stage 2, etc.
Stage 2: Low levels of activity (ie symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary bike, light weight lifting (low weight, higher reps, no bench, no squat)
Stage 3: Moderate levels of activity with body/head movement. Includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduce time and/or weight from typical routine)
Stage 4: Heavy non-contact activity. This includes sprinting/running, high intensity stationary bike, regular weightlifting routine, non-contact sport specific drills (3 planes of movement)
Stage 5: *** **Must have physician clearance before beginning this stage*** Full contact in controlled practice.
Stage 6: Full contact in game play. If signs or symptoms return after Stage 5, must see physician again for Stage 6 clearance.

- **ATHLETES MAY NOT RETURN TO ANY PHYSICAL OR COGNITIVE ACTIVITY ON THE SAME DAY THAT A HEAD INJURY OCCURRED**
- **ATHLETES MAY NOT RETURN TO PHYSICAL OR FULL COGNITIVE ACTIVITY IF THEY EXHIBIT ANY SIGNS OR SYMPTOMS CONSISTENT WITH A CONCUSSION**
- **ATHLETES MUST SUCCESSFULLY PROGRESS THROUGH THE RTP PLAN, WITH MD/DO CLEARANCE, BEFORE CONTACT/RTP**

PHYSICIAN SPORTS CLEARANCE

I declare that I am a qualified physician (MD or DO only) who, in accordance with DIAA regulations as well as standards of medical care in concussion management, recommend the following:

May check more than one box

- ☐ May not progress within the RTP Plan above; requires restricted school day at this time (see reverse). Contact my office_____
- ☐ May resume gradual progression of the RTP Plan with the following exceptions/modifications:_____
- ☐ **May progress, per protocol, through Stage 5, and if symptom free, may advance to Stage 6.**
- ☐ Other:_____

This RTP Plan was based upon today's evaluation:

Physician's Name:_____(please print) Physician's Office Phone:_____

Physician's Signature:_____ **Date**:_____

This form is adopted from the Acute Concussion Evaluation care plan developed by the CDC (www.cdc.gov/injury). All medical providers are strongly encouraged to use this form for concussed athletes participating in DIAA sports. While other forms may be used, **all medical providers must abide by DIAA protocol** (http://www.doe.k12.de.us/infosuites/students_family/diaa/) **including the return to play plan** noted above, before an athlete may return to athletics.

PHYSICIAN SCHOOL CLEARANCE

Rest, limiting physical and cognitive activity, and proper nutrition including good hydration, carbohydrates and protein are essential during concussion recovery. Thinking and emotional dysfunctions may require your child to receive extra help in school; therefore, inform your school's nurse and athletic trainer if your child has obtained a concussion. Please note that a full, non-symptomatic school day of cognitive activity must be achieved before progressive return to sport (**stage 2**) can be initiated. Restrictions for return to school as recommended by your physician are as follows:

Until you (or your child) have fully recovered, the following supports are recommended: *(check all that apply)*

- ☐ No return to school. Return on (date) _____
- ☐ Return to school with following supports. Review on (date) _____
- ☐ Shortened day. Recommend ___ hours per day until (date) _____
- ☐ Shortened classes (i.e., rest breaks during classes). Maximum class length: ____ minutes.
- ☐ Allow extra time to complete coursework/assignments and tests.
- ☐ Lessen homework load by _____%. Maximum length of nightly homework: _____ minutes.
- ☐ No significant classroom or standardized testing at this time.
- ☐ Check for the return of symptoms (use symptom table on front page of this form) when doing activities that require a lot of attention or concentration.
- ☐ Take rest breaks during the day as needed.
- ☐ Request meeting of 504 or School Management Team to discuss this plan and needed supports.

INSTRUCTIONS FOR ACE SPORTS RETURN FORM

1.If an athlete exhibits signs or symptoms consistent with a concussion, they shall be removed from play immediately. A qualified health care professional (QHP) must then determine whether or not an apparent concussion has occurred. If a qualified healthcare professional is not present, the injury must be treated as a concussion and the student not be allowed to return to practice/game until determined otherwise by a qualified healthcare professional. If the qualified healthcare professional is unable to rule out a concussion, the athlete must be treated as though he/she has sustained a concussion. The top (blue) section of the ACE form should be completed by the QHP, and the gradual RTP plan should be initiated. Note: in all situations where an athlete is determined to have a possible concussion, the athlete's parent or guardian should be contacted as soon as possible, and explained progressive warning signs as well as the RTP plan. If the symptoms become progressive, they should seek out physician services immediately.

2. The school's QHP may progress the athlete through the RTP plan (gold section) through stage four, so long as no symptoms return. Light physical activity (stage 2) should only be initiated after tolerance to a full school day, without symptoms. Each stage of the RTP plan should be no less than one day long. If symptoms return, the athlete must be referred to a qualified physician (MD or DO only) before any further activity can occur. Before progressing to stage 5, the QHP must sign off on the RTP plan section of the form, and refer the athlete to a qualified physician (MD/DO only) if the athlete has not already seen a physician or if the physician requires such follow-up after an earlier physician visit.

3**. Before progressing to stage 5 or beginning PE class, the school must obtain written clearance from a qualified physician (MD/DO only**). This clearance can be found at the bottom (grey section) of the ACE form. Any athlete that progresses into stage 5 and beyond without written clearance shall be considered ineligible, and all games subsequent to such entry shall be a forfeit for the school.

A qualified healthcare professional (QHP) shall be defined as a MD or DO; or school nurse, nurse practitioner, physician assistant, or athletic trainer, with collaboration and/or supervision by a MD or DO as required by their professional state laws and regulations. The qualified healthcare professional must be licensed by their state, be in good standing with the State of Delaware, and if the evaluation is provided on site must also be approved or appointed by the administrative head of school or designee, or the DIAA Executive Director "Written Clearance from a **qualified physician**" for progression into stage 5 and return to play after a potential concussion, shall be a MD/DO only, who is licensed by their state and in good standing with the State of Delaware.

FOR MORE INFORMATION GO DIAA AND CDC WEBSITES NOTED BELOW: WWW.CDC.GOV/INJURY

This form is adopted from the Acute Concussion Evaluation care plan developed by the CDC (www.cdc.gov/injury). All medical providers are strongly encouraged to use this form for concussed athletes participating in DIAA sports. While other forms may be used, **all medical providers must abide by DIAA protocol** (http://www.doe.k12.de.us/infosuites/students_family/diaa/) **including the return to play plan** noted above, before an athlete may return to athletics.

Delaware Interscholastic Athletic Association
Concussion Protocol

1. If an athlete exhibits signs or symptoms consistent with a concussion, they shall be removed from play immediately. A qualified health care professional must then determine whether or not an apparent concussion has occurred. If a qualified healthcare professional is not present, the injury must be treated as a concussion and the student not be allowed to return to practice/game until determined otherwise by a qualified healthcare professional. If the qualified healthcare professional is unable to rule out a concussion, the athlete must be referred for further evaluation and written clearance before the athlete may return to play. If a potential concussion, loss of consciousness or apparent loss of consciousness has occurred, the athlete may only return to practice/game after the administrative head of school or designee receives written clearance from a qualified physician. No athlete shall return to practice or play (RTP) on the same day of a concussion. Any athlete with a concussion should be evaluated by their primary care provider or qualified healthcare professional that day.
2. A qualified healthcare professional shall be defined as a MD or DO; or school nurse, nurse practitioner, physician assistant, or athletic trainer, with collaboration and/or supervision by a MD or DO as required by their professional state laws and regulations. The qualified healthcare professional must be licensed by their state, be in good standing with the State of Delaware, and if the evaluation is provided on site must also be approved or appointed by the administrative head of school or designee, or the DIAA Executive Director.
3. "Written Clearance from a qualified physician" for return to play after a potential concussion shall be a MD/DO only. The preferred method would be to use the form that is attached. [ACE Care Plan]. After medical clearance, return to play should follow a step-wise protocol with provisions for delayed return to play based upon the return of any signs or symptoms.
4. Failure to comply with medical requirements found in DIAA regulation section 3.0 shall result in that individual or school being considered "ineligible" and shall be penalized according to DIAA regulation 1008.2.9 or 1009.2.10 as applicable.
5. Each student athlete and the athlete's parent or guardian shall annually sign and return a concussion information sheet prior to initiating practice or competition.
6. Each certified and emergency coach shall complete concussion training once every two years. The NFHS online concussion course "Concussion in Sports: What you need to Know" is the approved training course.

Delaware Interscholastic Athletic Association
John W. Collette Education Resource Center
35 Commerce Way, Suite #1
Dover, DE 19904
Office: 302-857-3365
Fax: 302-739-1769

This form is adopted from the Acute Concussion Evaluation care plan developed by the CDC (www.cdc.gov/injury). All medical providers are strongly encouraged to use this form for concussed athletes participating in DIAA sports. While other forms may be used, **all medical providers must abide by DIAA protocol** (http://www.doe.k12.de.us/infosuites/students_family/diaa/) **including the return to play plan** noted above, before an athlete may return to athletics.

RETURN TO PLAY POLICIES

District of Columbia

National Federation of State
High School Associations

A PARENT'S GUIDE TO CONCUSSION

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull, typically from a blow to the head or body. An athlete does not need to lose consciousness (be "knocked-out") to suffer a concussion, and in fact, less than ten percent of concussed athletes suffer loss of consciousness.

Concussion Facts

- A concussion is a type of traumatic brain injury. The result is a more obvious functional problem than a clear structural injury, causing it to be invisible to standard medical imagining (CT and MRI scans).
- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but boys' ice hockey, boys' lacrosse, girls' soccer, girls' lacrosse and girls' basketball follow closely behind. All athletes are at risk.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.
- Concussions can cause symptoms which interfere with school, work, and social life.
- Concussion symptoms may last from a few days to several months.
- An athlete should not return to sports or physical activity like physical education or working-out while still having symptoms from a concussion. To do so puts them at risk for prolonging symptoms and further injury.

What should I do if I think my child has had a concussion?

If an athlete is suspected of having a concussion, he or she must be immediately removed from that activity. Continuing to play or work out when experiencing concussion symptoms can lead to worsening of symptoms, increased risk for further injury and possibly death. Parents and coaches are not expected to be able to make the diagnosis of a concussion. A medical professional trained in the diagnosis and management of concussions will determine the diagnosis. However, you must be aware

of the signs and symptoms of a concussion. If you are suspicious your child has suffered a concussion, he or she must stop activity right away and be evaluated:

When in doubt, sit them out!

All student-athletes who sustain a concussion need to be evaluated by a health care professional who is experienced in concussion management. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions, he or she should be immediately taken to the emergency department.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache
Is confused about what to do	Nausea
Forgets plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or fuzzy vision
Moves clumsily	Sensitivity to light or noise
Answers questions slowly	Feeling sluggish
Loses consciousness	Feeling foggy or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit	Confusion
Can't recall events after hit	

When can an athlete return to play following a concussion?
After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown that the young brain does not recover quickly enough for an athlete to safely return to activity in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers in almost all states to pass laws stating that **no player shall return to play that day following a concussion, and the athlete must be cleared by an appropriate health-care**

professional before he or she is allowed to return to play in games or practices. The laws typically also mandate that players, parents and coaches receive education on the dangers and recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared for return to play, he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average, the athlete will complete a new step each day. An example of a typical return-to-play schedule is shown below:

Day 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.
Day 2: Running in the gym or on the field. No helmet or other equipment.
Day 3: Non-contact training drills in full equipment. Weight-training can begin.
Day 4: Full contact practice or training.
Day 5: Game play.

If symptoms occur at any step, the athlete should cease activity and be re-evaluated by their health care provider.

How can a concussion affect schoolwork?
Following a concussion, many student-athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration and organization.

In many cases after the injury, it is best to decrease the athlete's class load early in the recovery phase. This may include staying home from school for a few days, followed by academic accommodations (such as a reduced class schedule), until the athlete has fully recovered. Decreasing the stress on the brain and not allowing the athlete to push through symptoms will shorten the recovery time.

What can I do?

- Both you and your child should learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has suffered a concussion.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate a concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.

Other Frequently Asked Questions

Why is it so important that athletes not return to play until they have completely recovered from a concussion?

Student-athletes that return to any activity too soon (school work, social activity or sports activity), can cause the recovery time to take longer. They also risk recurrent, cumulative or even catastrophic consequences, if they suffer another concussion. Such risk and difficulties are prevented if each athlete is allowed time to recover from his or her concussion and the return-to-play decisions are carefully and individually made. No athlete should return to sport or other at-risk activity when signs or symptoms of concussion are present and recovery is ongoing.

Is a "CAT scan" or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening head and brain injuries (skull fractures, bleeding or swelling), they are currently insensitive to concussive injuries and do not aid in the diagnosis of concussion. Concussion diagnosis is based upon the athlete's story of the injury and a health care provider's physical examination and testing.

What is the best treatment to help my child recover quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can help speed the recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened or eliminated, if symptoms worsen.

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within 2–3 weeks of the initial injury. You should anticipate that your child will likely be out full participation in sports for about 3-4 weeks following a concussion. However, in some cases symptoms may last for many more weeks or even several months. Symptoms such as headache, memory problems, poor concentration, difficulty sleeping and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.

How many concussions can an athlete have before he or she should stop playing sports?

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances that surround each individual injury, such as how the injury occurred and the duration of symptoms following the concussion, are very important and must be individually considered when assessing an athlete's risk for and potential long-term consequences from incurring further and potentially more serious concussions. The decision to "retire" from sports is a decision

best reached after a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussions.

I've read recently that concussions may cause long-term brain damage in professional football players. Is this a risk for high school athletes who have had a concussion?

The issue of "chronic traumatic encephalopathy (CTE)" in former professional players has received a great deal of media attention lately. Very little is known about what may be causing these dramatic abnormalities in the brains of these unfortunate players. At this time we do not know the long-term effects of concussions (or even the frequent sub-concussive impacts) which happen during high school athletics. In light of this, it is important to carefully manage every concussion and all concussion-like signs and symptoms on an individual basis.

Some of this information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the NFHS's Sports Medicine Advisory Committee. Please go to **www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm** for more information.

Revised and Approved April 2013
April 2010

RETURN TO PLAY POLICIES

Florida

Revised 06/15

Florida High School Athletic Association

Post Head Injury/Concussion Initial Return to Participation

(Page 1 of 2)

This form is to be completed by an appropriate health care provider (AHCP) trained in the latest concussion evaluation and management protocols as defined in FHSAA policy 40.2 for any student-athlete that has sustained a concussion and must be kept on file at the student-athlete's school. The choice of AHCP remains the decision of the parent/guardian or responsible party of the student-athlete.

Athlete Name: _____ DOB: _____/_____/_____ Injury Date: _____/_____/_____

Sport: _____ School: _____ Level (Varsity. JV, etc.): _____

I (treating physician) certify that the above listed athlete has been evaluated for a concussive head injury, and currently is/has:
(All Boxes MUST be checked before proceeding)

- ☐ Asymptomatic
- ☐ Normal neurological exam
- ☐ Off medications related to this concussion
- ☐ Returned to normal classroom activity
- ☐ Yes ***or*** ☐ N/A Neuropsychological testing (as available) has returned to baseline

The athlete named above is cleared to begin a graded return to play protocol (outline below) under the supervision of an athletic trainer, coach or other health care professional as of the date indicated below. If the athlete experiences a return of any of his/her concussion symptoms while attempting a graded return to play, the athlete is instructed to stop play immediately and notify a parent, licensed athletic trainer or coach.

Physician Name: _____ Signature/Degree: _____

Phone: _____ Fax: _____ Today's Date: _____

Graded Return to Play Protocol

Each step, beginning with step 2, should take at least 24 hours to complete. If the athlete experiences a return of any concussion symptoms they must immediately stop activity, wait at least 24 hours or until asymptomatic, and drop back to the previous asymptomatic level. This protocol must be performed under supervision, please initial and date the box next to each completed step

Once the athlete has completed full practice i.e. stage 5, please sign and date below and return this form to the athlete's physician (MD/DO) for review and request the physician complete the return to competition form for the athlete to resume full activity.

Rehabilitation stage	Functional exercise at each stage	Objective	Date completed	Initials
1. No Activity	Rest; physical and cognitive	Recovery	Noted above	Signed above
2. Light aerobic exercise	Walking, swimming, stationary bike, HR<70% maximum; no weight training	Increased heart rate		
3. Sport-specific exercise	Non-contact drills	Add movement		
4. Non-contact training	Complex (non-contact) drills/practice	Exercise, coordination and cognitive load		
5. Full contact practice	Full contact practice	Restore confidence and simulate game situations		
6. Return to full activity	Return to competition	**After completion of the steps above; Form AT18, Page 2 must be completed by physician**		

I attest the above named athlete has completed the graded return to play protocol as dated above.

Athletic Trainer / Coach Name: _____ AT License Number: _____ Phone: _____

(If coach) AD/Principal Name: _____ School: _____ Phone: _____

Athletic Trainer / Coach Signature: _____ Date: _____/_____/_____

Athlete Signature: _____ Date: _____/_____/_____

Physician Reviewed:

_____

Florida High School Athletic Association

Revised 06/15

Post Head Injury/Concussion Initial Return to Participation

This form is to be completed by an appropriate health care provider (AHCP) trained in the latest concussion evaluation and management protocols as defined in FHSAA policy 40.2 for any student-athlete that has sustained a concussion and must be kept on file at the student-athlete's school. The choice of AHCP remains the decision of the parent/guardian or responsible party of the student-athlete. Completion of this form in itself does not guarantee playing time for the athlete.

Return to Competition Affidavit

Student-Athlete's Name: _____

Date of Birth: _____/_____/_____ Injury Date: _____/_____/_____

Formal Diagnosis: _____

School: _____

Sport: _____

I certify that I have reviewed the signed graded return to activity protocol provided to me on behalf of the athlete named above. This athlete is cleared for a complete return to **full-contact physical activity** as of _____/_____/_____.

This student-athlete is instructed to stop play immediately and notify a parent, licensed athletic trainer or coach and to refrain from activity should his/her symptoms return.

Physician Name: _____

Physician Signature:_____ License No.: _____

Phone: (_____) _____ Fax: (_____) _____ E-mail: _____

Date: _____/_____/_____

Florida High School Athletic Association
1801 NW 80 Blvd., Gainesville, FL 32606

June 2013

MEMORANDUM

TO: FHSAA Member Schools

FROM: Dr. Roger Dearing, FHSAA Executive Director
Justin Harrison, FHSAA Assistant Executive Director for Athletic Services
Gary Pigott, FHSAA Senior Director of Athletics

SUBJECT: FHSAA Concussion Action Plan

The following is the standard concussion information we will provide to FHSAA member schools, contest officials, health-care professionals, media and parents. We will review this information with the FHSAA Sports Medicine Advisory Committee and the FHSAA Board of Directors for their approval. Any amendments will be made at that time. Please contact us if you have any additional questions.

NFHS Rules Book Language:
Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest or practice and shall not return to play until cleared by an appropriate health-care professional.

Definition of Appropriate Health-Care Professional:
"An interscholastic student-athlete who has been removed from play **due to a suspected concussion**, may not return to play until the student-athlete is evaluated by a licensed health-care professional familiar in the evaluation and management of concussion and receives written clearance to return to play from the appropriate health-care professional."

In Florida, the FHSAA Sports Medicine Advisory Committee defines an appropriate health-care professional (AHCP as either a licensed physician (MD, as per Chapter 458, Florida Statutes), a licensed osteopathic physician (DO, as per Chapter 459, Florida Statutes),

Definition of an Athletic Trainer:
An Athletic Trainer is a recognized health care professional (ATC, as per Chapter 468, Florida Statutes) and practices under a written operational protocol (defined in sub chapter 468.713, Florida Statutes). Athletic training encompasses the prevention, diagnosis and intervention of emergency, acute and chronic medical conditions involving impairment, functional limitations and disabilities.

Consistent with the American Academy of Neurology and other organizations, it is recommended that an AHCP or an athletic trainer is present at all sporting events, including practices, where athletes are at risk for concussion or for those classified as a collision sport, whenever possible.

Mechanics for Removal from Athletic Contest:
The NFHS concussion rule calls for the immediate removal of the participant from the contest or practice. The revised language reflects an increasing focus on safety, given that the vast majority of concussions do not involve a loss of consciousness. However, the revised language does not create a duty that officials are expected to perform a medical diagnosis. The change in this rule simply calls for officials to be cognizant of athletes who display signs, symptoms or behaviors of a concussion (see NFHS Suggested Guidelines for Management of Concussion) and remove them from play. At that point, the official's job is done. It is important to note that the responsibility of the official is limited to activities that occur on the field, court, or mat.

Once the participant has been removed from a contest due to a suspected concussion, the coach, school and appropriate health-care professional(s) assume full responsibility for that athlete's further evaluation and safety. If available, an athletic trainer can perform the sideline evaluation of a student-athlete. If a concussion is suspected, the athlete must be further evaluated by an AHCP according to policy and return to activity will require written clearance from ACHP. If after sideline evaluation, it is determined the athlete does not demonstrate symptoms

consistent with a concussion the ATC will follow procedures within a written operational protocol to determine return to play. In this situation, the athlete should continue to be monitored for any delayed onset of concussion symptoms and must be removed from activity immediately, if necessary.

Return To Play (RTP) Criteria: Suggested Concussion Management

No athlete should return to play (RTP) or practice on the same day of a suspected concussion. "When in doubt, sit them out!"

Any athlete suspected of having a concussion must be evaluated by an appropriate health-care as soon as possible and practical.

Any athlete who has sustained a concussion must be medically cleared by an appropriate health-care professional (as defined above) prior to resuming participation in any practice or competition.

After evaluation and examination by an AHCP, return to play must follow a step-wise protocol as defined by the FHSAA Sports Medicine Advisory Committee (SMAC) and under the supervision of an AHCP, athletic trainer, coach or other health care professional.

A written medical clearance from an AHCP is required for return to competition.

Education on Management of Concussions:

All FHSAA member school head coaches and paid/supplemented coaches are required to view the FREE online education course "*Concussion in Sports – What You Need to Know*". This NFHS concussion course may be viewed online at www.nfhslearn.com. All member school personnel, contest officials, student-athletes and parents are encouraged to educate themselves by viewing the FREE online education course as well.

This plan was recommended at the Sports Medicine Advisory Committee Meeting on September 1, 2010 and revised at the Sports Medicine Advisory Committee Meeting on March 12, 2012, further updates occurred on June 11, 2013. The FHSAA Board of Directors adopted the policy in June, 2011. Gary Pigott, FHSAA Senior Director of Athletics, is a member of the Florida Concussion Task Force.

National Federation of State High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Introduction

A concussion is a type of traumatic brain injury that interferes with normal function of the brain. It occurs when the brain is rocked back and forth or twisted inside the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion by medical professionals continues to evolve. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a "ding" on the head, it is now understood that a concussion has the potential to result in a variety of short- or long-term changes in brain function or, in rare cases, even death.

What is a concussion?

You've probably heard the terms "ding" and "bell-ringer." These terms were previously used to refer to minor head injuries and thought to be a normal part of collision sports. Research has now shown us that there is no such thing as a minor brain injury. Any suspected concussion must be taken seriously. The athlete does not have to be hit directly in the head to injure the brain. Any force that is transmitted to the head in any matter may cause the brain to literally bounce around or twist within the skull, potentially resulting in a concussion.

It used to be believed that a player had to lose consciousness or be "knocked-out" to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 5% of players actually lose consciousness with a concussion.

What exactly happens to the brain during a concussion is not entirely understood. It appears to be a very complex process affecting both the structure and function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs,

the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be detected during an examination, or seen on x-rays or MRI. A concussion, however, is primarily an injury that interferes with how the brain works. While there is damage to brain cells, the damage is at a microscopic level and cannot be seen on MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been seriously injured.

Recognition and Management

If an athlete exhibits any signs, symptoms, or behaviors that make you suspicious that he or she may have had a concussion, that athlete must be removed from all physical activity, including sports and recreation. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death.

Parents and coaches are not expected to be able to "diagnose" a concussion. That is the role of an appropriate health-care professional. However, everyone involved in athletics must be aware of the signs, symptoms and behaviors associated with a concussion. If you suspect that an athlete may have a concussion, then he or she must be immediately removed from all physical activity.

Signs Observed by Coaching Staff

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

Symptoms Reported by Athlete

- Headaches or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy or groggy
- Concentration or memory problems
- Confusion

- Does not “feel right” or is “feeling down”

When in doubt, sit them out!

When you suspect that a player has a concussion, follow the “Heads Up” 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure that the athlete is evaluated by an appropriate health-care professional.
3. Inform the athlete’s parents or guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury and until an appropriate health-care professional says he or she is symptom-free and gives the okay to return to activity.

The signs, symptoms, and behaviors associated with a concussion are not always apparent immediately after a bump, blow, or jolt to the head or body and may develop over a few hours or longer. An athlete should be closely watched following a suspected concussion and should never be left alone.

Athletes must know that they should never try to “tough out” a suspected concussion. Teammates, parents and coaches should never encourage an athlete to “play through” the symptoms of a concussion. In addition, there should never be an attribution of bravery to athletes who do play despite having concussion signs and/or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at greater risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

What to do in an Emergency

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following:
    - decreasing level of consciousness,
    - looks very drowsy or cannot be awakened,
    - if there is difficulty getting his or her attention,
    - irregularity in breathing,
    - severe or worsening headaches,
    - persistent vomiting, or

- any seizures.

Cognitive Rest

A concussion can interfere with school, work, sleep and social interactions. Many athletes who have a concussion will have difficulty in school with short- and long-term memory, concentration and organization. These problems typically last no longer than 2 -3 weeks, but for some these difficulties may last for months. It is best to lessen the student's class load early on after the injury. Most students with concussion recover fully. However, returning to sports and other regular activities too quickly can prolong the recovery.

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Students with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. As the symptoms lessen, increased use of computers, phone, video games, etc., may be allowed, as well as a gradual progression back to full academic work.

Return to Learn

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration, and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day**. In the past, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

An athlete should never be allowed to resume physical activity following a concussion until he or she is symptom free and given the approval to resume physical activity by an appropriate health-care professional.

Once an athlete no longer has signs, symptoms, or behaviors of a concussion **and is cleared to return to activity by an appropriate health-care professional**, he or she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete will progress one step each day. The return to activity program schedule **may** proceed as below, **following medical clearance**:

Progressive Physical Activity Program (ideally under supervision)

Step 1: Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training, or any other exercises.

Step 2: Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.

Step 3: Non-contact training drills in full uniform. May begin weight lifting, resistance training and other exercises.

Step 4: Full contact practice or training.

Step 5: Full game play.

If symptoms of a concussion reoccur, or if concussion signs and/or behaviors are observed at any time during the return-to-activity program, the athlete must discontinue all activity and be re-evaluated by his or her health-care provider.

Suggested Concussion Management

1. **No athlete should return to play (RTP) or practice on the same day of a concussion.**
2. **Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.**
3. **Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.**
4. **After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.**

References:

American Medical Society for Sports Medicine position statement: concussion in sport. Harmon KG, Drezner J, Gammons M, Guskiewicz K, Halstead M, Herring S, Kutcher J, Pana A, Putukian M, Roberts W; American Medical Society for Sports Medicine. Clin J Sport Med. 2013 Jan;23(1):1-18.

McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012 J Athl Train. 2013 Jul-Aug;48(4):554-75.

Returning to Learning Following a Concussion. Halstead M, McAvoy K, Devore C, Carl R, Lee M, Logan K and Council on Sports Medicine and Fitness, and Council on School Health. *Pediatrics,* October 2013. American Academy of Pediatrics.

Additional Resources:

Brain 101 – The Concussion Playbook.
http://brain101.orcasinc.com/5000/

Concussion in Sports- What you need to know.
http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000

Heads Up: Concussion in High School Sports
http://www.cdc.gov/concussion/headsup/high_school.html

NFHS Sports Medicine Handbook, 4th Ed, 2011.

REAP Concussion Management Program.
http://www.rockymountainhospitalforchildren.com/sports-medicine/concussion-management/reap-guidelines.htm

Sport Concussion Library
http://www.sportconcussionlibrary.com/content/concussions-101-primer-kids-and-parents

Revised and Approved October 2013
January 2011
April 2009
October 2008
October 2005

RETURN TO PLAY POLICIES

Georgia

Concussion Management in High School Athletics

Coaches / ADs
Officials
Athletics

Statement of Concerns

Concussions at all levels of sports have received a great deal of attention in the past few years. Attention has increased even more over the past year, culminating with the NFL, NCAA and National Federation of State High School Associations testifying before the United States Congress about what each organization is doing to protect athletes from concussion. At least four states have enacted legislation dealing with the issue of head injuries sustained in athletic competitions. Adolescent athletes are particularly vulnerable to the effects of concussion. Once considered little more than a minor "ding" on the head, it is now understood that a concussion has the potential to result in death, or short- and long-term changes in brain function. A concussion is a brain injury that results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull as a result of a blow to the head or body. Continued participation in any sport following a concussion can lead to worsening concussion symptoms, as well as increased risk for further injury to the brain, and even death. The well-being of the athlete is of paramount concern during any athletic contest. Officials, coaches and administrators are being asked to make all efforts to ensure that concussed athletes do not continue to participate. Thus, coaches, players, officials, and administrators should also be looking for signs of concussion in all athletes and should immediately remove any suspected concussed athlete from play.

NFHS Rules Change

Previous rules books for most sports included language directing officials to remove an athlete from play if "unconscious or apparently unconscious." We now know that a person does not have to lose consciousness to suffer a concussion. In fact, according to our most recent data from the High School Reporting Information Online (RIO) and the National High School Sports Related Injury Surveillance Study, only 3.2 percent of all concussed athletes lost consciousness during the 2009 football season. That language has been changed to the following: Any athlete who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional. The common signs, symptoms and behaviors of concussed athletes may be found in Appendix B on page 100 of the 2010 NFHS Football Rules Book.

Role of Officials

Neither officials, nor coaches, are expected to "diagnose" a concussion, as that is the job of an appropriate health-care professional. Officials are being asked to use their best judgment in observing the signs, symptoms and behaviors, but are no longer being asked to make what could be perceived to be a medical opinion. This is the same type of monitoring procedure that has been used with orthopedic injuries and the "blood rule" in the past. The game official is not responsible for the sideline evaluation or management of the athlete after he or she is removed from play. The responsibility of further evaluating and managing the symptomatic athlete falls upon the head coach, appropriate health-care professional, or other individual designated by school administrators. If an appropriate health-care professional on the sideline determines that the athlete HAS NOT suffered a concussion, the athlete may return to play. If there is no appropriate health-care professional available to evaluate the athlete, the athlete SHOULD NOT be allowed by the coach to return to play. The official does not need written permission for an athlete to return to play, nor does the official need to verify the credentials of the appropriate health-care professional. Ensuring compliance with the Suggested Management Guidelines is a health and safety issue and should be the responsibility of the head coach and school administration, NOT the game official.

School Responsibilities

1. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day. NOTE: An "appropriate health-care professional" must be determined by each school district with respect to state laws and local preferences. Such individuals should be knowledgeable in the evaluation and management of sports-related concussions and may, depending on controlling law, include MDs, DOs and certified athletic trainers
2. No athlete should return to play or practice on the same day after a concussion has been diagnosed
3. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming participation in any practice or competition. The formulation of a gradual return to play protocol should be a part of the medical clearance. NOTE: Athletes with continued concussion symptoms are at significant risk for recurrent, cumulative and even catastrophic consequences of a second concussive injury. Such risks are minimized if the athlete is allowed time to recover from the concussion and return to play decisions are carefully made. No athlete should return-to-sport or other at-risk participation when symptoms of concussion are present and recovery is ongoing.
4. These guidelines should be applied to both practices and scrimmages.

It is **required** that coaches participate in a free, online course on concussion management prepared by the NFHS. "Concussion in Sports" is an extremely well-prepared presentation that can be found at www.nfhslearn.com.

RETURN TO PLAY POLICIES

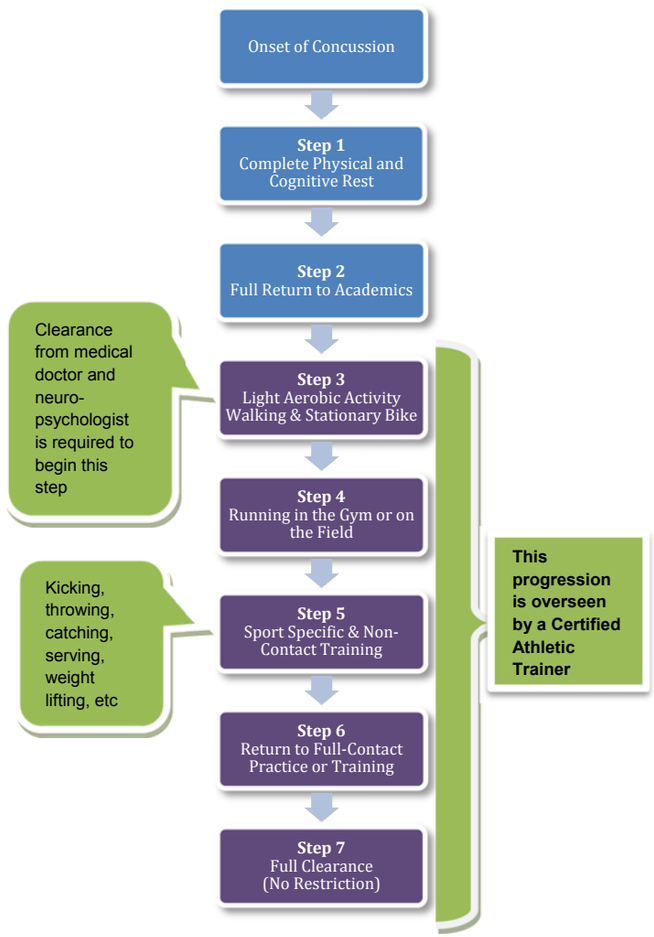
Hawaii

What to do with a Concussion

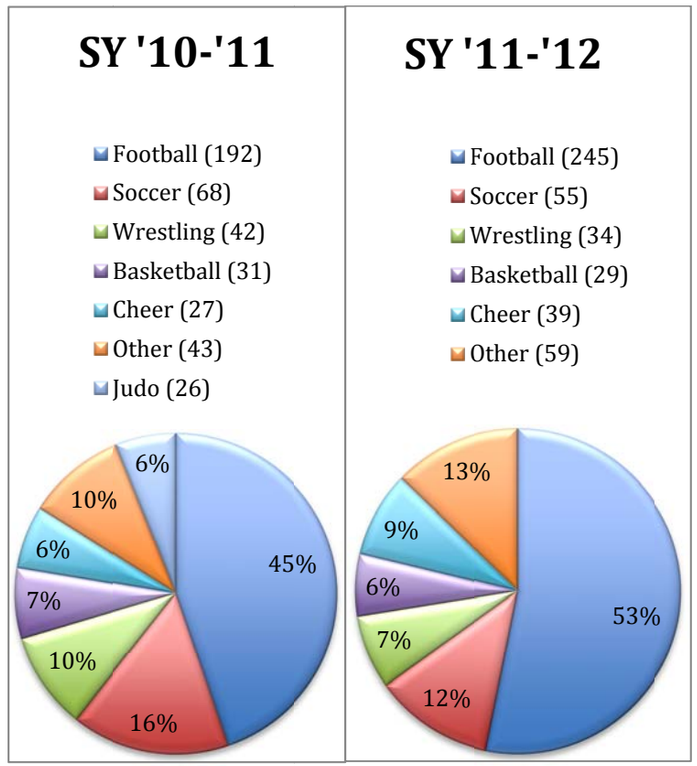
1. Remove the athlete from play. Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. When in doubt, keep the athlete out of play.
2. Ensure that the athlete is evaluated by a health care professional that has experience in evaluating concussions. Do not try to judge the severity of the injury yourself. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:
    - Cause of the injury and force of the hit or blow to the head or body
    - Any loss of consciousness (passed out/knocked out) and if so, for how long
    - Any memory loss immediately following the injury
    - Any seizures immediately following the injury
    - Number of previous concussions (*if any*)
3. Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussion. Make sure they know that the athlete should be seen by a health care professional experienced in evaluating concussions.
4. Keep the athlete out of play the day of the injury and until a health care professional with experience in evaluating concussions, says athlete is symptom-free and it's OK to return to play.

Concussion Management Plan

The DOE has instituted a concussion management program that utilizes a "Gradual Return to Play Protocol," a step-by-step return to play program. The first three steps involve cognitive rest and returning the athlete to school full time, the last four involve returning the athlete to full participation in his/her sport. The athlete must be symptom free in order to advance to the next step, and each step must be separated by at least 24 hours.



Concussions in Hawaii High Schools

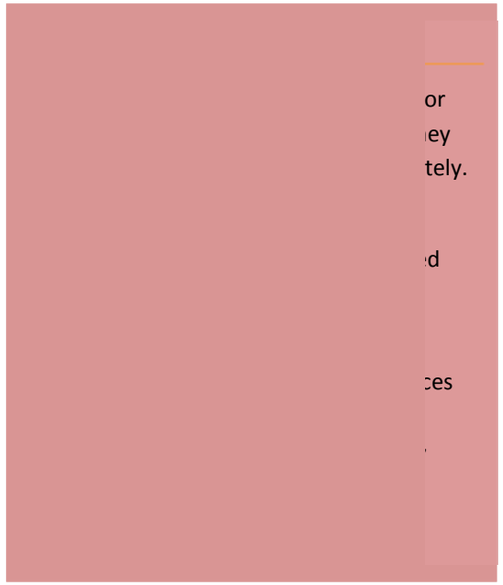


Additional Resources:

www.cdc.gov/concussion/HeadsUp/schools.html
www.doe.k12.hi.us/healthsafety/concussions/index.htm
www.cdc.gov/concussion/HeadsUp/youth.html
www.cdc.gov/concussion/HeadsUp/high_school.html
www.brain101.orcasinc.com

Signs and Symptoms of Concussion

- Appears dazed or stunned
- Answers questions slowly
- Can't recall events *after* hit, bump, or fall
- Forgetting class schedule or assignments
- Behavior or personality changes
- Difficulty thinking clearly, concentrating, or remembering
- Drowsiness or fatigue
- Feeling slowed down, sluggish, hazy, groggy, or foggy
- More irritable, sad, nervous, or emotional than usual
- Sleeping more or less than usual
- Is confused about events
- Can't recall events *before* hit, bump or fall
- Loses consciousness (even briefly)



- Difficulty falling asleep
- Headache or "pressure" in head
- Nausea or Vomiting
- Does not "feel right"
- Blurry or double vision
- Balance problems or dizziness
- Numbness or tingling
- Sensitivity to light and/or noise

How is a Concussion Treated?

The most important treatment for a concussion is cognitive and physical rest. The athlete should not exercise, go to school or do any activities that may make them worse, like riding a bike, play wrestling with friends or siblings, texting, video games, or working on the computer. If your athlete goes back to activities before he/she is completely better, he/she is more likely to get worse, and to have symptoms longer. Even though it is very hard for an active athlete to rest, this is the most important step.

Got a Concussion?

REST & MONITOR SYMPTOMS!!

Physical Rest: Do not participate in any strenuous activities. If any activity creates or worsens symptoms, STOP immediately.

Cognitive Rest: Avoid periods of intense focus and concentration since mental exertion slows brain healing. This includes avoiding and limiting texting, video games, working on the computer, reading, and loud or bright environments.

Are you currently experiencing these symptoms?	0=No, 1=Yes	If "Yes," enter 1-6, 1 being a low score, 6 being a high score
Headache		
Nausea		
Vomiting		
Balance Problems		
Dizziness		
Fatigue		
Trouble Falling Asleep		
Sleeping Too Much		
Sleeping Too Little		
Drowsiness		
Sensitivity to Light		
Sensitivity to Noise		
Irritability		
Sadness		
Feeling Nervous		
Feeling Emotional		
Numbness or Tingling		
Feeling Too Slow		
Mentally "Foggy"		
Difficulty Concentrating		
Memory Problems		
Visual Problems		
Total		

Hawaii Concussion Awareness Management Program

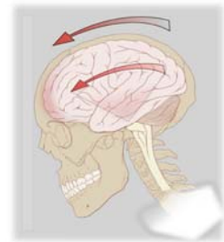
State of Hawai'i Department of Education
Concussion Awareness Management Program Committee

University of Hawai'i at Mānoa
College of Education

State of Hawaii Department of Health
Developmental Disabilities Division,
Develop Disabilities Services Branch,
Neurotrauma Supports

HAWAII HIGH SCHOOL HHSAA ATHLETIC ASSOCIATION

HATA HAWAII ATHLETIC TRAINERS' ASSOCIATION



What is a Concussion?

Definition: Head injury with a temporary loss of brain function. Concussions can cause a variety of physical, cognitive, and emotional symptoms. Concussion may be caused by a blow to the head, or by acceleration forces without a direct impact. A second concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage, and even death.

RETURN TO PLAY POLICIES

Idaho

Safe Return to Play

Guidelines for Returning Concussed Athletes to Full Activity

Returning Athletes to Play Following Concussion

Graduated Return to Competition and Practice Protocol

1. Complete physical, cognitive, emotional, and social rest is advised while the student-athlete is experiencing symptoms and signs of a sports-related concussion or other head injury. (Minimize mental exertion, limiting overstimulation, multi-tasking, etc.). Refrain from video games and texting and limit time spent working on a computer.

2. After the athlete is asymptomatic at rest and after a physician or other health care provider gives written medical clearance specially trained in the evaluation and management of concussions, the student-athlete may begin a graduated individualized return-to-play protocol. The following steps should be followed:

- Completion of a full day of normal cognitive activities (school day, studying for tests, watching practice, interacting with peers) without re-emergence of any signs or symptoms. If no return of symptoms, next day advance to -
- Light aerobic exercise, which includes walking, swimming, or stationary cycling, keeping the intensity < 70% maximum percentage heart rate: no resistance training. The objective of this step is increased heart rate. If no return of symptoms, next day advance to -
- Sport-specific exercise including skating, and/or running; no head impact activities. The objective of this step is to add movement and continue to increase heart rate. If no return of symptoms, next day advance to -
- Non-contact training drills (e.g., passing drills). The student-athlete may initiate progressive resistance training. If no return of symptoms, next day advance to -
- Following medical clearance (consultation between school health care personnel, i.e., Certified Athletic Trainer, School/Team Physician, School Nurse and student-athlete's physician), participation in normal training activities. The objective of this step is to restore confidence and to assess functional skills by the coaching staff. If no return of symptoms, next day advance to –
- Return to play involving normal exertion or game activity.

3. If the student athlete exhibits a re-emergence of any concussion signs or symptoms once they return to physical activity, he/she will be removed from further exertional activities and returned to the physician or health care provider who provided written clearance for re-evaluation.
4. If concussion symptoms reoccur during the graduated return-to-play protocol, the student-athlete will return to the previous level of activity that caused no symptoms.

"When in Doubt, Sit 'em Out!"

Returning Athletes to Play Following Concussion

Gradual Return to Play Protocol

Each step should be separated by 24 hours

6 Return to Play
Normal game play; No restrictions.

5 Full-Contact Practice
Participate in normal training activity.

4 Non-Contact Training Drills
Progression to more complex training drills; May start progressive resistance training.

3 Sport-Specific Exercise
Running; Sport drills; No head impact activities.

2 Light aerobic exercise
Walking, swimming, stationary cycling; Keep intensity <70% of maximum heart rate. No resistance training.

1 NO ACTIVITY. Complete physical and cognitive rest.

Do not advance to the next step if symptoms reappear

How Long Will It Take To Recover From Concussion?

The key to concussion management is physical and cognitive rest until symptoms resolve followed by a gradual return to physical exertion. The majority of injuries will recover spontaneously. Typically, for adolescent-aged athletes, the process takes between several days and two weeks, depending on the injury. This is longer than it typically takes for adults.

During the recovery period while the athlete is symptomatic, it is important to emphasize to the athlete that physical and cognitive rest is required. Activities that require concentration and attention (e.g. scholastic work, video games, text messaging) may exacerbate symptoms and possibly delay recovery. In such cases, apart from limiting relevant physical and cognitive activities (and other risk-taking opportunities for re-injury) while symptomatic, no further intervention is required during the period of recovery and the athlete typically resumes sport without further problem.

RETURN TO PLAY POLICIES

Illinois

Sports Medicine

ILLINOIS HIGH SCHOOL ASSOCIATION
2715 McGraw Drive • Bloomington, IL 61704
• www.ihsa.org • Phone: 309-663-6377 • Fax: 309-663-7479 •

IHSA Protocol for Implementation of NFHS Sports Playing Rule for Concussions

"Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health care professional."

The above language, which first appeared in all National Federation sports rule books for the 2010-11 school term, reflects a strengthening of rules regarding the safety of athletes suspected of having a concussion, but not a revision in primary responsibilities in these areas. Previous rules required officials to remove any athlete from play who was "unconscious or apparently unconscious." This revised language reflects an increasing focus on safety, given that the vast majority of concussions do not involve a loss of consciousness. However, the revised language does not create a duty that officials are expected to perform a medical diagnosis. The change in rule simply calls for officials to be cognizant of athletes who display signs, symptoms, or behaviors of a concussion from the lists below and remove them from play.

NOTE: The persons who should be alert for such signs, symptoms, or behaviors consistent with a concussion in an athlete include appropriate health-care professionals, coaches, officials, parents, teammates, and, if conscious, the athlete him/herself.

Definition of a Concussion
A concussion is a traumatic brain injury that interferes with normal brain function. An athlete does not have to lose consciousness (be "knocked out") to have suffered a concussion.

Behavior or signs observed indicative of a possible concussion
- Loss of consciousness
- Appears dazed or stunned
- Appears confused
- Forgets plays
- Unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Shows behavior or personality changes
- Can't recall events prior to or after the injury

Symptoms reported by a player indicative of a possible concussion
- Headache
- Nausea
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish
- Feeling foggy or groggy
- Concentration or memory problems
- Confusion

This protocol is intended to provide the mechanics to follow during the course of contests/matches/events when an athlete sustains an apparent concussion. For the purposes of this policy, appropriate health care professionals are defined as: physicians licensed to practice medicine in all its branches in Illinois and certified athletic trainers.

1. During the pre-game conference of coaches and officials, the official shall remind the head coaches that a school-approved appropriate health care professional (who meets the description above) will need to clear for return to play any athlete removed from a contest for an apparent head injury.
2. The officials will have no role in determining concussion other than the obvious situation where a player is unconscious or apparently unconscious as is provided for under the previous rule. Officials will merely point out to a coach that a player is apparently injured and advise the coach that the player should be examined by the school-approved health care provider.
3. If it is confirmed by the school's approved health care professional that the student did not sustain a concussion, the head coach may so advise the officials during an appropriate stoppage of play and the athlete may re-enter competition pursuant to the contest rules.
4. Otherwise, if an athlete cannot be cleared to return to play by a school-approved health care professional as defined in this protocol, that athlete may not be returned to competition that day and is then subject to his or her school's Return to Play (RTP) protocols before the student-athlete can return to practice or competition.
5. Following the contest, a Special Report shall be filed by the contest official(s) with the IHSA Office through the Officials Center.
6. In cases where an assigned IHSA state finals event medical professional is present, his/her decision to not allow an athlete to return to competition may not be over-ruled.

Additional information regarding concussion has been made available to IHSA member schools and licensed officials and can be accessed on the IHSA Sports Medicine website at http://www.ihsa.org/Resources/SportsMedicine.aspx.

Sports Medicine

ILLINOIS HIGH SCHOOL ASSOCIATION
2715 McGraw Drive • Bloomington, IL 61704
• www.ihsa.org • Phone: 309-663-6377 • Fax: 309-663-7479 •

Concussion Information

Return to Play (RTP) and Return to Learn (RTL)

Background: With the start of the 2010-11 school term, the National Federation of State High School Associations (NFHS) implemented a new national playing rule regarding potential head injuries. The rule requires "any player who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the game and shall not return to play until cleared by an appropriate health care professional." In applying that rule in Illinois, it has been determined that only certified athletic trainers, advanced practice nurses (APN), physician's assistants (PA) and physicians licensed to practice medicine in all its branches in Illinois can clear an athlete to return to play the day of a contest in which the athlete has been removed from the contest for a possible head injury.

In 2015, the Illinois General Assembly passed the Youth Sports Concussion Safety Act, and this legislation, among other items, required schools to develop Concussion Oversight Teams and create Return to Play (RTP) and Return to Learn (RTL) protocols that student-athletes must meet prior to their full return to athletic or classroom activity

Mandatory Concussion Education

Required concussion education for all athletic coaches and marching band directors is another component of the Youth Sports Concussion Safety Act passed by the Illinois General Assembly in the fall of 2015.

The IHSA program includes two video presentations and other supplementary materials that ALL high school athletic coaches, marching band directors, and Concussion Oversight Team members need to review prior to taking a required exam over the curriculum. Individuals will be required to demonstrate proficiency on the exam by scoring at least 80% in order to serve as an athletic coach or marching band director at an IHSA member school.

The program offers training in the subject matter of concussions, including evaluation, prevention, symptoms, risks, and long-term effects. Coaches will be able to access the program after logging into the IHSA Schools Center and clicking on the "CON" tab, which will be located under the 'Departments' heading on the Schools Center homepage.

For more information on the Youth Sports Concussion Safety Act, including specific requirements of the law and other concussion education providers besides IHSA, individuals can access Sports Medicine resources on the IHSA website at http://www.ihsa.org/Resources/SportsMedicine.aspx.

For those first adopters of this training, new curriculum from the IHSA/IESA is expected to be released in March of 2018 so those whose training will expire in 2018 will be able to remain in compliance with the law.

RETURN TO PLAY POLICIES

Indiana

IHSAA SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION

"Any athlete suspected of having a concussion should be evaluated by an appropriate health care professional that day. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming participation in any practice or competition."

The language above appears in all National Federation sports rule books as part of the suggested guidelines for the management of concussion. It reflects a heightened emphasis on the safety of athletes suspected of having a concussion, especially since the vast majority of concussions do not involve a loss of consciousness. The State of Indiana has a law (Ind. Code 20-34-7) which mandates a protocol to be observed in the event there is an athletic head injury or concussion sustained by a high school student in a high school practice or contest. The following guidelines provide the IHSAA's suggested procedures to be followed when there may be a head injury or may be a concussion in a practice or in a contest in an IHSAA recognized sport.

1. A high school student athlete who may have sustained a concussion or a head injury in a high school practice or a high school contest in an IHSAA recognized sport should immediately have the existence of a concussion or a head injury confirmed by the school's medical person, who (i) is an individual who has training in the evaluation and management of concussions and head injuries and who is either an Indiana athletic trainer ATC/L or an Indiana medical doctor (MD) or doctor of osteopathic medicine (DO) holding an unlimited license to practice medicine in the state of Indiana, and (ii) has been assigned to a contest to provide medical services or has been assigned to provide medical services to students at a school's athletic practice. If it is confirmed by the school's medical person that the student athlete has not sustained a concussion or a head injury, the student athlete may continue participation in the contest or practice.

2. A high school student athlete, suspected of having sustained a concussion or a head injury in a high school practice or contest in an IHSAA recognized sport, and who is unable to have the absence of a concussion or head injury confirmed, should:
   a. be removed from practice and play at the time of the concussion or head injury is sustained,
   b. be evaluated immediately by an appropriate health care professional, who (i) is an Indiana medical doctor (MD) or doctor of osteopathic medicine (DO) who holds an unlimited license to practice medicine in the state of Indiana, and (ii) has training in the evaluation and management of concussions and head injuries,
   c. follow a step-wise protocol which has provisions for the delay of the return to practice or play based upon the return of any signs or symptoms of concussion or head injury, and
   d. not return to a practice or play (i) until the high school student athlete is cleared in writing to return to practice and play by the health care professional who conducted an evaluation of the student athlete, or (ii) any sooner than twenty-four (24) hours after the student athlete was removed from practice or play.

3. An official has a role in recognizing concussive signs and in making a report during a contest in an IHSAA recognized sport, and that role includes:
   a. if, during a contest, and an official observes a player who exhibits concussive signs (including appearing dazed, stunned, confused, disoriented, to have memory loss, or the athlete is either unconscious or apparently unconscious), the official should immediately notify a coach that a player showed concussive signs and advise that the player should be seen by the school's medical person or by an appropriate health care professional, and
   b. if an official observes a player who exhibits concussive signs during a contest, and regardless of whether the student athlete returns to play or not, following the contest, an official's report shall be filed with the school of the player who exhibited concussive signs, including the athletic director, by the official that initially observed the student who exhibited concussive signs; this report may be found on the IHSAA website at www.ihsaa.org.

4. In cases where an assigned IHSAA Tournament Series physician (MD/DO) is present, his or her decision regarding any potential concussion or head injury, or to forbid an athlete to return to competition, is final, binding and may not be overruled.

SEA 234 – Student Athlete Concussions

SEA 234 expands the concussion education and protocols from students in grades 9-12 to students in grades 5-12 and adds the requirement that all interscholastic coaches take a concussion certification course. SEA 234 makes no changes to the certification requirements for football coaches. The following is comprehensive guidance of not only Senate Enrolled Act 234, but of other Indiana laws related to student athletes and the recognition of concussion signs, and concussion prevention.

Guidance for the New Requirements:

Q: What specific changes does SEA 234 make to the existing Concussion Law?
A: SEA states the following:

- Clarifies that this law applies to all public and accredited nonpublic schools (effective as of July 1, 2016)
- Requires that schools distribute information sheets to parents and student athletes in grades 5-12. These signed information sheets must be returned to the school before the student will be allowed to practice or participate in an interscholastic sport (effective as of July 1, 2016)
- Requires that student athletes who participate in an interscholastic sport in grades 5-12, and who have a suspected concussion, must be removed from play and cannot return to play until 24 hours have passed and a release, signed by a health care provider who has been trained in the evaluation and management of concussions and head injuries, has been presented to the school (effective as of July 1, 2016)
- Requires that head coaches and assistant coaches of students in grades 5-12 who participate in interscholastic sports must take a concussion certification course (effective as of July 1, 2017)
- Makes no changes to the requirements for football coaches – the same certification course is required for all coaches who coach students in grades 1-12 and the team practices or plays on public property (effective as of July 1, 2014)

Q: Where can I find a copy of SEA 234?
A: SEA 234 can be found by clicking here.

Q: Are their specific courses that a coach must take to meet the requirements of SEA 234?
A: Yes, as of July 1, 2017, for the coach to meet the requirements of SEA 234, the course must be approved by the Indiana Department of Education, the coach must take a test, and the coach must receive a certificate that can be presented to the coach's school.

Q: How often does a coach need to be certified?
A: Coaches need to be certified every two years or when notified that new information is available and required for certification.

Q: Where can a coach find a list of the approved courses for coaches?
A: A list of courses has been posted on the Indiana Department of Education website.

Q: Where can I find a copy of the current Concussion Law?
A: The law (enacted July 1, 2012) is titled "Student Athletes: Concussions and Head Injuries". It is listed under Indiana Code as IC 20-34-7 and can be found at the following site.

Q: Are there sample forms that schools could use regarding the implementation of this law?
A: Yes, sample forms can be found on the Indiana Department of Education website. Schools are not required to use these forms. If a school has their own forms that meet the requirements of the law, they may continue to use their own forms.

Q: Does this law, in regards to the educational materials and the return to play requirements, apply to all students?
A: No, this law does not apply to all students. The law only applies to students that are in grades 5-12 who participate in an interscholastic sport.

Q: What is the definition of an interscholastic sport?
A: An interscholastic sport is defined as one that is sanctioned by the Indiana High School Athletic Association (IHSAA). These include the following for boys: baseball, basketball, cross country, football, golf, soccer, swimming, tennis, track and wrestling; and for girls: basketball, cross country, golf, gymnastics, soccer, softball, swimming, tennis, track, and volleyball.

Q: Is cheerleading considered an interscholastic or intramural sport?
A: In regards to SEA 234, cheerleading can be classified as both an interscholastic and an intramural sport. If the cheerleading squad cheers for a team that is defined as an interscholastic sport in the answer above, then those students on that particular squad would be included under this law if they are enrolled in grades 5-12.

Q: Are intramural sports, club sports and intramural cheerleading required to follow the requirements in SEA 234?
A: No, SEA 234 only applies to student athletes who participate in interscholastic sports. That being said, if, as part of a head coach's or assistant coach's coaching certification requirements, compliance with Indiana's laws related to training for concussion awareness and prevention is required, then intramural coaches will need to participate in the same training required of coaches coaching in interscholastic sports.

Q: If schools with intramural sports, club sports or intramural cheerleading follow all of the requirements of SEA 234, are they able to claim the liability protection offered in this law?
A: Yes, any school who follows the requirements of SEA 234 will have the same immunity protection as interscholastic sports.

Q: What about other students who do not fall under the legal definitions of this law?
A: For a student, of any age or sport, the recommendation would be for the adults in charge to take concussions and head injuries seriously. If a concussion or head injury is suspected for any student, the recommendation would be to remove the student from play, notify the student's parents and recommend that the student be evaluated by a licensed health care provider trained in the evaluation and management of concussions and head injuries before allowing the student to return to practice or game play.

Q: When can a student athlete return to play?
A: The law mandates that a student athlete, who plays an interscholastic sport in grades 5-12, who is suspected of having a concussion, must sit out for at least 24 hours, even with a signed released by a licensed health care provider. A licensed health care provider, if available, can do an initial sideline evaluation of a student athlete and may return the athlete to practice or a game if no concussion is suspected. However, if during this initial assessment a concussion is suspected, the student athlete must be removed from play for at least 24 hours, must be evaluated by a licensed health care provider trained in the evaluation and management of concussions and head injuries, and must receive a written clearance before returning to play or practice.

Q: When should a student athlete be pulled from play?
A: If a student athlete has had a bump, blow or jolt to the head or body, the student may be assessed by an athletic trainer or a licensed health care provider, if available. The athletic trainer or health care provider can make a first assessment of the student athlete at the time of injury. If the student exhibits any of the danger signs associated with a concussion, the student athlete should receive immediate medical attention.

If during this initial assessment, the student athlete does not exhibit any of the danger signs associated with a concussion, but does exhibit any (even one) of the signs or symptoms of a concussion, a concussion should be suspected. At that time, the student athlete should be removed from play, the athlete's parents should be notified, the athlete should not return to play for a minimum of 24 hours. Before returning to practice or play, the athlete must be evaluated by a licensed health care provider trained in the evaluation and management of concussions and head injuries, and a written clearance (such as the "Concussion Evaluation and Release to Play Form for Licensed Health Care Providers") must be completed.

Q: What training is necessary for a licensed health care provider?
A: The law states that the student athlete release to return to play form should be signed by a "licensed health care provider trained in the evaluation and management of concussions and head injuries". There is no definition in the law of what constitutes a "trained" provider. Thus, it will

be up to the individual health care provider to determine if he/she feels qualified or if he/she would rather refer the student to a specialist. Additionally, a parent could request a specialist or a second opinion if they felt this was needed.

Q: Does a student athlete have to lose consciousness for a concussion to be suspected?
A: No, if a student athlete exhibits any of the signs or symptoms listed on the fact sheet, even if it is just one of the symptoms, he/she should be suspected of having a concussion.

Q: What should be done if a student athlete does lose consciousness, even for a brief time, after a blow to the head or body?
A: Losing consciousness is one of the danger signs when a concussion is suspected. A student athlete should receive immediate medical attention if after a bump, blow or jolt to the head or body he/she exhibits any of the danger signs listed on the fact sheet.

Q: Is neurocognitive testing required as a baseline for student athletes?
A: No, neurocognitive testing is not required by law. However, many health care providers trained in the evaluation and management of concussions and head injuries recommend that student athletes have this baseline testing at least once before participating in an organized athletic sport.

Guidance for Football Coaches:

Q: What is the requirement for *football coaches*?
A: All football coaches (head coaches and assistant football coaches) who coach children under the age of 20, who coach children in grades 1 through 12, and who utilize public property (parks, schools, public fields) for practice or games must take a certification course that has been approved by the Indiana Department of Education.

Q: Does this law apply to all volunteer coaches?
A: The law does not specifically address paid coaches versus volunteer coaches. However, the Indiana Department of Education Concussion Advisory Board recommends that all volunteer football coaches participate in this training as well.

Q: Does this football certification course apply to coaches who practice and play only on private property?
A: No, IC 20-34-7 only applies to football coaches whose teams practice or play on public property. However, if a private football team plays any of its games or practices on public fields during the season, then the football coaches would fall under this law and would need to be certified.

Q: Where can I find a football certification course that meets the requirements of IC 20-34-7?
A: A list of courses that have been approved by the Indiana Department of Education as meeting the requirements of this law can be found at the following website.

Q: What training is recommended for high school coaches of all other sports (excluding football)?

A: As of July 1, 2017, SEA 234 requires that coaches of interscholastic sports for students in grades 5-12, including all high school interscholastic sports, become educated regarding the signs, symptoms and management of concussion injuries. A list of the approved courses for meeting this requirement is posted on the IDOE website.

RETURN TO PLAY POLICIES

Iowa

IOWA HIGH SCHOOL ATHLETIC ASSOCIATION
IOWA GIRLS HIGH SCHOOL ATHLETIC UNION
CONCUSSION MANAGEMENT

***Iowa Code Section 280.13C** states, **in part**,*

1b. ñAnnually, each school district and nonpublic school shall provide to the parent or guardian of each student a concussion and brain information sheet, as provided by the Iowa High School Athletic Association and Iowa Girls High School Athletic Union. The student and studentôs parent or guardian shall sign and return the concussion and brain injury information sheet to the studentôs school prior to the studentôs participation in any interscholastic activity for grades seven through twelve.

2. If a studentôs coach or contest official observes signs, symptoms, or behaviors consistent with a concussion or brain injury in an extracurricular interscholastic activity, the student shall be immediately removed for participation.

3a. A student who has been removed from participation shall not recommence such participation until the student has been evaluated by a licensed health care provider trained in the evaluation and management of concussions and other brain injuries and the student has received written clearance to return to participation from the health care provider.

3b. For the purposes of this section, a **licensed health care provider means a physician, physician's assistant, chiropractor, advanced registered nurse practitioner, nurse, physical therapist, or licensed athletic trainer** licensed by a board designated under section 147.13.

3c. For the purposes of this section, an extracurricular interscholastic activity means any extracurricular interscholastic activity, contest, or practice, including sports, dance, and cheerleading.ò

IHSAA/IGHSAU Recommended Protocol When a Student Has Sustained a Concussion or other Brain Injury as Defined in Iowa Code Section 280.13C

1. **No student should return to play/competition or practice (RTP) on the same day s/he sustained a concussion or brain injury, but a licensed health care provider as defined in Iowa Code Section 280.13C makes the final decision regarding (RTP).**

2. **A licensed health care provider as defined in Iowa Code Section 280.13C should evaluate a student suspected of having a concussion or brain injury on the same day the injury occurs.**

3. **After receiving medical clearance by a licensed health care provider as defined in Iowa Code Section 280.13C, RTP should follow a stepwise protocol with provisions for delayed RTP based upon the return of any signs or symptoms.**

4. **Education of contest officials, school coaches and other appropriate school personnel, contestants, parents, and licensed health care providers.**
   - The Iowa High School Athletic Association and Iowa Girls High School Athletic Union will provide educational materials related to concussions and brain injuries developed by the CDC and other organizations knowledgeable about concussions.

5. **Removing students who exhibit signs, symptoms, & behaviors of a concussion or brain injury from participation, and their return to participation.**
   - **Coach Removal** - If the studentôs coach observes signs, symptoms, or behaviors consistent with a concussion or brain injury, during any kind of participation, i.e. practices, scrimmages, contests, etc., the student shall be immediately removed from participation and shall not return until the schoolôs designated representative receives written clearance to return from a licensed health care provider as defined in Iowa Code 280.13C.

   - **Contest Official Removal** - If a contest official observes signs, symptoms, or behaviors consistent with a concussion or brain injury, during scrimmages, contests, etc., the student shall be immediately removed from participation and a designated contest official at the contest/event must receive the written clearance to return from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event, including an event that takes place over multiple days.

- Before allowing a student who has been exhibiting signs, symptoms, & behaviors of a concussion to return to participation *(practice and/or competition)*, licensed health care providers as defined in Iowa Code 280.13C should follow the return to participation protocol from ñSuggested Guidelines for Management of Concussion in Sports,ò NFHS Sports Medicine Advisory Committee 2013 and ñConsensus Statement on Concussion in Sport 4th International Conference in Sport Held in Zurich, November 2012," British Journal of Sports Medicine, 2013; 47:250-258..

6. **At events where the Iowa High School Athletic Association or Iowa Girls High School Athletic Union have provided licensed health care providers as defined in Iowa Code 280.13C, those licensed health care providers have final authority regarding RTP when a student has exhibited signs, symptoms, and behaviors consistent with a concussion.**

Adopted 122012
References update 0514

RETURN TO PARTICIPATON PROTOCOL FOLLOWING A CONCUSSION
(GUIDELINES FOR LICENSED HEALTH CARE PROVIDERS)

Return to participation following a concussion is a medical decision made on an individual basis by licensed health care providers. Medical experts in concussion believe a concussed student should meet ALL of the following criteria in order to progress to return to participation. However, these criteria are <u>GUIDELINES ONLY</u> and not required by Iowa Code Section 280.13C when licensed health care providers determine a student's return to participation.

- **Asymptomatic at rest, and with exertion (including mental exertion in school), AND have written clearance** from physician, physician's assistant, chiropractor, advanced registered nurse practitioner, nurse, physical therapist or licensed athletic trainer . ***Written clearance to return by one of these licensed health care providers is REQUIRED by Iowa Code Section 280.13C!***

- Once the criteria above are met, **the student should progress back to full activity following the stepwise process** detailed below. A licensed health care provider as defined in Iowa Code Section 280.13C, or their designee, should closely supervise this progression.

- **Progression to return is individualized and should be determined on a case-by-case basis.** Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the student, and sport/activity in which the student participates. A student with a history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may progress more slowly as determined by a licensed health care provider as defined in Iowa Code Section 280.13C, or their designee.

  Step 1. **Complete physical and cognitive rest.** No exertional activity until asymptomatic. This may include staying home from school or limiting school hours (and studying) for several days. Activities requiring concentration and attention may worsen symptoms and delay recovery.

  Step 2. **Return to school full-time /normal cognitive daily activities, or normal cognitive functions.**

  Step 3. **Low impact, light aerobic exercise.** This step should not begin until the student is no longer having concussion symptoms and is cleared by the treating licensed health care provider. At this point the student may begin brisk walking, light jogging, swimming or riding an exercise bike at less than 70% maximum performance heart rate. No weight or resistance training.

  Step 4. **Basic exercise**, such as running in the gym or on the field. No helmet or other equipment.

  Step 5. **Non-contact, sport-specific training drills** (dribbling, ball handling, batting, fielding, running drills, etc.) in full equipment. Weight-training can begin.

  Step 6. **Following medical clearance*, full contact practice or training.**

  Step 7. **Normal competition in a contest.**

<u>NOTE:</u> Generally, **<u>each step should take a minimum of 24 hours.</u> If post concussion symptoms occur at ANY step, the student must stop the activity and their licensed health care provider as defined in Iowa Code Section 280.13C should be contacted.** If any post-concussion symptoms occur during this process, the student should drop back to the previous asymptomatic level and begin the progression again after an additional 24-hour period of rest has taken place.

References: "Suggested Guidelines for Management of Concussion in Sports," NFHS Sports Medicine Advisory Committee 2009; "Consensus Statement on Concussion in Sport 4th International Conference in Sport Held in Zurich, November 2012," British Journal of Sports Medicine, 2013; 47:250-258.

Updated 05/14

APPLICATION OF IOWA CODE SECTION 280.13C (CONCUSSION LEGISLATION) BY SPORT

A. COACH REMOVAL

When a student's coach removes a student from any kind of participation due to observing signs, symptoms, or behaviors consistent with a concussion or brain injury the student shall not return until designated school personnel have received written clearance to return from a licensed health care provider as defined in Iowa Code 280.13C.

B. CONTEST OFFICIAL REMOVAL

(Information below is only listed for sports where contest officials have jurisdiction; therefore, not all sports are listed.

When an official removes a student from participation, the following procedures are used.

FALL SPORTS

Cross Country:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in the meet.

2. As long as the meet is in progress, the written clearance to return shall be presented to the referee and the referee shall determine the student's return to competition.

Football:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the contest is in progress, the written clearance to return shall be presented to the referee during a time when the clock is stopped.

3. If the event is between contests, i.e. between lower level and varsity contests, the written clearance to return may be presented to the referee before the next contest begins.

Swimming & Diving:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the event is in progress, the written clearance to return shall be presented to the referee after a race has finished and before the next race has begun.

3. If the contest is between events, i.e. between lower level and varsity contests, the written clearance to return may be presented to the referee before the next event begins.

4. For multiple day events when the contest referee may not be the same throughout the entire event, the contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Volleyball:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the contest is in progress, the written clearance to return shall be presented to the referee during a dead ball situation.

3. If the event is between contests, i.e. between lower level and varsity contests, the written clearance to return may be presented to the referee before the next contest begins.

5. For multiple day events, i.e. conference tournament, when the contest referee will not be the same throughout the entire event, the contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

WINTER SPORTS

Basketball:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the contest is in progress, the written clearance to return shall be presented to the referee during a time when the clock is stopped.

3. If the event is between contests, i.e. between lower level and varsity contests, the written clearance to return may be presented to the referee before the next contest begins.

4. For multiple day events, i.e. conference tournament, when the contest referee will not be the same throughout the entire event, the contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Swimming:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the event is in progress, the written clearance to return shall be presented to the referee after a race has finished and before the next race has begun.

3. If the contest is between events, i.e. between lower level and varsity contests, the written clearance to return may be presented to the referee before the next event begins.

4. For multiple day events when the contest referee may not be the same throughout the entire event, the contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may

participate on subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Wrestling:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the head contest referee, or his/her designee, must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. For dual meets, clearance to return shall be presented to the head contest referee before the match resumes. Injury time is NOT extended for a student with signs, symptoms, or behaviors consistent with a concussion or brain injury.

3. For one-day events when the head contest referee may change during the event (multi-dual meets & tournaments), written clearance to return shall be presented to the head contest referee, or his/her designee, before the student participates again that day. The designee may be the host administrator, head event official, designated on-site licensed medical professional, etc. The student's coach, or other school-designated representative, is responsible for providing the written clearance to return to head contest referee, or his/her designee. The head contest referee, or designee, will then notify the other contest officials that written clearance to return has been received.

4. For multiple day events when the head contest referee may change during the event, the head contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

SPRING/SUMMER SPORTS

Baseball/Softball:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the umpire-in-chief must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the contest is in progress, the written clearance to return shall be presented to the umpire-in-chief during an opportunity for a legal substitution.

3. For one-day events when the umpire-in-chief may change during the event (local high school tournaments), written clearance to return shall be presented to the umpire-in-chief, or his his/her designee, before the student participates again that day. The designee may be the host administrator, designated on-site licensed medical professional, etc. The student's coach, or other school-designated representative, is responsible for providing the written clearance to return to the umpire-in-chief, or his/her designee. The umpire-in-chief, or his/her designee, will then notify the other contest umpires that written clearance to return has been received.

4. For multiple day events when the umpire-in-chief may change during the event, for example the state tournament, the umpire-in-chief on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the umpire-in-chief(s) of the contest(s) in which the student may participate on the subsequent days of the event. The umpire-in-chief(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Soccer:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in that contest/event.

2. If the contest is in progress, the written clearance to return shall be presented to the referee during an opportunity for a legal substitution. For those contests using a three-person crew, the center official shall be designated as the head referee. The center official will need to receive the written clearance for return to play. For those contests using a two-person crew, one official shall be required to be the head referee. The head referee in the two-person crew shall be responsible for receiving the written clearance.

3. For one day events when the head contest referee may change during the event (local high school Saturday tournaments), written clearance to return shall be presented to the head contest referee, or his his/her designee, before the student participates again that day. The designee may be the host administrator, head event official, designated on-site licensed medical professional, etc. The student's coach, or other school-designated

representative, is responsible for providing the written clearance to return to the head contest referee, or his/her designee. The head contest referee, or his/her designee, will then notify the other contest officials that written clearance to return has been received.

4. For multiple day events when the head contest referee may change during the event, for example the state tournament, the head contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on the subsequent days of the event. The referee(s) of future contests during this event must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Track and Field:

1. If a contest official removes a student with signs, symptoms, or behaviors consistent with a concussion or brain injury from participation, the contest referee must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation in the meet.

2. As long as the meet is in progress, the written clearance to return shall be presented to the referee and the referee shall determine the student's return to competition.

3. For multiple day events when the contest referee may not be the same throughout the entire meet, the contest referee on the day the student was removed will make a verbal report about the injury to the tournament manager. The tournament manager will be responsible to report the incident to the referee(s) of the contest(s) in which the student may participate on subsequent days of the meet. The referee(s) of future contests during this meet must receive written clearance from a licensed health care provider as defined in Iowa Code 280.13C before the student can return to participation.

Record Keeping:

A. Health records, such as written clearance to return to participation, should become part of a student's cumulative file kept by the school. *Iowa Administrative Code 281.12.3(4)*

IOWA CONCUSSION CONSORTIUM

Brain Injury Alliance IOWA

How every family, school and medical professional can create a Community-Based Concussion Management Program

REAP℠ The Benefits of Good Concussion Management

Center for Concussion

REAP℠

Remove/Reduce
Educate
Adjust/Accommodate
Pace

Authored by Karen McAvoy, PsyD

Rocky Mountain Hospital for Children, in Denver, Colorado is pleased to partner with the Iowa Concussion Consortium (ICC) and the Brain Injury Alliance of Iowa (BIA-Iowa) in providing the REAP concussion management program to your community. The REAP approach, developed for Rocky Mountain Hospital for Children's Center for Concussion, offers guidance on a coordinated team approach that will lessen the frustration that the student/athletes, their parents, schools, coaches, certified athletic trainers and the medical professional often experience as they attempt to coordinate care. A program of BIA-Iowa, the ICC pulls together leadership across Iowa's medical, athletic, educational and family domains to optimize support for youth with concussion. For more than thirty-five years, the mission of BIA-Iowa has been to create a better future through prevention, education, advocacy, research and support.

The ICC has chosen to utilize REAP because it has grown as a training resource over the past five years and it is continually updated with the most current research and guidance. In November of 2013, the American Academy of Pediatrics released a Clinical Report on Returning to Learning Following a Concussion (PEDIATRICS Volume 132, Number 5, November 2013) "based upon expert opinion and adapted from a program in Colorado".

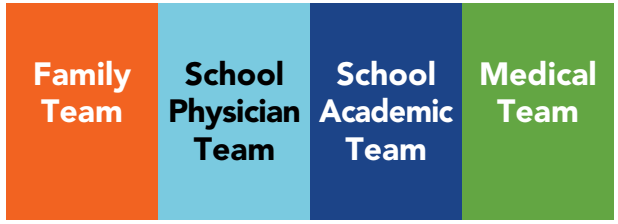
Printing and distributing REAP is one important way in which the ICC supports your community. BIA-Iowa, as the provider of the statewide resource line and one-on-one Neuro-Resource Facilitation, will support this collaboration to integrate the REAP program throughout the state to coordinate the many services needed to support our youth post-injury. It is our privilege to assist your state in this way,

Reginald Washington,MD
FAAP, FAAC, FAHA
Chief Medical Officer
Rocky Mountain Hospital for Children – HealthONE

Third Edition September 2016

REAP,[SM] which stands for **Remove/Reduce • Educate • Adjust/Accommodate • Pace,** is a **community-based model for Concussion Management** that was developed in Colorado. The early origins of REAP stem from the dedication of one typical high school and its surrounding community after the devastating loss of a freshman football player to "Second Impact Syndrome" In 2004. The author of REAP, Dr. Karen McAvoy, was the psychologist at the high school when the tragedy hit. As a School Psychologist, Dr. McAvoy quickly pulled together various team members at the school (Certified Athletic Trainer, School Nurse, Counselors, Teachers and Administrators) and team members outside the school (Students, Parents and Healthcare Professionals) to create a safety net for all students with concussion. Under Dr. McAvoy's direction from 2004 to 2009, the multi-disciplinary team approach evolved from one school community to one entire school district. Funded by an education grant from the Colorado Brain Injury Program in 2009, Dr. McAvoy sat down and wrote up the essential elements of good multi-disciplinary team concussion management and named it REAP.

With the opening of Rocky Mountain Hospital for Children in August of 2010, Dr. McAvoy was offered the opportunity to open and direct the **Center for Concussion, where the multi-disciplinary team approach is the foundation of treatment and management** for every student/ athlete seen in the clinic.



The benefits of good concussion management spelled out in REAP are known throughout communities in Colorado, nationally and internationally. REAP has been customized and personalized for various states and continues to be the "go-to" guide from the emergency department to school district to the office clinic waiting room.

Download a digital version of this publication at
www.biaia.org/ICC

Brain Injury Alliance of Iowa
7025 Hickman Rd, #7
Urbandale, IA 50322

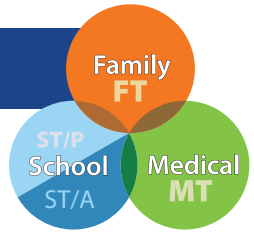
Advisory Council on Brain Injuries

Brain Injury Alliance IOWA

Iowa Department of Education

IDPH Iowa Department of Public Health

Community-Based, Multi-Disciplinary Concussion Management Team



How to use this Manual

Because it is important for each member of the Multi-Disciplinary Concussion Management Team to know and understand their part and the part of other members, this manual was written for all of the teams. As information is especially pertinent to a certain group, it is noted by a color.

» Pay close attention to the sections in **ORANGE**

Family Team	Student, Parents; may include Friends, Grandparents, Primary Caretakers, Siblings and others…	For more specific information, download parent fact sheets from the various **"Heads Up"** Toolkits on the CDC website: cdc.gov/concussion/headsup/pdf/Heads_Up_factsheet_english-a.pdf and cdc.gov/concussions/pdf/Fact_Sheet_ConcussTBI-a.pdf.

» Pay close attention to the sections in **LIGHT BLUE**

School Physician Team	Coaches, Certified Athletic Trainers (ATC), Physical Education Teachers, Playground Supervisors, School Nurses and others…	For more specific information, download the free **"Heads Up: Concussion in High School Sports or Concussion in Youth Sports"** from the CDC website: cdc.gov/Concussion/HeadsUp/high_school.html

» Pay close attention to the sections in **DARKER BLUE**

School Academic Team	Teachers, Counselors, School Psychologists, School Social Workers, Administrators, School Neuropsychologists and others…	For more specific information, download the free **"Heads Up to Schools: Know Your Concussion ABCs"** from the CDC website: cdc.gov/concussion/HeadsUp/Schools.html and cdc.gov/concussion/pdf/TBI_Returning_to_School-a.pdf

» Pay close attention to the sections in **GREEN**

Medical Team	Emergency Department, Primary Care Providers, Nurses, Concussion Specialists, Neurologists, Clinical Neuropsychologists & others…	For more specific information, download the free **"Heads Up: Brain Injury in your Practice"** from the CDC website: cdc.gov/concussion/HeadsUp/Physicians_tool_kit.html

Table of Contents

http://www.biaia.org/ICC

Common Concussion Myths...

TRUE or FALSE?

Loss of consciousness (LOC) is necessary for a concussion to be diagnosed.

False! CDC reports that an estimated 1.6 to 3.8 million sports- and recreation-related concussions occur in the United States each year.1 Most concussions do not involve a loss of consciousness. While many students receive a concussion from sports-related activities, numerous other concussions occur from nonsports related activities — from falls, from motor vehicle accidents and bicycle and playground accidents.

TRUE or FALSE?

A concussion is just a "bump on the head."

False! Actually, a concussion is a traumatic brain injury (TBI). The symptoms of a concussion can range from mild to severe and may include: confusion, disorientation, memory loss, slowed reaction times, emotional reactions, headaches and dizziness. You can't predict how severe a concussion will be or how long the symptoms will last at the time of the injury.

TRUE or FALSE?

A parent should awaken a child who falls asleep after a head injury.

False! Current medical advice is that it is not dangerous to allow a child to sleep after a head injury, once they have been medically evaluated. The best treatment for a concussion is sleep and rest.

TRUE or FALSE?

A concussion is usually diagnosed by neuroimaging tests (ie. CT scan or MRI).

False! Concussions cannot be detected by neuroimaging tests: a concussion is a "functional" not "structural" injury. Concussions are typically diagnosed by careful examination of the signs and symptoms after the injury. Symptoms during a concussion are thought to be due to an ENERGY CRISIS in the brain cells. At the time of the concussion, the brain cells (neurons) stop working normally. Because of the injury there is not enough "fuel" (sugar/glucose) that is needed for the cells to work efficiently – for playing and for thinking. While a CT scan or an MRI may be used after trauma to the head to look for bleeding or bruising in the brain, it will be normal with a concussion. A negative scan does not mean that a concussion did not occur.

Did You Know...

» **More than 80% of concussions resolve very successfully** if managed well within the first three weeks post-injury.2 REAP sees the first three weeks post- injury as a "window of opportunity." Research shows that the average recovery time for a child/adolescent is about three weeks, slightly longer than the average recovery time for an adult.3

» **REAP works on the premise that a concussion is best managed by a Multi-Disciplinary Team** that includes: the Student/Athlete, the Family, various members of the SchoolTeam and the Medical Team. The unique perspective from each of these various teams is essential!

» **The first day of the concussion is considered Day 1.** The first day of recovery also starts on Day 1. REAP can help the Family, School and Medical Teams mobilize immediately to maximize recovery during the entire three week "window of opportunity."

Medical note

Andrew Peterson, MD, Associate Professor of Pediatrics at the University of Iowa, Director of University of Iowa Sports Concussion Program, Director of Primary Care Sports Medicine, and Team Physician for U of I Hawkeye Football & Wrestling and US Wrestling

Concussion recognition and management can seem daunting to the uninitiated. But the basics of sport-related concussion care are really quite straightforward. Anyone who cares for kids and teens who are at risk for concussion can learn to identify the signs and symptoms, initial management and the process for returning to play.

Sport-related concussion is an injury to the brain that can have troublesome long-term consequences if not managed appropriate-ly. It is important to identify kids and teens who have suffered a concussion, protect them from further injury and return them to play in a careful and systematic manner.

Message to Parents

To maximize your child's recovery from concussion, double up on the Rs, REDUCE and REST! Insist that your child rest, especially for the first few days following the concussion and throughout the three-week recovery period. Some symptoms of concussion can be so severe on the first day or two that your child may need to stay home from school. When your child returns to school, request that he/she be allowed to "sit out" of sports, recess and physical education classes immediately after the concussion. Work with your Multi-Disciplinary Concussion Management Team to determine when your child is ready to return to physical activity, recess and/or PE classes (see PACE).
Don't let your child convince you he/she will rest "later" (after the prom, after finals, etc.). Rest must happen immediately! The school team will help your child reduce their academic load (see Adjust/ Accommodate). However, it is your job to help to reduce sensory load at home. Advise your child/ teen to:

- avoid loud group functions (games, dances)
- limit video games, text messaging, social media, and computer screen time
- limit reading and homework

A concussion will almost universally slow reaction time; therefore, driving should not be allowed pending medical clearance.

Plenty of sleep and quiet, restful activities after the concussion maximizes your child's chances for a great recovery!

The Brain Injury Alliance of Iowa provides Neuro-Resource Facilitation, a free and confidential service offered to individuals with brain injury and their families. This program offers support in coping with the issues of living with brain injury and transition back to school and the community.

Additional supplemental information about concussion and other brain injuries can be found at www.biaia.org/ICC

EVERY Member of Every Team is Important!

Every team has an essential part to play at certainstages of the recovery

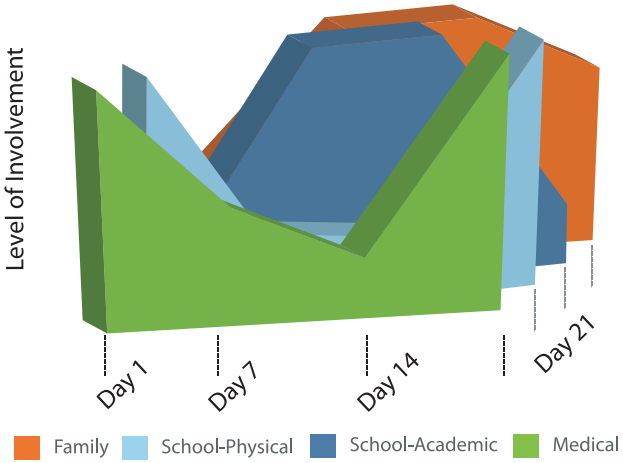
First First the School Physical Team (coach, ATC, playground supervisor) and/or the Family Team (parent) have a critical role in the beginning of the concussion as they may be the first to RECOGNIZE and IDENTIFY the concussion and REMOVE the student/athlete from play.

Second The Medical Team then has an essential role in DIAGNOSING the concussion and RULING-OUT a more serious medical condition.

Third for the next 1 to 3 weeks the Family Team and the School Academic Team will provide the majority of the MANAGEMENT by REDUCING social/home and school stimulation.

Fourth when all FOUR teams decide that the student/ athlete is 100% back to pre-concussion functioning, the Medical Team can approve the Grad-uated Return to Play (RTP) steps. See the PACE page.

Finally when the student/athlete successfully completes the RTP steps, the Medical Team can determine final "clearance."



The FOUR teams pass the baton from one to the other (and back again), all the while communicating, collaborating and adjusting the treatment/management.

Communication and Collaboration = Teamwork!

Multi-Disciplinary Teamwork = the safest way to manage a concussion!

A "Multi-Disciplinary Team" Team members who provide multiple perspectives of the student/athlete AND Team members who provide multiple sources of data

Who will be on the Family Team (FT)? Who from the family will watch, monitor and track the emotional and sleep/energy symptoms of the concussion and how will the Family Team communicate with the School and Medical Teams?

Who will be on the School Team — Physical (ST-P)? Who at the school will watch, monitor and track the physical symptoms of the concussion? Who is the ST-P Point Person?

Who will be on the School Team — Academic (ST-A)?Who at the school will watch, monitor and track the academic and emotional effects of the concussion? Who is the ST-A Point Person?

Who will be on the Medical Team (MT)? How will the MT get information from all of the other teams and who with the MT will be responsible for coordinating data and updates from the other teams?

» REAP suggests the following timeframe:

TEAM	Week 1	Week 2	Week 3
Family Team Help child understand he/she must be a "honest partner" in the rating of symptoms	• Impose rest. • Assess symptoms daily – especially monitor sleep/energy and emotional symptoms.	• Continue to assess symptoms (at least 3X week or more as needed), monitor if symptoms are improving. • Continue to assess symptoms and increase/decrease stimulation at home accordingly	• Continue with all assessments (at least 2X week or more as needed). • Continue to assess symptoms and increase/decrease stimulation at home accordingly.
School Team Physical Coach/ATC/School Nurse **(Assign 1 point person to oversee/manage physical symptoms)**	• REMOVE from all play/physical activities! • Assess physical symptoms daily, use objective rating scale. • ATC: assess postural-stability (see NATA reference in RESOURCES). • School Nurse: monitor visits to school clinic. If symptoms at school are significant, contact parents and send home from school.	• Continue to assess symptoms (at least 3X week or more as needed). • ATC: postural-stability assessment.	• Continue with all assessments (at least 2X week or more as needed). • ATC: postural-stability assessment.
School Team Academic Educators, School Psychologist, Counselor, Social Worker (Assign1 point person to oversee/manage cognitive/emotional symptoms)	• REDUCE (do not eliminate) all cognitive demands. • Meet with student periodically to create academic adjustments for cognitive/emotional reduction no later than Day 2/3 and then assess again by Day 7. • Educate all teachers on the symptoms of concussion. • See ADJUST/ACCOMMODATE section.	• Continue to assess symptoms (at least 3X week or more as needed) and slowly increase/decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed.	• Continue with all assessments (at least 2X week or more as needed) and increase/decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed. • Assess if longer term academic accommodations are needed (May need to consider a 504 Plan beyond 3+ weeks).
Medical Team	• Assess and diagnose concussion. • Assess for head injury complications, which may require additional evaluation and management (Supplemental information for MDs may be found at RockyMountain HospitalForChildren.com). • Recommend return to school with academic adjustments once symptoms are improving and tolerable, typically within 48 to 72 hours. • Educate student/athlete and family on the typical course of concussion and the need for rest. • Monitor that symptoms are improving throughout Week 1 – not worsening in the first 48 to 72 hours.	• Continue to consult with school and home teams. • Follow-up medical check including:comprehensive history, neurologic exam, detailed assessment of mental status, cognitive function, gait and balance.	• Continue to consult with school and home teams. • Weeks 3+, consider referral to a Specialty Concussion Clinic if still symptomatic. **It is best practice that a medical professional be involved in the management of each and every concussion, not just those covered by legislation.**

*Family should sign a Release of Information so that School Team and Medical Team can communicate with each other

» Don't be alarmed by the symptoms - symptoms are the hallmark of concussion. The goal is to watch for a slow and steady improvement in ALL symptoms over time. **It is typical for symptoms to be present for up to three weeks.** If symptoms persist into Week 4, see SPECIAL CONSIDERATIONS.

» Once a concussion has been diagnosed:

Soccer had been Kathy's love since age 12. By the time she reached high school, she had sustained several concussions on the field. The first game of her Junior year of high school, she went up for a header in the air at the same moment as a teammate, and their heads smacked together. They both went down. Her friend was able to get back up without difficulty, but Kathy lingered on the ground sick to her stomach and with fuzzy vision.

She sat out the rest of that game plus the next three games and ended up with referrals to multiple medical specialists. She had frequent and severe headaches requiring her to lie down in a dark room, a decline in memory and attention and an increase in frustration. She also had a marked decline in academic performance in areas that she had previously excelled. Her family and teachers were unsure how to help.

Over the next three months, Kathy gave her brain time to rest and worked with her school to get accommodations in the classroom. Eventually, her symptoms resolved and her academic performance returned to near pre-injury levels.

STEP ONE: REMOVE student/athlete from all physical activities.
REDUCE school demands and home/social stimulation.

The biggest concern with concussions in children/teens is the risk of injuring the brain again before recovery. The concussed brain is in a vulnerable state and even a minor impact can result in a much more severe injury with risk of permanent brain damage or rarely, even death. "Second Impact Syndrome" or "SIS" is thought to occur when an already injured brain takes another hit resulting in possible massive swelling, brain damage and/or death4. Therefore, once a concussion has been identified, it is critical to REMOVE a student/athlete from ALL physical activity including PE classes, dance, active recess, recreational and club sports until medically cleared.

Secondly, **while the brain is still recovering,** all school demands and home/social stimulation should be REDUCED. Reducing demands on the brain will promote REST and will help recovery.

Family Team	**REMOVE** student/athlete from all physical activity immediately including play at home (ie. playground, bikes, skateboards), recreational, and/or club sports. **REDUCE** home/social stimulation including texting, social media, video games, TV, driving and going to loud places (the mall, dances, games). Encourage **REST**.
School Physician Team	**REMOVE** student/athlete from all physical activity immediately. Support **REDUCTION** of school demands and home/social stimulation. Provide encouragement to **REST** and take the needed time to heal.
School Academic Team	**REMOVE** student/athlete from all physical activity at school including PE, recess, dance class. **REDUCE** school demands (see **ADJUST/ACCOMMODATE** for Educators on pages 9-10). Encourage **"brain REST"** breaks at school.
Medical Team	**REMOVE** student/athlete from all physical activity immediately. **RULE-OUT** more serious medical issues including severe traumatic brain injury. Consider risk factors – evaluate for concussion complications. Support **REDUCTION** of school demands and home/social stimulation. Encourage **REST**.

STEP TWO: EDUCATE all teams on the story the symptoms are telling.
It might be two steps forward...one step back.

After a concussion, the brain cells are not working well. **The good news is that with most concussions, the brain cells will recover in 1 to 3 weeks. When you push the brain cells to do more than they can tolerate (before they are healed) symptoms will get worse.** When symptoms get worse, the brain cells are telling you that you've done too much. As you recover, you will be able to do more each day with fewer symptoms. If trying to read an algebra book or going to the mall flares a symptom initially, the brain is simply telling you that you have pushed too hard today and you need to back it down… try again in a few days. Thankfully, recovery from a concussion is quite predictable… **most symptoms will decrease over 1 to 3 weeks and the ability to add back in home/social and school activities will increase over 1 to 3 weeks.** Therefore, learn to "read" the symptoms. They are actually telling you the rate of recovery from the concussion.

NOTE: Home/social stimulation and school tasks can be added back in by the parent/teacher as tolerated. Physical activities, however, cannot be added back in without medical approval (see PACE).

PHYSICAL
How a Person Feels Physically

Headache/Pressure	Nausea
Blurred vision	Vomiting
Dizziness	Numbness/Tingling
Poor balance	Sensitivity to light
Ringing in ears	Sensitivity to noise
Seeing "stars"	Disorientation
Vacant stare/Glassy eyed	Neck Pain

COGNITIVE
How a Person Thinks

Feel in a "fog"
Feel "slowed down"
Difficulty remembering
Difficulty concentrating/easily distracted
Slowed speech
Easily confused

EMOTIONAL
How a Person Feels Emotionally

Inappropriate emotions	Irritability
Personality change	Sadness
Nervousness/Anxiety	Lack of motivation
Feeling more "emotional"	

SLEEP/ENERGY
How a Person Experiences Their Energy Level and/or Sleep Patterns

Fatigue Drowsiness
Excess sleep Sleeping less than usual
Trouble falling asleep

Do not worry that your child has symptoms for 1 to 3 weeks; it is typical and natural to notice symptoms for up to 3 weeks. You just want to make sure you are seeing slow and steady resolution of symptoms every day. To monitor your child's progress with symptoms, chart symptoms periodically (see TIMEFRAME on page 5) and use the Symptom Checklist (see APPENDIX). In a small percentage of cases, symptoms from a concussion can last from weeks to months. (See SPECIAL CONSIDERATIONS on page 13.)

Medical Box

"It is not appropriate for a child or adolescent athlete with concussion to Return-to-Play (RTP) on the same day as the injury, regardless of the athletic performance."[5]

Consensus Statement on Concussion in Sport: the 4th International Conference on Concussion in Sport, Zurich 2012.

IMPORTANT

All symptoms of concussion are important; however, monitoring of physical symptoms, within the first 48 to 72 hours, is critical! If physical symptoms worsen, especially headache, confusion, disorientation, vomiting, difficulty awakening, it may be a sign that a more serious medical condition is developing in the brain.

SEEK IMMEDIATE MEDICAL ATTENTION!

STEP THREE: ADJUST/ACCOMMODATE for PARENTS.

AFTER YOUR CHILD HAS RECEIVED THE DIAGNOSIS OF CONCUSSION by a healthcare professional, their symptoms will determine when they should return to school. As the parent, you will likely be the one to decide when your child goes back to school because you are the one who sees your child every morning before school. Use the chart below to help decide when it is right to send your child back to school:

STAY HOME- BED REST

If your child's symptoms are so severe that he/she cannot concentrate for even 10 minutes, he/she should be kept home on total bed rest - no texting, no driving, no reading, no video games, no homework, limited TV. It is unusual for this state to last beyond a few days. Consult a physician if this state lasts more than 2 days.

MAXIMUM REST = MAXIMUM RECOVERY

STAY HOME – LIGHT ACTIVITY

If your child's symptoms are improving but he/she can still only concentrate for up to 20 minutes, he/she should be kept home — but may not need total bed rest. Your child can start light mental activity (e.g. sitting up, watching TV, light reading), as long as symptoms do not worsen. If they do, cut back the activity and build in more REST.

NO physical activity allowed!

TRANSITION BACK TO SCHOOL

When your child is beginning to tolerate 30 to 45 minutes of light mental activity, you can consider returning them to school. As they return to school:

- Parents should communicate with the school (school nurse, teacher, school mental health and/or counselor) when bringing the student into school for the first time after the concussion.
- Parents and the school should decide together the level of academic adjustment needed at school depending upon:
  - ✔ The severity of symptoms present
  - ✔ The type of symptoms present
  - ✔ The times of day when the student feels better or worse
- When returning to school, the child MUST sit out of physical activity – gym/PE classes, highly physically active classes (dance, weight training, athletic training) and physically active recess until medically cleared.
- Consider removing child from band or music if symptoms are provoked by sound.

» GOING BACK TO SCHOOL

Ciera was 15 years old when she suffered a concussion while playing basketball. Her symptoms of passing out, constant headaches and fatigue plagued her for the remainder of her freshman year. A few accommodations helped Ciera successfully complete the school year.

"It really helped me when my teachers had class notes already printed out. That way I could just highlight what the teacher was emphasizing and focus on the concept rather than trying to take notes. Since having a brain injury, I don't really see words on the board, I just see letters. Therefore, having the notes beforehand takes some of the frustration off of me and I am able to concentrate and retain what is being taught in class. Being able to rest in the middle of the day is also very important for me. I become very fatigued after a morning of my rigorous classes, so my counselors have helped me adjust my schedule which allows me some down time so I can keep going through my day. Lastly, taking tests in a different place such as the conference room or teacher's office has helped a great deal."

CIERA LUND

Medical Box

Following a concussion, athletes and families find themselves in uncharted territory where uncertainty can result in missed care opportunities and a prolonged timeline for recovery. Luckily, REAP offers a clear, comprehensive, and easy to follow road map. The program focuses on proven elements: prevention, education, symptom management, and guidance on a return to activities. The emphasis on collaboration between athletes/families, schools, and medical providers is key. Dr. McAvoy and her collaborators have put together a program that makes a meaningful difference. I am overjoyed to see that benefit come to our communities here in Iowa.

Dr. Megan Adams Rieck, PhD
Clinical Neuropsychologist of Unity Point Health St. Luke's Hospital

STEP THREE: ADJUST/ ACCOMMODATE for EDUCATORS.

School Team Educators

Alternate challenging classes with lighter classes (e.g. alternate a "core" class with an elective or "off" period). If this is not possible, be creative with flexing mental work followed by "brain rest breaks" in the classroom (head on desk, eyes closed for 5-10 minutes).

Medical Box

The newest research shows that neuropsychological testing has significant clinical value in concussion management. The addition of neuropsychological tests is an emerging best practice. However, limited resources and training are a reality for school districts. Whether or not a school district chooses to include any type of neurocognitive testing, REAP is still the foundation of the Concussion Management program. Data gathered from serial post-concussion testing (by Day 2/3, by Day 7, by Day 14 and by Day 21, until asymptomatic) can only serve to provide additional information. However, no test score should ever be used in isolation. Professionals must adhere to all ethical guidelines of test administration and interpretation.

» Most Common "Thinking" Cognitive Problems Post-Concussion

And suggested adjustments/accommodations

Areas of concern	Suggested Accommodations for Return-to-Learn (RTL)
Fatigue, specifically Mental Fatigue	• Schedule strategic rest periods. Do not wait until the student's over-tiredness results in an emotional "meltdown." • Adjust the schedule to incorporate a 15-20 minute rest period mid-morning and mid-afternoon. • It is best practice for the student to be removed from recess/sports. Resting during recess or PE class is strongly advised. • Do not consider "quiet reading" as rest for all students. • Consider letting the student have sunglasses, headphones, preferential seating, quiet work space, "brain rest breaks," passing in quiet halls, etc. as needed.
Difficulty concentrating	• Reduce the cognitive load — it is a fact that smaller amounts of learning will take place during the recovery. • Since learning during recovery is compromised, the academic team must decide: What is the most important concept for the student to learn during this recovery? • Be careful not to tax the student cognitively by demanding that all learning continue at the rate prior to the concussion.
Slowed processing speed	• Provide extra time for tests and projects and/or shorten tasks. • Assess whether the student has large tests or projects due during the 3-week recovery period and remove or adjust due dates. • Provide a peer notetaker or copies of teacher's notes during recovery. • Grade work completed — do not penalize for work not done.
Difficulty with working memory	• Initially exempt the student from routine work/tests. • Since memory during recovery is limited, the academic team must decide: What is the most important concept(s) for the student to know? • Work toward comprehension of a smaller amount of material versus rote memorization.
Difficulty with working memory	• Allow student to "audit" the material during this time. • Remove "busy" work that is not essential for comprehension. Making the student accountable for all of the work missed during the recovery period (3 weeks) places undue cognitive and emotional strain on him/her and may hamper recovery. • Ease student back into full academic/cognitive load.
Emotional symptoms	• Be mindful of emotional symptoms throughout! Students are often scared, overloaded, frustrated, irritable, angry and depressed as a result of concussion. They respond well to support and reassurance that what they are feeling is often the typical course of recovery. • Watch for secondary symptoms of depression – usually from social isolation. Watch for secondary symptoms of anxiety – usually from concerns over make-up work or slipping grades.

STEP THREE: ADJUST/ACCOMMODATE for EDUCATORS.(continued)

Typically, student's symptoms only require 2 to 3 days of absence from school. If more than 3 days are missed, call a meeting with parents and seek a medical explanation.

Teachers, please consider categorizing work into:

Work REMOVED	Consider removing at least 25% of the workload.
NEGOTIABLE	Consider either "adjusting" workload (i.e. collage instead of written paper) OR "delaying" workload...however, be selective about the workload you postpone.
Work REQUIRED	Consider requiring no more than 25% of the workload.

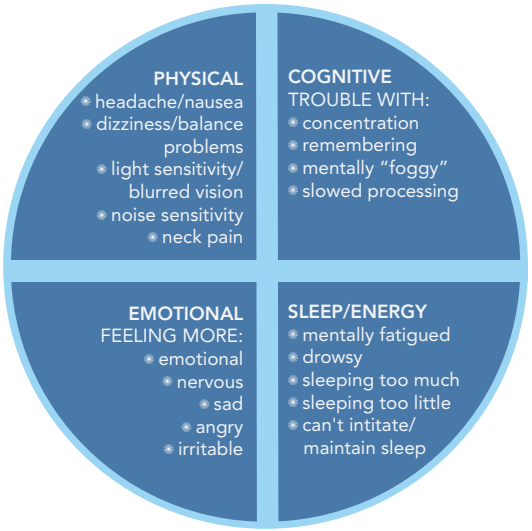
Academic adjustments fall within the pervue of the classroom/school. They are NOT determined by a healthcare professional. The teacher has the right to adjust up or down academic supports as needed, depending upon how the student is doing daily. Medical "release" from academic adjustments is not necessary.

PHYSICAL:
- "Strategic Rest"scheduled 15 to 20 minute breaks in clinic/quiet space (mid-morning; mid-afternoon and/or as needed)
- Sunglasses (inside and outside)
- Quiet room/environment, quiet lunch, quiet recess
- More frequent breaks in classroom and/or in clinic
- Allow quiet passing in halls
- REMOVE from PE, physical recess, & dance classes without penalty
- Sit out of music, orchestra and computer classes if symptoms are provoked

EMOTIONAL:
- Allow student to have "signal" to leave room
- Help staff understand that mental fatigue can manifest in "emotional meltdowns"
- Allow student to remove him/herself to de-escalate
- Allow student to visit with supportive adult (counselor, nurse, advisor)
- Watch for secondary symptoms of depression and anxiety usually due to social isolation and concern over "make-up work" and slipping grades. These extra emotional factors can delay recovery

Symptom Wheel

Suggested Academic Adjustments



Read "Return to Learning: Going Back to School Following a Concussion"at nasponline.org/publications/cq/40/6/return-to-learning.aspx

COGNITIVE:
- REDUCE workload in the classroom/ homework
- REMOVE non-essential work
- REDUCE repetition of work (ie. only do even problems, go for quality not quantity)
- Adjust "due" dates; allow for extra time
- Allow student to "audit" classwork
- Exempt/postpone large test/projects; alternative testing (quiet testing, one-on-one testing, oral testing)
- Allow demonstration of learning in alternative fashion
- Provide written instructions
- Allow for "buddy notes" or teacher notes, study guides, word banks
- Allow for technology (tape recorder, smart pen) if tolerated

SLEEP/ENERGY:
- Allow for rest breaks –in class room or clinic (ie."brain rest breaks = head on desk; eyes closed for 5 to 10 minutes)
- Allow student to start school later in the day
- Allow student to leave school early
- Alternate "mental challenge" with "mental rest"

Interventions:

Keep in mind, brain cells will heal themselves a little bit each day. Students should be able to accomplish more and more at school each day with fewer and fewer symptoms. Therefore, as the teacher sees recovery, he/she should require more work from the student. By the same token, if a teacher sees an exacerbation of symptoms, he/she should back down work for a short time and re-start it as tolerated.

Data Collection:

How the student performs in the classroom is essential data needed by the healthcare professional at the time of clearance. Schools should have a process in place by which a teacher can share observations, thoughts, concerns back to the parents and healthcare professional throughout the recovery. Healthcare professionals should REQUIRE input from teachers on cognitive recovery before approving the Graduated Return-to-Play steps. (See Teacher Feedback Form in APPENDIX.) Parents should sign a Release of Information at the school and/or at the healthcare professionals office for seamless communication between school teams and medical team.

Supplemental materials and downloadable forms for teachers may be found at www.biaia.org/ICC

» How do I get back to my sport?

A.K.A. How do I get "cleared" from this concussion

While 80 to 90% of concussions will be resolved in 3 to 4 weeks, a healthcare professional, whether in the Emergency Department or in a clinic, cannot predict the length or the course of recovery from a concussion. In fact, a healthcare professional should never tell a family that a concussion will resolve in X number of days because every concussion is different and each recovery time period is unique. The best way to assess when a student/athlete is ready to start the step-wise process of "Returning-to-Play" is to ask these questions:

» Is the student/athlete 100% symptom-free at home?

- ❍ Use the Symptom Checklist every few days. All symptoms should be at "0" on the checklist or at least back to the perceived "baseline" symptom level.
- ❍ Look at what the student/athlete is doing. At home they should be acting the way they did before the concussion, doing chores, interacting normally with friends and family.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of home/social, mall or restaurants.

» Is the student 100% symptom-free at school?

- ❍ Your student/athlete should be handling school work to the level they did before the concussion.
- ❍ Use the Teacher Feedback Form (APPENDIX) to see what teachers are noticing.
- ❍ Watch your child/teen doing homework; they should be able to complete homework as efficiently as before the concussion.
- ❍ In-school test scores should be back to where they were pre-concussion.
- ❍ School workload should be back to where it was pre-concussion.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of school.

» If the school or healthcare professional has used neurocognitive testing, are scores back to baseline or at least reflect normative average and/or baseline functioning?

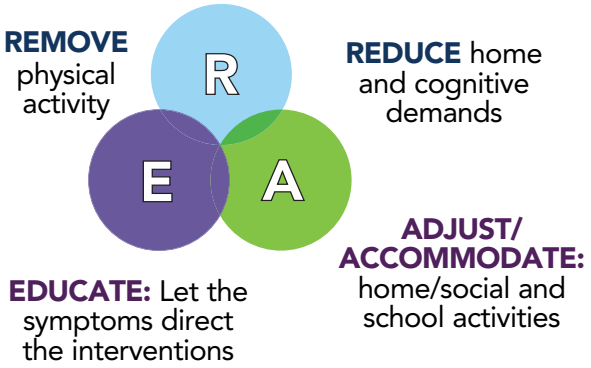
» If a Certified Athletic Trainer is involved with the concussion, does the ATC feel that the student/athlete is 100% symptom-free?

- ❍ Ask ATC for feedback and/or serial administrations of the Symptom Checklist.

» Is your child off all medications used to treat the concussion

- ❍ This includes over the counter medications such as ibuprofen, naproxen and acetaminophen which may have been used to treat headache or pain.

If the answer to any of the questions is "NO," stay the course with management and continue to repeat:



… for however long it takes for the brain cells to heal!

The true test of recovery is to notice a steady decrease in symptoms while noticing a steady increase in the ability to handle more rigorous home/social and school demands.

PARENTS and TEACHERS try to add in more home/social and school activities (just NOT physical activities) and test out those brain cells!

Once the answers to the questions above are all "YES," turn the page to the PACE page to see what to do next!

STEP FOUR: PACE

FAMILY TEAM Is the student/athlete 100% back to pre-concussion functioning?

SCHOOL ACADEMIC TEAM Is the student/athlete 100% back to pre-concussion academic functioning

WHEN ALL FOUR TEAMS AGREE

that the student/athlete is 100% recovered, the MEDICAL TEAM can then approve the starting of the Graduated RTP steps. The introduction of physical activity (in the steps outlined in order below) is the last test of the brain cells to make sure they are healed and that they do not "flare" symptoms. This is the final and formal step toward "clearance" and the safest way to guard against a more serious injury.

MEDICAL TEAM approves the start of RTP steps

SCHOOL PHYSICAL TEAM Often the ATC at the school takes the athlete through the RTP steps.

If there is no ATC available, the MEDICAL TEAM should teach the FAMILY TEAM to administer and supervise the RTP steps.

A Graduated Return-to-Play (RTP) Recommended by The 2012 Zurich Consensus Statement on Concussion in Sport*

1	**No activity**	Symptom limited physicial and cognitive rest.	Recovery
	When 100% symptom free for 24 hours proceed to Stage 2. (Recommend longer symptom-free periods at each stage for younger student/athletes)		
2	**Light aerobic exercise**	Walking, swimming or stationary cycling keeping intensity <70% maximum permitted heart rate. No resistance training.	Increase heart rate
	If symptoms re-emerge with this level of exertion, then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion, then proceed to the next stage.*		
3	**Sport-specific exercise**	Skating drills in ice hockey, running drills in soccer. No head-impact activities.	Add movement
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.*		
4		Progression to more complex training drills, e.g., passing drills in football and ice hockey May start progressive resistance training.	Exercise, coordination and cognitive load
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.*		
5	**Full-contact practice**	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.*		
6	**Return to play**	Normal game play	No restrictions

The healthcare professional should give the responsibility of the graduated RTP steps over only to a trained professional such as an ATC, PT or should teach the parents. A coach, school nurse or PE teacher does NOT need to be responsible for taking concussed student/athletes through these steps.

Research Note: Earlier introduction of physical activity is being researched and may become best practice. However, at this time, any early introduction of physical exertion should only be conducted in a supervised and safe environment by trained professionals.

PACE

» Special Considerations

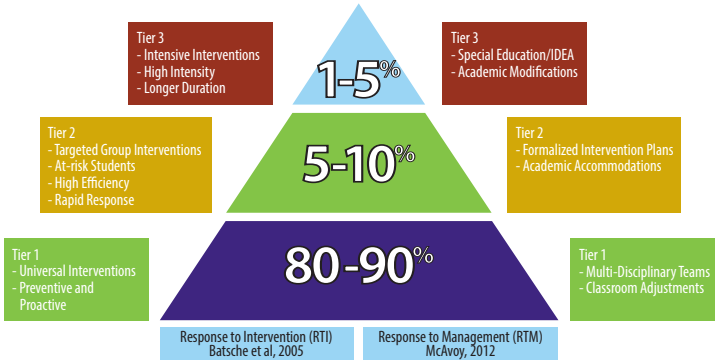
As we know, 80 to 90% of concussions will resolve within 3 to 4 weeks.

However, there remains the 10 to 20% of student/athletes who have on-going physical, cognitive, emotional or sleep/energy symptoms well beyond the 3 to 4 week mark. In those cases, the parent and medical professionals are advised to look to the school system for existing supports. The 2004 Re-authorization of IDEA (Individuals with Disability Education Act) introduced an educational initiative called "Response to Intervention (RTI)." RTI contends that good teaching and reasonable academic "adjustments" in the general education classroom can help to support 80 to 90% of students with mild/temporary learning or behavioral issues. The same concept holds true for concussions. We have called this "Response to Management (RTM)."

In RTI and RTM, we maximize the student/athlete's recovery by focusing on good academic "adjustments" in the general education classroom.

The 10 to 20% of students who struggle beyond the general education classroom may need a small amount of "targeted intervention" called academic "accommodation." Academic "accommodations" may be provided via a Health Plan, a Learning Plan, a 504 Plan6 or an RTI Plan. It is still hoped that the accommodations for learning, behavior or concussions are temporary and amenable to intervention but may take months (instead of weeks) for progress to show. Lastly, with RTI and RTM, in the rare event that a permanent "disability" is responsible for the educational struggle, the student may be assessed and staffed into special education services (IDEA) and provided an IEP (Individualized Education Plan). This would constitute an extremely small number of students with a concussion. The multi-disciplinary teams need to continue to work together with the student/athlete with protracted recovery. Parents and medical professionals need to seek medical explanation and treatment for slowed recovery; educators need to continue to provide the appropriate supports and the school physical team needs to continue to keep the student/athlete out of physical play.

Concussion Management Guidelines



Adjustments/Accommodations/ Modifications

DAYS TO WEEKS: Academic Adjustments
Informal, flexible day-to-day adjustments in the general education classroom for the first 3 to 4 weeks of a concussion. Can be lifted easily when no longer needed.

WEEKS TO MONTHS: Academic Accommodations
Slightly longer accommodations to the environment/ learning to account for a longer than 4+ week recovery. Helps with grading, helps justify school supports for alonger time.

MONTHS TO YEARS: Academic Modifications
Actual changes to the curriculum/placement/instruction

Medical Box

Students who have Attention Deficits, Learning Disabilities, a history of migraine headaches, sleep disorders, depression or other mental health disorders may have more difficulty recovering from a concussion.

Students who have had multiple concussions, a recent prior concussion or who are getting symptomatic after less impact may be at risk for long-term complications. Research supports the fact that a person who sustains one concussion is at higher risk for sustaining a future concussion.7

Retirement from sport: If the burden of one concussion or each successive concussion is significant, the family, school and medical teams should discuss retirement from sport.

Resources

Centers for Disease Control (CDC)	CDC.gov	1-800-CDC-INFO
Brain Injury Alliance of Iowa	biaia.org	855-444-6443
Advisory Council on Brain Injury	idph.iowa.gov/brain-injuries	515-281-8465
BrainLine	brainline.org	703-998-2020
Get Schooled	getschooled.com	206-467-4863
Iowa High School Athletic Assoc.	iahsaa.org	515-432-2011
Iowa Department of Education	educateiowa.gov/student-health-conditions	515-281-5294
National Association of Athletic Trainers (NATA)	nata.org journalofathletictraining.org	
National Federation of State High School Associations	nfhs.org	317-972-6900
Coaches Training: **(free, online coach-training sessions)**	National Federation of State High School Associations	nfhslearn.org

Please Note:

This publication is not a substitute for seeking-medical care.

REAP is available for customization in your state.

All questions or comments and requests for inservices/ trainings can be directed to:

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  Rocky Mountain Hospital for Children /
  Rocky Mountain Youth Sports Medicine Institute
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  Karen.McAvoy@HealthONEcares.com

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- Colorado Brain Injury Program for grant funding of the original project.
- REAP Pilot School Districts: Cherry Creek School District, Denver Public Schools, Aurora Public Schools, Littleton Public Schools
- Kelli Jantz, Shannon Jantz, the Jantz/Snakenberg families
- Ciera Lund and the Lund family

This manual is available in Spanish upon request.

This program is part of HealthONE's Rocky Mountain Hospital for Children

» Symptom Checklist

Name: _____ Assessment Date: _____

Date of Injury: _____ Time of Injury 2-3 Hrs 24 Hrs 48 Hrs 72 Hrs Daily Weekly

Pathways	Symptoms		Mild	Mild	Moderate	Moderate	Severe	Severe
A	I feel like I'm going to faint	0	1	2	3	4	5	6
V	I'm having trouble balancing	0	1	2	3	4	5	6
	I feel dizzy	0	1	2	3	4	5	6
	It feels like the room is spinning	0	1	2	3	4	5	6
O	Things look blurry	0	1	2	3	4	5	6
	I see double	0	1	2	3	4	5	6
H	I have headaches	0	1	2	3	4	5	6
	I feel sick to my stomach (nauseated)	0	1	2	3	4	5	6
	Noise/sound bothers me	0	1	2	3	4	5	6
	The light bothers my eyes	0	1	2	3	4	5	6
C	I have pressure in my head	0	1	2	3	4	5	6
	I feel numbness and tingling	0	1	2	3	4	5	6
N	I have neck pain	0	1	2	3	4	5	6
S/E	I have trouble falling asleep	0	1	2	3	4	5	6
	I feel like sleeping too much	0	1	2	3	4	5	6
	I feel like I am not getting enough sleep	0	1	2	3	4	5	6
	I have low energy (fatigue)	0	1	2	3	4	5	6
	I feel tired a lot (drowsiness)	0	1	2	3	4	5	6
Cog	I have trouble paying attention	0	1	2	3	4	5	6
	I am easily distracted	0	1	2	3	4	5	6
	I have trouble concentrating	0	1	2	3	4	5	6
	I have trouble remembering things	0	1	2	3	4	5	6
	I have trouble following directions	0	1	2	3	4	5	6
	I feel like my thinking is "foggy"	0	1	2	3	4	5	6
	I feel like I am moving at a slower speed	0	1	2	3	4	5	6
	I don't feel "right"	0	1	2	3	4	5	6
	I feel confused	0	1	2	3	4	5	6
	I have trouble learning new things	0	1	2	3	4	5	6
E	I feel more emotional	0	1	2	3	4	5	6
	I feel sad	0	1	2	3	4	5	6
	I feel nervous	0	1	2	3	4	5	6
	I feel irritable or grouchy	0	1	2	3	4	5	6

Other: _____

Pathways of concern: A=Autonomic V=Vestibular O=Oculomotor H=Headache (Migraine &Non-Migraine) C=Cervicogenic N=Neck Strain S/E=Sleep/Energy Cog=Cognitive E=Emotional

» Teacher Feedback Form

Date _____

Student's Name _____

Date of Concussion_____

Student: you have been diagnosed with a concussion. It is your responsibility to gather data from your teachers before you return to the doctor for a follow-up visit. A day or two before your next appointment, go around to all of your teachers (especially the CORE classes) and ask them to fill in the boxes below based upon how you are currently functioning in their class(es).

Teachers: Thank you for your help with this student. Your feedback is very valuable. We do not want to release this student back to physical activity if you are still seeing physical, cognitive, and emotional or sleep/energy symptoms in your classroom(s). If you have any concerns, please state them below.ly functioning in their class(es).

1. Your name 2. Class taught	Is the student still receiving any academic adjustments in your class? If so, what?	Have you noticed, or has the student reported, any concussion symptoms lately? (e.g. complaints of headaches,dizziness, difficulty concentrating, remembering; more irritable, fatigued than usual etc.?) If yes, please explain.	Do you believe this student is performing at their preconcussion learning level?
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:

Iowa Code Section 280.13C

An Act concerning the protection of student athletes from concussions and other head injuries.

1. a. The Iowa high school athletic association and the Iowa girls high school athletic union shall work together to distribute the guidelines of the centers for disease control and prevention of the United States department of health and human services and other pertinent information to inform and educate coaches, students, and the parents and guardians of students of the risks, signs, symptoms, and behaviors consistent with a concussion or brain injury, including the danger of continuing to participate in extracurricular interscholastic activities after suffering a concussion or brain injury and their responsibility to report such signs, symptoms, and behaviors if they occur.

   b. Annually, each school district and nonpublic school shall provide to the parent or guardian of each student a concussion and brain injury information sheet, as provided by the Iowa high school athletic association and the Iowa girls high school athletic union. The student and the student's parent or guardian shall sign and return the concussion and brain injury information sheet to the student's school prior to the student's participation in any extracurricular interscholastic activity for grades seven through twelve.

2. If a student's coach or contest official observes signs, symptoms, or behaviors consistent with a concussion or brain injury in an extracurricular interscholastic activity, the student shall be immediately removed from participation.

3. A student who has been removed from participation shall not recommence such participation until the student has been evaluated by a licensed healthcare provider trained in the evaluation and management of concussions and other brain injuries and the student has received written clearance to return to participation from the healthcare provider.

4. For the purposes of this section:

   a. "Extracurricular interscholastic activity" means any extracurricular interscholastic activity, contest, or practice, including sports, dance, or cheerleading.

   b. "Licensed healthcare provider" means a physician, physician assistant, chiropractor, advanced registered nurse practitioner, nurse, physical therapist, or athletic trainer licensed by a board designated under 147.13.

Rocky Mountain Hospital *for* Children

At Presbyterian/St. Luke's

HealthONE

RockyMountainHospitalForChildren.com

Center for Concussion

At Centennial Medical Plaza
14000 East Arapahoe Road, Building C, Suite 300
Centennial, CO 80112
720.979.0840

At Red Rocks Medical Center
400 Indiana Street, Suite 350
Golden, CO 80401
303.861.2663

Special thanks to the Brain Injury Alliance of Iowa, the Iowa Advisory Council on Brain Injury, The Iowa Athletic Trainers' Association, the Iowa High School Athletic Association, the Iowa Girls High School Athletic Union, and the leadership of the Iowa Concussion Consortium for their support in passing legislation that created the Iowa Youth Sports Concussion Law. For a complete and current list of ICC partners, please visit www.biaia.org/ICC

Iowa Concussion Consortium Purpose: To improve recognition of, and response to, Concussive Injuries in Iowa's youth.

Iowa Concussion Consortium Goals:

- To reduce the occurrence of sports related concussions through increased public and professional awareness, training, safety practices, and policies.
- To reduce the potential adverse impact of concussions through improved recognition, assessment and management of concussion.

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To ensure ongoing efforts to educate coaches and parents on concussion recognition, please consider a gift to the Iowa Concussion Consortium c/o the Brain Injury Alliance of Iowa

Email: icc@biaia.org

Mail to: Brain Injury Alliance of Iowa, 7025 Hickman Road, Suite 7, Urbandale, Iowa 50322

Contact: Geoffrey Lauer, Executive Director
319.466.7455

Visit us at: www.biaia.org/ICC

IOWA CONCUSSION CONSORTIUM

Partners of the Iowa Concussion Consortium

Brain Injury Alliance of Iowa
Iowa Department of Public Health
Iowa Department of Education
Iowa Advisory Council on Brain Injuries
Iowa High School Athletic Association
Iowa Girls High School Athletic Union
St. Luke's Hospital / Unity Point Iowa
Athletic Trainers' Association
NeuroRestorative Blank Children's Hospital / Unity Point
Center for Disabilities and Development
ChildServe
Community NeuroRehab
Iowa Association of School Boards
Neurologic Rehabilitation Institute at Brookhaven Hospital
On With Life, Inc.
Opportunities Unlimited
REM Iowa
Rocky Mountain Hospital for Children
Safe Kids Iowa
School Administrators of Iowa
University of Iowa—Iowa Injury Prevention Research Center
University of Iowa Hospitals and Clinics—Concussion Clinic
Veteran's Administration Medical Center of Iowa City

RETURN TO PLAY POLICIES

Kansas

2012 Kansas Statutes

72-135. School sports head injury prevention act. (a) This section shall be known and may be cited as the school sports head injury prevention act.

(b) As used in this section:

(1) "School" means any public or accredited private high school, middle school or junior high school.

(2) "Health care provider" means a person licensed by the state board of healing arts to practice medicine and surgery.

(c) The state board of education, in cooperation with the Kansas state high school activities association, shall compile information on the nature and risk of concussion and head injury including the dangers and risks associated with the continuation of playing or practicing after a person suffers a concussion or head injury. Such information shall be provided to school districts for distribution to coaches, school athletes and the parents or guardians of school athletes.

(d) A school athlete may not participate in any sport competition or practice session unless such athlete and the athlete's parent or guardian have signed, and returned to the school, a concussion and head injury information release form. A release form shall be signed and returned each school year that a student athlete participates in sport competitions or practice sessions.

(e) If a school athlete suffers, or is suspected of having suffered, a concussion or head injury during a sport competition or practice session, such school athlete immediately shall be removed from the sport competition or practice session.

(f) Any school athlete who has been removed from a sport competition or practice session shall not return to competition or practice until the athlete is evaluated by a health care provider and the health care provider provides such athlete a written clearance to return to play or practice. If the health care provider who provides the clearance to return to play or practice is not an employee of the school district, such health care provider shall not be liable for civil damages resulting from any act or omission in the rendering of such care, other than acts or omissions constituting gross negligence or willful or wanton misconduct.

(g) This section shall take effect on and after July 1, 2011.

History: L. 2011, ch. 114, § 17; June 9.

KANSAS STATE HIGH SCHOOL ACTIVITIES ASSOCIATION
RECOMMENDATIONS FOR COMPLIANCE WITH THE KANSAS SCHOOL SPORTS HEAD INJURY PREVENTION ACT AND IMPLEMENTATION OF THE NATIONAL FEDERATION SPORTS PLAYING RULES RELATED TO CONCUSSIONS

The following language appears in all National Federation sports' rules books:

> "Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health care professional."

The Kansas Legislature has enacted the School Sports Head Injury Prevention Act (hereinafter the "Kansas Act") effective July 1, 2011:

Sec. 72-135. (a) This section shall be known and may be cited as the school sports head injury prevention act.
(b) As used in this section:
(1) ''School'' means any public or accredited private high school, middle school or junior high school.
(2) ''Health care provider'' means a person licensed by the state board of healing arts to practice medicine and surgery.

(c) The state board of education, in cooperation with the Kansas state high school activities association, shall compile information on the nature and risk of concussion and head injury including the dangers and risks associated with the continuation of playing or practicing after a person suffers a concussion or head injury. Such information shall be provided to school districts for distribution to coaches, school athletes and the parents or guardians of school athletes.

(d) A school athlete may not participate in any sport competition or practice session unless such athlete and the athlete's parent or guardian have signed, and returned to the school, a concussion and head injury information release form. A release form shall be signed and returned each school year that a student athlete participates in sport competitions or practice sessions.

(e) If a school athlete suffers, or is suspected of having suffered, concussion or head injury during a sport competition or practice session, such school athlete immediately shall be removed from the sport competition or practice session.

(f) Any school athlete who has been removed from a sport competition or practice session shall not return to competition or practice until the athlete is evaluated by a health care provider and the health care provider provides such athlete a written clearance to return to play or practice. If the healthcare provider who provides the clearance to return to play or practice is not an employee of the school district, such health care provider shall not be liable for civil damages resulting from any act or omission in the rendering of such care, other than acts or omissions constituting gross negligence or willful or wanton misconduct.

(g) This section shall take effect on and after July 1, 2011.

The KSHSAA offers the following guidelines and recommendations for compliance with the Kansas Act and for implementation of the NFHS playing rule related to concussions:

1. If a student suffers, or is suspected of having suffered a concussion or head injury during a sport competition or practice session, the student: (1) must be immediately removed from the contest or practice and (2) may not again participate in practice or competition until a health care provider has evaluated the student and provided a written clearance for the student to return to practice and competition. The National Federation and the KSHSAA recommend that the student **should not** be cleared for practice or competition the same day the concussion consistent sign, symptom or behavior was observed.

2. *What are the "signs, symptoms, or behaviors consistent with a concussion"?* The National Federation rule lists some of the signs, symptoms and behaviors consistent with a concussion. The U.S. Department of Human Services, Centers for Disease Control and Prevention has published the following lists of signs, symptoms and behaviors that are consistent with a concussion:

SIGNS OBSERVED BY OTHERS	SYMPTOMS REPORTED BY ATHLETE
• **Appears dazed or stunned** • **Is confused about assignment** • **Forgets plays** • **Is unsure of game, score, or opponent** • **Moves clumsily** • **Answers questions slowly** • **Loses consciousness** • **Shows behavior or personality changes** • **Cannot recall events prior to hit** • **Cannot recall events after hit**	• **Headache** • **Nausea** • **Balance problems or dizziness** • **Double or fuzzy vision** • **Sensitivity to light or noise** • **Feeling sluggish** • **Feeling foggy or groggy** • **Concentration or memory problems** • **Confusion**

These lists may not be exhaustive

3. What is a *"Health Care Provider"*? The Kansas Sports Head Injury Prevention Act defines a health care provider to be "a person licensed by the state board of healing arts to practice medicine and surgery." The KSHSAA understands this means a Medical Doctor (MD) or a Doctor of Osteopathic Medicine (DO).

4. The first step to concussion recovery is cognitive rest. Students may need their academic workload modified or even be completely removed from the classroom setting while they are initially recovering from a concussion as they may struggle with concentration, memory, and organization. Students should also avoid the use of electronic devices (computers, tablets, video games, texting, etc.) and loud noises, as these can also impair the brain's recovery process. Trying to meet academic requirements too early after sustaining a concussion may exacerbate symptoms and delay recovery. Any academic modifications should be coordinated jointly between the student's medical providers and school personnel. No consideration should be given to returning to physical activity until the student is fully integrated back into the classroom setting and is symptom free. Rarely, a student will be diagnosed with post-concussive syndrome and have symptoms that last weeks to months. In these cases, a student may be recommended to start a non-contact physical activity regimen, but this will only be done under the direct supervision of a healthcare provider.

5. Return to Play or Practice Clearance Requirements:
   A. The clearance must be in writing and signed by a health care provider.
   B. The National Federation and the KSHSAA recommend the clearance should not be issued on the same day the athlete was removed from play.
   C. The National Federation and the KSHSAA recommend that a student who has been removed from a practice or competition because the student suffered, or was suspected of suffering, a concussion or head injury **should complete a graduated return to play protocol <u>following medical clearance</u> before returning to unrestricted practice or competition.** The National Federation has included the following graduated protocol in its Suggested Guidelines for Management of Concussion in Sports. In most cases, the athlete will progress one step each day. The return to activity program schedule **may** proceed as below **<u>following medical clearance</u>**:

      ***Step 1*:** Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training, or any other exercises.

      ***Step 2*:** Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.

      ***Step 3*:** Non-contact training drills in full uniform. May begin weight lifting, resistance training, and other exercises.

      ***Step 4*:** Full contact practice or training.

      ***Step 5*:** Full game play.

      If symptoms of a concussion re-occur, or if concussion signs and/or behaviors are observed at any time during the return to activity program, the athlete must discontinue all activity and be re-evaluated by their health care provider.

      This is simply a suggested protocol. The appropriate health care provider who issues the written clearance may wish to establish a different graduated protocol.

6. Parents and students **<u>ARE REQUIRED</u>** to complete a Concussion & Head Injury Information Release Form and turn it into their school prior to the student participating in any athletic or spirit practice or contest each school year. Schools are required to have such form on file before a student may participate in a practice or competition.

KSHSAA RECOMMENDED CONCUSSION & HEAD INJURY INFORMATION RELEASE FORM
2017-2018

This form must be signed by all student athletes and parent/guardians before the student participates in any athletic or spirit practice or contest each school year.

A concussion is a brain injury and all brain injuries are serious. They are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body with the force transmitted to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even though most concussions are mild, **all concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly.** In other words, even a "ding" or a bump on the head can be serious. You can't see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of concussion may show up right after the injury or can take hours or days to fully appear. If your child reports any symptoms of concussion, or if you notice the symptoms or signs of concussion yourself, seek medical attention right away.

Symptoms may include one or more of the following:	
• Headaches • "Pressure in head" • Nausea or vomiting • Neck pain • Balance problems or dizziness • Blurred, double, or fuzzy vision • Sensitivity to light or noise • Feeling sluggish or slowed down • Feeling foggy or groggy • Drowsiness • Change in sleep patterns	• Amnesia • "Don't feel right" • Fatigue or low energy • Sadness • Nervousness or anxiety • Irritability • More emotional • Confusion • Concentration or memory problems (forgetting game plays) • Repeating the same question/comment

Signs observed by teammates, parents, and coaches include:	
• Appears dazed • Vacant facial expression • Confused about assignment • Forgets plays • Is unsure of game, score, or opponent • Moves clumsily or displays incoordination • Answers questions slowly • Slurred speech	• Shows behavior or personality changes • Can't recall events prior to hit • Can't recall events after hit • Seizures or convulsions • Any change in typical behavior or personality • Loses consciousness

Adapted from the CDC and the 3rd International Conference in Sport

What can happen if my child keeps on playing with a concussion or returns too soon?

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the young athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one (second impact syndrome). This can lead to prolonged recovery, or even to severe brain swelling with devastating and even fatal consequences. It is well known that adolescent or teenage athletes will often under report symptoms of injuries. And concussions are no different. As a result, education of administrators, coaches, parents and students is the key for student-athlete's safety.

If you think your child has suffered a concussion

Any athlete even suspected of suffering a concussion should be removed from the game or practice immediately. No athlete may return to activity after sustaining a concussion, regardless of how mild it seems or how quickly symptoms clear, without written medical clearance from a Medical Doctor (MD) or Doctor of Osteopathic Medicine (DO). Close observation of the athlete should continue for several hours. You should also inform your child's coach if you think that your child may have a concussion Remember it is better to miss one game than miss the whole season. **When in doubt, the athlete sits out!**

Cognitive Rest & Return to Learn

The first step to concussion recovery is cognitive rest. This is essential for the brain to heal. Activities that require concentration and attention such as trying to meet academic requirements, the use of electronic devices (computers, tablets, video games, texting, etc.), and exposure to loud noises may worsen symptoms and delay recovery. Students may need their academic workload modified while they are initially recovering from a concussion. Decreasing stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time. This may involve staying home from school for a few days, followed by a lightened school schedule, gradually increasing to normal. Any academic modifications should be coordinated jointly between the student's medical providers and school personnel. No consideration should be given to returning to physical activity until the student is fully integrated back into the classroom setting and is symptom free. Rarely, a student will be diagnosed with post-concussive syndrome and have symptoms that last weeks to months. In these cases, a student may be recommended to start a non-contact physical activity regimen, but this will only be done under the direct supervision of a healthcare provider.

Return to Practice and Competition

The Kansas School Sports Head Injury Prevention Act provides that if an athlete suffers, or is suspected of having suffered, a concussion or head injury during a competition or practice, the athlete must be immediately removed from the competition or practice and cannot return to practice or competition until a Health Care Professional has evaluated the athlete and provided a written authorization to return to practice and competition. The KSHSAA recommends that an athlete not return to practice or competition the same day the athlete suffers or is suspected of suffering a concussion. The KSHSAA also recommends that an athlete's return to practice and competition should follow a graduated protocol under the supervision of the health care provider (MD or DO).

For current and up-to-date information on concussions you can go to:
http://www.cdc.gov/concussion/HeadsUp/youth.html
http://www.kansasconcussion.org/

For concussion information and educational resources collected by the KSHSAA, go to:
http://www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

_____	_____	_____
Student-athlete Name Printed	Student-athlete Signature	Date

_____	_____	_____
Parent or Legal Guardian Printed	Parent or Legal Guardian Signature	Date

KSHSAA RECOMMENDED CONCUSSION & HEAD INJURY INFORMATION RELEASE FORM
2016-2017

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For concussion information and educational resources collected by the KSHSAA, go to:
http://www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

_____	_____	_____
Student-athlete Name Printed	Student-athlete Signature	Date
_____	_____	_____
Parent or Legal Guardian Printed	Parent or Legal Guardian Signature	Date

Pre-Participation Physical Evaluation

PPE

Kansas State High School Activities Association • 601 SW Commerce Place • PO Box 495 • Topeka, KS 66601 • 785-273-5329

HISTORY FORM *(should be filled out by the student and **parent/guardian** prior to the physical examination)*

Name Sex Age Date of birth

Grade School Sport(s)

Home Address Phone -

Personal physician Parent Email

PPE is required annually and shall not be taken earlier than May 1 preceding the school year for which it is applicable.

Medicines and Allergies: Please list all of the prescription and over-the-counter medicines, inhalers, and supplements (herbal and nutritional) that you are currently taking: _____ ☐ No Medications

Do you have any allergies? ☐ Yes ☐ No If yes, please identify specific allergy below.

☐ Medicines _____ ☐ Pollens _____ ☐ Food _____ ☐ Stinging Insects _____

What was the reaction? _____

Explain "Yes" answers below. Circle questions you don't know the answers to.

General Questions	Yes	No
1. Have you had a medical condition or injury since your last check up or sports physical?		
2. Has a doctor ever denied or restricted your participation in sports for any reason?		
3. Do you have any ongoing medical conditions? If so, please identify below: ☐ Asthma ☐ Anemia ☐ Diabetes ☐ Infections Other: _____		
4. Have you ever spent the night in the hospital?		
5. Have you ever had surgery?		
Heart Health Questions About You	**Yes**	**No**
6. Have you ever passed out or nearly passed out DURING or AFTER exercise?		
7. Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?		
8. Does your heart ever race or skip beats (irregular beats) during exercise?		
9. Has a doctor ever told you that you have any heart problems? If so, check all that apply: ☐ High blood pressure ☐ A heart murmur ☐ High cholesterol ☐ A heart infection ☐ Kawasaki disease ☐ Other: _____		
10. Has a doctor ever ordered a test for your heart? (For example, ECG/EKG, echocardiogram)		
11. Do you get lightheaded or feel more short of breath than expected during exercise?		
12. Have you ever had an unexplained seizure?		
13. Do you get more tired or short of breath more quickly than your friends during exercise?		
Heart Health Questions About Your Family	**Yes**	**No**
14. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 50 (including drowning, unexplained car accident, or sudden infant death syndrome)?		
15. Does anyone in your family have hypertrophic cardiomyopathy, Marfan syndrome, arrhythmogenic right ventricular cardiomyopathy, long QT syndrome, short QT syndrome, Brugada syndrome, or catecholaminergic polymorphic ventricular tachycardia?		
16. Does anyone in your family have a heart problem, pacemaker, or implanted defibrillator?		
17. Has anyone in your family had unexplained fainting, unexplained seizures, or near drowning?		
Bone And Joint Questions	**Yes**	**No**
18. Have you ever had an injury to a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?		
19. Have you ever had any broken or fractured bones or dislocated joints?		
20. Have you ever had an injury that required x-rays, MRI, CT scan, injections, therapy, a brace, a cast, or crutches?		
21. Have you ever had a stress fracture?		
22. Have you ever been told that you have or have you had an x-ray for neck instability or atlantoaxial instability? (Down syndrome or dwarfism)		
23. Do you regularly use a brace, orthotics, or other assistive device?		
24. Do you have a bone, muscle, or joint injury that bothers you?		
25. Do any of your joints become painful, swollen, feel warm, or look red?		
26. Do you have any history of juvenile arthritis or connective tissue disease?		

Medical Questions	Yes	No
27. Do you cough, wheeze, or have difficulty breathing during or after exercise?		
28. Have you ever used an inhaler or taken asthma medicine?		
29. Is there anyone in your family who has asthma?		
30. Were you born without or are you missing a kidney, an eye, a testicle (males), your spleen, or any other organ?		
31. Do you have groin pain or a painful bulge or hernia in the groin area?		
32. Have you had infectious mononucleosis (mono) within the last month?		
33. Do you have any rashes, pressure sores, or other skin problems?		
34. Have you had a herpes or MRSA skin infection?		
35. Have you ever had a head injury or concussion? If yes, how many? _____ What is the longest you've been held out of sports or school? _____ When were you last released? _____		
36. Have you ever had a hit or blow to the head that caused confusion, prolonged headache, or memory problems?		
37. Do you have a history of seizure disorder?		
38. Do you have headaches with exercise?		
39. Have you ever had numbness, tingling, or weakness in your arms or legs after being hit or falling (Stinger/Burner/Pinched Nerve)?		
40. Have you ever been unable to move your arms or legs after being hit or falling?		
41. Have you ever become ill while exercising in the heat?		
42. Do you get frequent muscle cramps when exercising?		
43. Do you or someone in your family have sickle cell trait or disease?		
44. Have you had any problems with your eyes or vision?		
45. Have you had any eye injuries?		
46. Do you wear glasses or contact lenses?		
47. Do you wear protective eyewear, such as goggles or a face shield?		
48. Do you worry about your weight?		
49. Are you trying to or has anyone recommended that you gain or lose weight?		
50. Are you on a special diet or do you avoid certain types of foods?		
51. Have you ever had an eating disorder?		
52. Do you have any concerns that you would like to discuss with a doctor?		
Females Only	**Yes**	**No**
53. Have you ever had a menstrual period?		
54. If yes, are you experiencing any problems or changes with athletic participation (i.e., irregularity, pain, etc.)?		
55. How old were you when you had your first menstrual period?		
56. How many periods have you had in the last 12 months?		
Explain "yes" answers here		

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct.

Signature of athlete _____ Signature of parent/guardian _____ Date _____

Pre-Participation Physical Evaluation PPE

Kansas State High School Activities Association • 601 SW Commerce Place • PO Box 495 • Topeka, KS 66601 • 785-273-5329

PHYSICAL EXAMINATION FORM

Name:_____ **Date of birth:**___ **Date of recent**

immunizations: Td_____ **Tdap**_____ **Hep B**_____ **Varicella**_____ **HPV**_____ **Meningococcal** _____

PHYSICIAN REMINDERS

1. Consider additional questions on more sensitive issues

- Do you feel stressed out or under a lot of pressure?
- Do you ever feel sad, hopeless, depressed, or anxious?
- Do you feel safe at your home or residence?
- Have you ever tried cigarettes, chewing tobacco, snuff, or dip?
- During the past 30 days, did you use chewing tobacco, snuff, or dip?
- Do you drink alcohol or use any other drugs?
- Have you ever taken anabolic steroids or used any other performance supplement?
- Have you ever taken any supplements to help you gain or lose weight or improve your performance?
- Do you wear a seat belt and use a helmet?

2. Consider reviewing questions on cardiovascular symptoms (questions 5–14).

EXAMINATION		
Height Weight	Male ☐ Female ☐ |	BP (reference gender/height/age chart)**** / (/) Pulse
Vision R 20/ L 20/	Corrected: Yes ☐ No ☐	

MEDICAL	NORMAL	ABNORMAL FINDINGS
Appearance • Marfan stigmata (kyphoscoliosis, high-arched palate, pectus excavatum, arachnodactyly, arm span > height, hyperlaxity, myopia, MVP, aortic insufficiency)		
Eyes/ears/nose/throat • Pupils equal • Gross Hearing		
Lymph nodes		
Heart * • Murmurs (auscultation standing, supine, +/- Valsalva) • Location of point of maximal impulse (PMI)		
Pulses • Simultaneous femoral and radial pulses		
Lungs		
Abdomen		
Genitourinary (males only)**		
Skin • HSV, lesions suggestive of MRSA, tinea corporis		
Neurologic***		
MUSCULOSKELETAL		
Neck		
Back		
Shoulder/arm		
Elbow/forearm		
Wrist/hand/fingers		
Hip/thigh		
Knee		
Leg/ankle		
Foot/toes		
Functional • Duck-walk, single leg hop		

*Consider ECG, echocardiogram, and referral to cardiology for abnormal cardiac history or exam. **Consider GU exam if in private setting. Having third party present is recommended.
***Consider cognitive evaluation or baseline neuropsychiatric testing if a history of significant concussion.
****Chart found in: The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. Pediatric BP mobile application can also be used.

☐ Cleared for all sports without restriction

☐ Cleared for all sports without restriction with recommendations for further evaluation or treatment for _____

☐ Not cleared

- ☐ Pending further evaluation
- ☐ For any sports
- ☐ For certain sports _____
  - *Reason _____

Recommendations _____

I have examined the above-named student and student history and completed the preparticipation physical evaluation. The athlete does not present apparent clinical contraindications to practice and participate in the sport(s) as outlined above. If conditions arise after the athlete has been cleared for participation, the physician may rescind the clearance until the problem is resolved and the potential consequences are completely explained to the athlete (and parents/guardians).

Name of healthcare provider (print/type)_____ Date _____

Address_____ Phone _____

Signature of healthcare provider_____, MD, DO, DC, PA-C, APRN
(please circle one)

ATTENTION PARENTS AND STUDENTS
KSHSAA ELIGIBILITY CHECK LIST

PPE shall not be taken earlier than May 1 preceding the school year for which it is applicable.

NOTE: Transfer Rule 18 states in part, a student is eligible transfer-wise if:

BEGINNING SEVENTH GRADER—A seventh grader, at the beginning of his or her seventh grade year, is eligible under the Transfer Rule at any school he or she may choose to attend. In addition, age and academic eligibility requirements must also be met.

BEGINNING NINTH GRADERS IN A THREE-YEAR JUNIOR HIGH SCHOOL—So that ninth graders of a three-year junior high are treated equally to ninth graders of a four-year senior high school, a student who has successfully completed the eighth grade of a two-year junior high/middle school, may transfer to the ninth grade of a three-year junior high school at the beginning of the school year and be eligible immediately under the Transfer Rule. Such a ninth grader must then as a tenth grader, attend the feeder senior high school of their school system. Should they attend a different school as a tenth grader, they would be ineligible for eighteen weeks.

ENTERING HIGH SCHOOL FOR THE FIRST TIME—A senior high school student is eligible under the Transfer Rule at any senior high school he or she may choose to attend when senior high is entered for the first time at the beginning of the school year. In addition, age and academic eligibility requirements must also be met.

For Middle/Junior High and Senior High School Students to Retain Eligibility

Schools may have stricter rules than those pertaining to the questions above or listed below. Contact the principal or coach on any matter of eligibility. A student to be eligible to participate in interscholastic activities must be certified by the school principal as meeting all eligibility standards.

All KSHSAA rules and regulations are published in the official *KSHSAA Handbook* which is distributed annually and is available at your school principal's office.

Below Are Brief Summaries Of Selected Rules. Please See Your Principal For Complete Information.

Rule 7 Physical Evaluation - Parental Consent—Students shall have passed the **attached evaluation** and have the written consent of their parents or legal guardian.

Rule 14 Bona Fide Student—Eligible students shall be a **bona fide undergraduate member** of his/her school in good standing.

Rule 15 Enrollment/Attendance—Students must be regularly **enrolled and in attendance** not later than Monday of the fourth week of the semester in which they participate.

Rule 16 Semester Requirements—A student shall not have more than two semesters of possible eligibility in grade seven and two semesters in grade eight. A student shall not have more than eight semesters of possible eligibility in grades nine through twelve, regardless of whether the ninth grade is included in junior high or in a senior high school.
NOTE: If a student does not participate or is ineligible due to transfer, scholarship, etc., the semester(s) during that period shall be counted toward the total number of semesters possible.

Rule 17 Age Requirements—Students are eligible if they are not 19 years of **age** *(16, 15 or 14 for junior high or middle school student)* on or before September 1 of the school year in which they compete.

Rule 19 Undue Influence—The use of **undue influence** by any person to secure or retain a student shall cause ineligibility. If tuition is charged or reduced, it shall meet the requirements of the KSHSAA.

Rules 20/21 Amateur and Awards Rules—Students are eligible if they have not **competed under a false name** or for money or merchandise of intrinsic value, and have observed all other provisions of the Amateur and Awards Rules.

Rule 22 Outside Competition—Students may not engage in **outside competition** in the same sport during a season in which they are representing their school.
NOTE: Consult the coach or principal before participating individually or on a team in any game, training session, contest, or tryout conducted by an outside organization.

Rule 25 Anti-Fraternity—Students are eligible if they are not members of any **fraternity** or other organization prohibited by law or by the rules of the KSHSAA.

Rule 26 Anti-Tryout and Private Instruction—Students are eligible if they have not participated in **training sessions or tryouts** held by colleges or other outside agencies or organizations in the same sport while a member of a school athletic team.

Rule 30 Seasons of Sport—Students are not eligible for more than **four seasons** in one sport in a four-year high school, three seasons in a three-year high school or two seasons in a two-year high school.

Student's Name _____

(PLEASE PRINT CLEARLY)

To be eligible for participation in interscholastic athletics/spirit groups, a student must have on file with the superintendent or principal, a signed statement by a physician, chiropractor, physician's assistant who has been authorized to perform the examination by a Kansas licensed supervising physician or an advanced practice registered nurse who has been authorized to perform this examination by a Kansas licensed supervising physician, certifying the student has passed an adequate physical examination and is physically fit to participate *(See KSHSAA Handbook, Rule 7).* A complete history and physical examination must be performed annually before a student participates in KSHSAA interscholastic athletics/cheerleading. T**he annual history and the physical examination shall not be taken earlier than May 1 preceding the school year for which it is applicable.** The KSHSAA recommends completion of this evaluation by athletes/cheerleaders at least one month prior to the first practice to allow time for correction of deficiencies and implementation of conditioning recommendations.

Parent or Guardian Consent

I do not know of any existing physical or any additional health reasons that would preclude participation in activities. I certify that the answers to the questions in the **HISTORY** part of the Preparticipation Physical Examination (PPE), are true and accurate. I approve participation in activities. I hereby authorize release to the KSHSAA, school nurse, certified athletic trainer, school administrators, coach and medical provider of information contained in this document. Upon written request, I may receive a copy of this document for my own personal health care records.

I acknowledge that there are risks of participating, including the possibility of catastrophic injury.

I hereby give my consent for the above student to compete in KSHSAA approved activities, and to accompany school representatives on school trips and receive emergency medical treatment when necessary. It is understood that neither the KSHSAA nor the school assumes any responsibility in case of accident. The undersigned agrees to be responsible for the safe return of all equipment issued by the school to the student.

The above named student and I have read the KSHSAA Eligibility Check List and how to retain eligibility information listed in this form.

For Middle/Junior High and Senior High School Students to Determine Eligibility When Enrolling

If a **negative** response is given to any of the following questions, this enrollee should contact his/her administrator in charge of evaluating eligibility. This should be done before the student is allowed to attend his/her first class and prior to the first activity practice. If questions still exist, the school administrator should telephone the KSHSAA for a final determination of eligibility. *(Schools shall process a Certificate of Transfer Form T-E on **all** transfer students.)*

	YES	NO	
1.	☐	☐	Are you a bona fide student in **good standing** in school? (If there is a question, your principal will make that determination.)
2.	☐	☐	Did you **pass at least five new subjects (those not previously passed)** last semester? *(The KSHSAA has a minimum regulation which requires you to pass at least five subjects of unit weight in your last semester of attendance.)*
3.	☐	☐	Are you planning to **enroll in at least five new subjects (those not previously passed)** of unit weight this coming semester? *(The KSHSAA has a minimum regulation which requires you to enroll and be in attendance in at least five subjects of unit weight.)*
4.	☐	☐	Did you **attend** this school or a feeder school in your district last semester? *(If the answer is "no" to this question, please answer Sections a and b.)*
	☐	☐	a. Do you reside with your parents?
	☐	☐	b. If you reside with your parents, have they made a permanent and bona fide move into your school's attendance center?

The student/parent authorizes the school to release to the KSHSAA student records and other pertinent documents and information for the purpose of determining student eligibility. The student/parent also authorizes the school and the KSHSAA to publish the name and picture of student as a result of participating in or attending extra-curricular activities, school events and KSHSAA activities or events.

_____

Parent or Guardian's Signature *Date*

_____

Student's Signature *Date* *Birth Date* *Grade*

RETURN TO PLAY POLICIES

Kentucky

SPORTS MEDICINE POLICY- PROTOCOL RELATED TO CONCUSSIONS AND CONCUSSED STUDENT-ATHLETES FOR ALL INTERSCHOLASTIC ATHLETICS IN THE COMMONWEALTH OF KENTUCKY

(Released: June, 2010, Commissioner Julian Tackett, Updated per General Assembly Action, April, 2012)

Sec. 1) INTRODUCTION

a) In various sports playing rule codes, the National Federation of High Schools (NFHS) has implemented standard language dealing with concussions in student-athletes. The basic rule in all sports (which may be worded slightly differently in each rule book due to the nature of breaks in time intervals at contests in different sports) states:

(1) Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional. (Please see NFHS Suggested Guidelines for Management of Concussion in the Appendix in the back of each NFHS Rules Book).

(2) The NFHS also has recommended concussion guidelines through its sports Medicine Advisory Committee (SMAC). These recommendations include:

a. No student-athlete should return to play (RTP) or practice on the same day of a concussion.

b. Any student-athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.

c. Any student-athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.

d. After medical clearance, return to play should follow a step-wise protocol with provisions for delayed return to play based upon the return of any signs or symptoms.

(3) To implement these rules, and based on KRS 160.445 and 156.070(2) as amended by the Kentucky General Assembly in 2012, the KHSAA has defined this policy and parameters to guide all interscholastic school athletic representatives and all KHSAA licensed sports officials. References to signs and symptoms of concussion are detailed by the NFHS through its SMAC upon consultation with the Centers for Disease Control and Prevention (CDC).

POLICY ON CONCUSSIONS DURING INTERSCHOLASTIC PLAY IN THE COMMONWEALTH OF KENTUCKY

Sec. 1) FOUNDATIONAL RECOMMENDATIONS

a) The treatment of concussions and suspected concussions should be conducted within the recommended protocols and procedures of the Consensus Statement on Concussion in Sport: The 3rd International Conference on Concussion in Sport Held in Zurich, November 2008.

Sec. 2) SUSPECTED CONCUSSION

a) A student-athlete suspected by an interscholastic coach, school athletic personnel or contest official of sustaining a concussion (displaying signs/symptoms of a concussion) during an athletic practice or contest shall be removed from practice or play immediately. The student-athlete shall not return to play prior to the ending of practice or competition until the student-athlete is evaluated to determine if a concussion has occurred.

b) A physician or licensed health care provider whose scope of practice and training includes the evaluation and management of concussions and other brain injuries is empowered to make the on-site determination that a student-athlete has or has not been concussed. This will generally include an MD (Medical Doctor), DO (Doctor of Osteopathy), PA (Physician's Assistant), ARNP (Advanced Registered Nurse Practitioner), ATC (Certified Athletic Trainer); or LAT (Licensed Athletic Trainer). This may also include other licensed health care providers with the proper scope of practice and training whose qualifying credentials have been made known to member school personnel in advance and who have completed approved training.

c) The player should be medically evaluated on site using standard emergency management principles, and particular attention should be given to excluding a cervical spine injury. The appropriate disposition of the player must be determined by the treating health care provider in a timely manner. Once the first aid issues are addressed, then an assessment of the concussive injury should be made using the SCAT2 or other similar tool. The player should not be left alone following the injury, and serial monitoring for deterioration is essential over the initial few hours following injury.

d) If any one of these individuals listed in (b) answers that "yes", there has been a concussion, that decision is final and is not appealable.

e) If medical coverage by a person empowered to make the concussion assessment is not on site, and signs/symptoms of concussion have been observed, a concussion is presumed until such evaluation can be performed. If no health care provider is available, the player should be safely removed from practice or play and urgent referral to a physician arranged.

f) No student-athlete may return to practice or play in interscholastic athletics that day in that event that a concussion is diagnosed or presumed.

g) A student-athlete may return to play at the time of a suspected concussion if it is determine by appropriate medical personnel that no concussion has occurred.

Sec. 3) ROLE OF COACHES IN ADMINISTERING THE POLICY

a) Coaches are to be current in their certification regarding the KMA/KHSAA sports Safety Course, including the specific segment(s) related to identifying the signs and symptoms of concussions.

b) Coaches must review and know the signs and symptoms of concussion and direct immediate removal of any student-athlete who displays these signs or symptoms for evaluation by appropriate medical personnel.

c) Coaches have no other role in the process with respect to diagnosis of concussion or medical treatment.

d) It remains the ultimate responsibility of the coaching staff in all sports to ensure that players are only put into practice or contests if they are physical capable of performing.

Sec. 4) ROLE OF CONTEST OFFICIALS IN ADMINISTERING THE POLICY

a) Officials are to review and know the signs and symptoms of concussion and direct immediate removal of any student-athlete who displays these signs or symptoms.

b) Officials have no other role in the process with respect to diagnosis of concussion or medical treatment.

Sec. 5) RETURN TO PLAY POLICY FOR A STUDENT-ATHLETE RECEIVING A CONCUSSION, AFTER THE MANDATORY REMOVAL THAT DAY

a) Once a concussion has been diagnosed (or presumed by lack of examination by an appropriate health care provider), only an MD or DO can authorize return to play on a subsequent day, and such shall be in writing to the administration of the school.

b) Such approval should not be given unless a stepwise protocol has been observed by all practitioners with separate periods for
(1) No activity;
(2) Light aerobic exercise;
(3) Sport-specific exercise;
(4) Non-contact training drills;
(5) Full-contact/competition practice; and
(6) Return to normal game play.

c) It is highly recommended that each of these protocol steps be no less than twenty-four hours in length.

d) School administration shall then notify the coach as to the permission to return to practice or play.

e) If an event continues over multiple days, then the designated event physician has ultimate authority over return to play decisions and such return to play may not be prior to the third day following the initial diagnosis and until all steps of the protocol in Section (b) have been followed.

RETURN TO PLAY POLICIES

Louisiana

ACT 314

Louisiana Youth Concussion Act

During the 2011 Legislative session ACT 314, "Louisiana Youth Concussion Act", was signed into law. ACT 314 has three major requirements.

1. Prior to beginning of each athletic season, provide pertinent information to all coaches, officials, volunteers, youth athletes, and their parents or legal guardian which informs of the nature and risk of concussion and head injury, including the risks associated with continuing to play after a concussion or head injury.

2. Require each coach, whether such coach is employed or a volunteer, and every official of a youth activity that involves interscholastic play to compete an annual concussion recognition education course.

3. Requires as a condition of participation in any athletic activities that the youth athlete and the youth athlete's parent or legal guardian sigh a concussion and head injury information sheet which provides adequate notice of the statutory requirements which must be satisfied in order for an athlete who has or is suspected to have suffered a concussion or head injury to return to play.

ACT 314 gives the responsibility of compliance of the act to the governing authority of each public and nonpublic elementary school, middle school, junior high school, and high school. As a result of many requests from our member schools, the LHSAA Sports Medicine Advisory Committee met and came up with some suggestions that may help our member schools to be

in compliance with this law. We have included the following documents to help you in your responsibility. The LHSAA is not named in this law, so **DO NOT SEND THIS DOCUMENTATION TO THE LHSAA**; keep it on file at your school for your own protection of compliance.

General Information

- LHSAA Concussion Policy/Rule (Adopted in 2010)
- Suggested Return-to-Play Healthcare Provider Release
- Suggested Step-wise Return-to-Play Progression
- LHSAA Suggested Home Instruction Sheet
- LHSAA Return-to-Competition Form
- Pocket SCAT2 Evaluation Tool

Coaches/Officials Information

- A Fact Sheet for Coaches (Center for Disease Control and Prevention or CDC)
- A Coaches Concussion Statement (LHSAA Sports Medicine Committee)
- A Sideline Sheet for Coaches (Center for Disease Control and Prevention or CDC)
- An Officials Concussion Statement (LHSAA Sports Medicine Committee)

Student-Athletes/Parents Information

- A Fact Sheet for Athletes (Center for Disease Control and Prevention or CDC)
- A Fact Sheet for Parents (Center for Disease Control and Prevention or CDC)
- A Parent's Guide to Concussion in Sports (National Federation of State High School Association or NFHS)
- A Parent and Student-Athlete Concussion Statement (LHSAA Sports Medicine Committee)
- A Home Instruction Sheet (LHSAA Sports Medicine Committee)

To help meet the education course aspect of ACT 314, the LHSAA recommends that individuals go to the NFHS website, www.nfhslearn.com, and click the link Concussion in Sports: What you need to Know, under Great Free Courses.

LHSAA BASIC CONCUSSION RULE

Any player who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional.

A concussion is a traumatic brain injury that interferes with normal brain function. An athlete does not have to lose consciousness to have suffered a concussion.

Common Symptoms of Concussion include:

headache, fogginess, difficulty concentrating, easily confused, slowed thought processes, difficulty with memory, nausea, lack of energy, dizziness or poor balance, blurred vision, sensitive to light and sounds, mood changes—irritable, anxious, or tearful

LHSAA Adopted Concussion Management Protocol:

1. **No athlete shall return to play (RTP) or practice on the same day of a concussion.**
2. **Any athlete suspected of having a concussion shall be evaluated by an appropriate health-care professional that day. If one is not available, the Head Coach shall make the determination.**
3. **Any athlete diagnosed with a concussion shall be medically cleared by a Medical Doctor or a Doctor of Osteopathic medicine, each of which must be licensed to practice in Louisiana, prior to resuming participation in any practice or competition.**
4. **After medical clearance, RTP should follow a step-wise protocol with provisions as determined by a Medical Doctor or Doctor of Osteopathic Medicine, each licensed to practice in Louisiana, for delayed RTP based upon return of any signs or symptoms.**

Name: _____
Date of Concussion (head trauma): _____
Loss of Consciousness: Yes No
Date of Private Physician Clearance: _____

Stage	Asymptomatic (no signs or symptoms of a concussion) Date & Initials of Examiner
Stage 1A: Rest (physical & mental)	Pass (P) Fail (F): Reason for failure: Initials: _____
Stage 1B: Return to class/academics	P F Date _____ P F Date _____ P F _____ Reason for failure: Initials: 1. _____ 2. _____ 3. _____
Stage 2: Light aerobic activity (e.g. walking, jogging, stationary bike)	P F Date _____ P F Date _____ P F _____ Reason for failure: Initials: 1. _____ 2. _____ 3. _____
Stage 3: Sport-specific training	P F Date _____ P F Date _____ P F _____ Reason for failure: Initials: 1. _____ 2. _____ 3. _____
Stage 4: Non-contact training drills (start light-resistance training)	P F Date _____ P F Date _____ P F _____ Reason for failure: Initials: 1. _____ 2. _____ 3. _____
Stage 5: Full-contact training after medical clearance by the school physician	P F Date _____ P F Date _____ P F _____ Reason for failure: Initials: 1. _____ 2. _____ 3. _____
Stage 6: Return to competition (game play)	District Physician signature & date

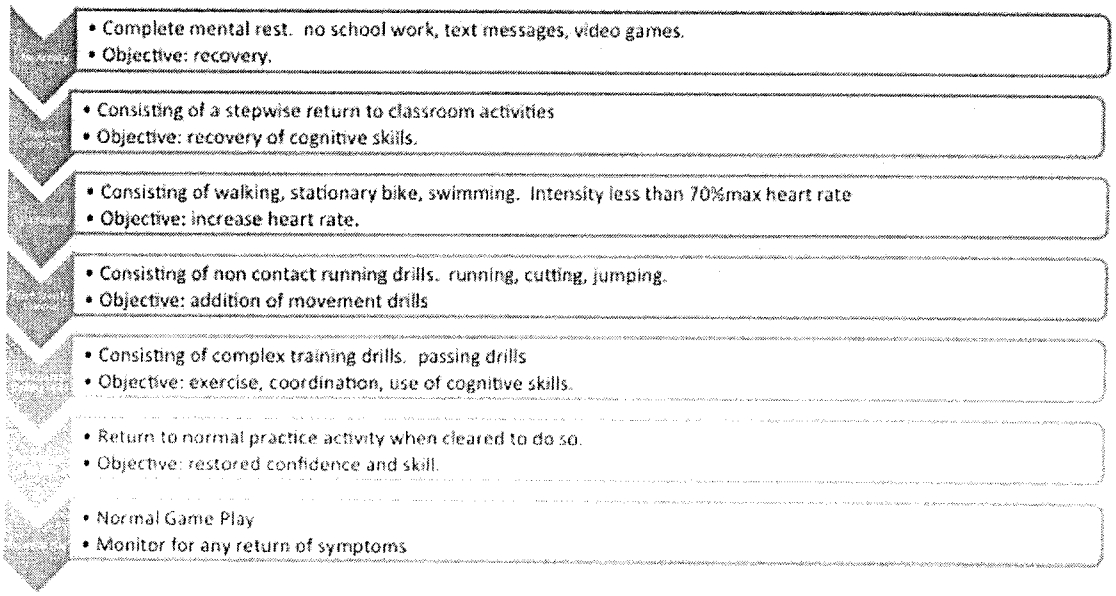
Signs & symptoms of a post-concussion syndrome

1. Seizure/convulsion 2. amnesia 3. headache 4. "pressure in head" 5. neck pain 6. nausea 7. dizziness
8. blurred vision 9. balance problems 10. sensitivity to light or noise 11. feeling slowed down
12. feeling like "in a fog" 13. "don't feel right" 14. difficulty concentrating or remembering 15. fatigue or low energy
16. confusion, drowsiness 17. more emotional irritability 18. sadness 19. nervous or anxious

Step-wise Approach Return-to-Play Progression

Rules:

1. Monitor symptoms closely.
2. Do not progress to the next step until symptom free for about 24 hours.
3. If symptoms occur the athlete should return to Step 1.



Louisiana High School Athletic Association
Concussion Information: Home Instruction Sheet

Name: _____ Date: _____

You have had a head injury or concussion and need to be watched closely for the next 24-48 hours.

It is OK to:	There is no need to:	**DO NOT:**
Use Tylenol (acetaminophen)	Check eyes with a light	**Drink Alcohol**
Use an ice pack to head/neck	Wake up every hour	**Eat spicy foods**
for comfort	Stay in bed	**Drive a car**
Eat a light meal		**Use aspirin, Aleve, Advil or**
Go to sleep		**other NSAID products**

Special Recommendations: _____

_____

WATCH FOR ANY OF THE FOLLOWING PROBLEMS:	
Worsening headache	Stumbling/loss of balance
Vomiting	Weakness in one arm/leg
Decreased level of Consciousness	Blurred Vision
Dilated Pupils	Increase irritability
Increased Confusion	

If any of these problems develop, call your athletic trainer or physician immediately.

Athletic Trainer: _____ Phone: _____

Physician: _____ Phone: _____

You need to be seen for a follow-up examination at _____ AM/PM at: _____

Recommendations provided to _____

Recommendation provided by _____

LOUISIANA HIGH SCHOOL ATHLETIC ASSOCIATION
12720 Old Hammond Highway
Baton Rouge, LA 70816
(225) 296-5882 Fax: (225) 296-5919

RETURN TO COMPETITION

LHSAA rules require a written statement from a physician in order for an athlete to return to competition who apparently had a concussion.

> *"If a competitor is determined to have a concussion, he/she shall not be permitted to continue practice or competition the same day. Written approval of a physician shall be required for the athlete to return to competition. If a physician recommends an athlete not continue, he/she shall not be overruled".*

The undersigned physician has examined the student athlete identified below and gives permission for the student athlete to return to competition on the date and in the event identified.

ATHLETE _____

SCHOOL _____

SPORT _____ **RTC DATE** _____

PHYSICIAN SIGNATURE (MUST BE M.D. OR D.O.) _____ **DATE SIGNED** _____

(Duplicate as needed)

This form shall be completed in its entirety and kept on file at the school.

Pocket SCAT2

Concussion should be suspected in the presence of any one or more of the following: symptoms (such as headache), or physical signs (such as unsteadiness), or impaired brain function (e.g. confusion) or abnormal behaviour.

1. Symptoms

Presence of any of the following signs & symptoms may suggest a concussion.

- Loss of consciousness
- Seizure or convulsion
- Amnesia
- Headache
- "Pressure in head"
- Neck Pain
- Nausea or vomiting
- Dizziness
- Blurred vision
- Balance problems
- Sensitivity to light
- Sensitivity to noise
- Feeling slowed down
- Feeling like "in a fog"
- "Don't feel right"
- Difficulty concentrating
- Difficulty remembering
- Fatigue or low energy
- Confusion
- Drowsiness
- More emotional
- Irritability
- Sadness
- Nervous or anxious

2. Memory function

Failure to answer all questions correctly may suggest a concussion.

"At what venue are we at today?"
"Which half is it now?"
"Who scored last in this game?"
"What team did you play last week/game?"
"Did your team win the last game?"

3. Balance testing

Instructions for tandem stance

*"Now stand heel-to-toe with your **non-dominant** foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

Observe the athlete for 20 seconds. If they make more than 5 errors (such as lift their hands off their hips; open their eyes; lift their forefoot or heel; step, stumble, or fall; or remain out of the start position for more that 5 seconds) then this may suggest a concussion.

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, urgently assessed medically, should not be left alone and should not drive a motor vehicle.

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A Fact Sheet for **COACHES**

To download the coaches fact sheet in Spanish, please visit **www.cdc.gov/ConcussionInYouthSports**
Para descargar la hoja informativa para los entrenadores en español, por favor visite:
www.cdc.gov/ConcussionInYouthSports

THE FACTS

- A concussion is a **brain injury**.
- All concussions are **serious**.
- Concussions can occur **without** loss of consciousness.
- Concussions can occur **in any sport**.
- Recognition and proper management of concussions when they **first occur** can help prevent further injury or even death.

WHAT IS A CONCUSSION?

A concussion is an injury that changes how the cells in the brain normally work. A concussion is caused by a blow to the head or body that causes the brain to move rapidly inside the skull. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious. Concussions can also result from a fall or from players colliding with each other or with obstacles, such as a goalpost.

The potential for concussions is greatest in athletic environments where collisions are common.[1] Concussions can occur, however, in ***any*** organized or unorganized sport or recreational activity. As many as 3.8 million sports- and recreation-related concussions occur in the United States each year.[2]

RECOGNIZING A POSSIBLE CONCUSSION

To help recognize a concussion, you should watch for the following two things among your athletes:

1. A forceful blow to the head or body that results in rapid movement of the head.

-***and***-

2. Any change in the athlete's behavior, thinking, or physical functioning. (See the signs and symptoms of concussion listed on the next page.)

It's better to miss one game than the whole season.

July 2007

U.S. Department of Health and Human Services
centers for disease control and prevention

SIGNS AND SYMPTOMS

SIGNS OBSERVED BY COACHING STAFF

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets sports plays
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

SYMPTOMS REPORTED BY ATHLETE

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Does not "feel right"

Adapted from Lovell et al. 2004

Athletes who experience any of these signs or symptoms after a bump or blow to the head should be kept from play until given permission to return to play by a health care professional with experience in evaluating for concussion. Signs and symptoms of concussion can last from several minutes to days, weeks, months, or even longer in some cases.

Remember, you can't see a concussion and some athletes may not experience and/or report symptoms until hours or days after the injury. If you have any suspicion that your athlete has a concussion, you should keep the athlete out of the game or practice.

PREVENTION AND PREPARATION

As a coach, you can play a key role in preventing concussions and responding to them properly when they occur. Here are some steps you can take to ensure the best outcome for your athletes and the team:

- **Educate athletes and parents about concussion.** Talk with athletes and their parents about the dangers and potential long-term consequences of concussion. For more information on long-term effects of concussion, view the following online video clip: **http://www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm#Video**.

  Explain your concerns about concussion and your expectations of safe play to athletes, parents, and assistant coaches. Pass out the concussion fact sheets for athletes and for parents at the beginning of the season and again if a concussion occurs.

- **Insist that safety comes first.**
  - > Teach athletes safe playing techniques and encourage them to follow the rules of play.
  - > Encourage athletes to practice good sportsmanship at all times.
  - > Make sure athletes wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
  - > Review the athlete fact sheet with your team to help them recognize the signs and symptoms of a concussion.

  Check with your youth sports league or administrator about concussion policies. Concussion policy statements can be developed to include the league's commitment to safety, a brief description of concussion, and information on when athletes can safely return to play following a concussion (i.e., an athlete with known or suspected concussion should be kept from play until evaluated and given permission to return by a health care professional). Parents and athletes should sign the concussion policy statement at the beginning of the sports season.

- **Teach athletes and parents that it's not smart to play with a concussion.** Sometimes players and parents wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let athletes persuade you that they're "just fine" after they have sustained any bump or blow to the head. Ask if players have ever had a concussion.

- **Prevent long-term problems.** A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in brain swelling, permanent brain damage, and even death. This more serious condition is called *second impact syndrome*.[4,5] Keep athletes with known or suspected concussion from play until they have been evaluated and given permission to return to play by a health care professional with experience in evaluating for concussion. Remind your athletes: "It's better to miss one game than the whole season."

ACTION PLAN

WHAT SHOULD A COACH DO WHEN A CONCUSSION IS SUSPECTED?

1. **Remove the athlete from play.** Look for the signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head. Athletes who experience signs or symptoms of concussion should not be allowed to return to play. When in doubt, keep the athlete out of play.

2. **Ensure that the athlete is evaluated right away by an appropriate health care professional.** Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods that they can use to assess the severity of concussions. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:

   - Cause of the injury and force of the hit or blow to the head
   - Any loss of consciousness (passed out/knocked out) and if so, for how long
   - Any memory loss immediately following the injury
   - Any seizures immediately following the injury
   - Number of previous concussions (if any)

3. **Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussion.** Make sure they know that the athlete should be seen by a health care professional experienced in evaluating for concussion.

4. **Allow the athlete to return to play only with permission from a health care professional with experience in evaluating for concussion.** A repeat concussion that occurs before the brain recovers from the first can slow recovery or increase the likelihood of having long-term problems. Prevent common long-term problems and the rare *second impact syndrome* by delaying the athlete's return to the activity until the player receives appropriate medical evaluation and approval for return to play.

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2. Langlois JA, Rutland-Brown W, Wald M. The epidemiology and impact of traumatic brain injury: a brief overview. *Journal of Head Trauma Rehabilitation* 2006; 21(5):375-378.
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4. Institute of Medicine (US). Is soccer bad for children's heads? Summary of the IOM Workshop on Neuropsychological Consequences of Head Impact in Youth Soccer. Washington (DC): National Academy Press; 2002.
5. Centers for Disease Control and Prevention (CDC). Sports-related recurrent brain injuries-United States. *Morbidity and Mortality Weekly Report* 1997; 46(10):224-227. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/00046702.htm.

If you think your athlete has sustained a concussion... take him/her out of play, and seek the advice of a health care professional experienced in evaluating for concussion.

For more information and to order additional materials **free-of-charge**, visit:
www.cdc.gov/ConcussionInYouthSports

For more detailed information on concussion and traumatic brain injury, visit:
www.cdc.gov/injury

Louisiana High School Athletic Association
Coaches Concussion Statement

☐ I have read and understand the LHSAA Concussion Management Protocol.

☐ I have read and understand the Concussion Fact Sheet.

After reading the Concussion Fact Sheet, and reviewing the LHSAA Concussion Management Protocol, I am aware of the following information:

Initial:

_____ A concussion is a brain injury which athletes should report to the medical staff.

_____ A concussion can affect the athlete's ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance. You cannot always see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury.

_____ I will not knowingly allow the athlete to return to play in a game or practice if he/she has received a blow to the head or body that results in concussion-related symptoms.

_____ Athletes shall not return to play in a game or practice on the same day that they are suspected of having a concussion.

_____ If I suspect one my athletes has a concussion, it is my responsibility to have that athlete see the medical staff.

_____ I will encourage my athletes to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussions.

_____ Following concussion the brain needs time to heal. Concussed athletes are much more likely to have a repeat concussion if they return to play before their symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death

_____ I am aware that athletes diagnosed with a concussion must be assessed by an appropriate healthcare provider. Athletes will begin a graduated return to play protocol following full recovery of neurocognition and balance.

_____ _____
Signature of Coach Date

_____
Printed Name of Coach

HEADS UP
CONCUSSION IN YOUTH SPORTS

SIGNS AND SYMPTOMS

These signs and symptoms may indicate that a concussion has occurred.

SIGNS OBSERVED BY COACHING STAFF	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache or "pressure" in head
Is confused about assignment or position	Nausea or vomiting
Forgets sports plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness (even briefly)	Feeling sluggish, hazy, foggy, or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit or fall	Confusion
Can't recall events after hit or fall	Does not "feel right"

ACTION PLAN

If you suspect that a player has a concussion, you should take the following steps:

1. Remove athlete from play.
2. Ensure athlete is evaluated by an appropriate health care professional. Do not try to judge the seriousness of the injury yourself.
3. Inform athlete's parents or guardians about the known or possible concussion and give them the fact sheet on concussion.
4. Allow athlete to return to play **only** with permission from an appropriate health care professional.

IMPORTANT PHONE NUMBERS

FILL IN THE NAME AND NUMBER OF YOUR LOCAL HOSPITAL(S) BELOW:

Hospital Name: _____

Hospital Phone: _____

Hospital Name: _____

Hospital Phone: _____

For immediate attention, CALL 911

If you think your athlete has sustained a concussion... take him/her out of play, and seek the advice of a health care professional experienced in evaluating for concussion.

For more information and to order additional materials **free-of-charge**, visit:
www.cdc.gov/ConcussionInYouthSports

July 2007

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

LOUISIANA HIGH SCHOOL ATHLETIC ASSOCIATION

OFFICIALS CONCUSSION STATEMENT

After reading the Concussion Fact Sheet, and reviewing the LHSAA Concussion Management Protocol, I am aware of the following information:

Initial:

_____ A concussion is a brain injury which athletes should report to the medical staff.

_____ A concussion can affect the athlete's ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance. You cannot always see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury.

_____ I will not knowingly allow the athlete to return to play in a game if he/she has received a blow to the head or body that results in concussion-related symptoms.

_____ Athletes shall not return to play in a game on the same day that they are suspected of having a concussion.

_____ If I suspect an athlete has suffered a concussion, it is my responsibility to take that athlete to the sideline to the Head Coach.

_____ I will encourage the athlete to report any suspected injuries and illnesses to the medical staff, including signs and symptoms of concussions.

_____ Following concussion the brain needs time to heal. Concussed athletes are much more likely to have a repeat concussion if they return to play before their symptoms resolve. In rare cases, repeat concussions can cause permanent brain damage, and even death.

_____ I am aware that athletes diagnosed with a concussion must be assessed by an appropriate healthcare provider. Athletes will begin a graduated return to play protocol following full recovery of neurocognition and balance.

_____ _____

Printed Name of Official **Signature of Official**

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

A Fact Sheet for **ATHLETES**

WHAT IS A CONCUSSION?

A concussion is a brain injury that:

- Is caused by a bump or blow to the head
- Can change the way your brain normally works
- Can occur during practices or games in any sport
- Can happen even if you haven't been knocked out
- Can be serious even if you've just been "dinged"

WHAT ARE THE SYMPTOMS OF A CONCUSSION?

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light
- Bothered by noise
- Feeling sluggish, hazy, foggy, or groggy
- Difficulty paying attention
- Memory problems
- Confusion
- Does not "feel right"

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?

- **Tell your coaches and your parents.** Never ignore a bump or blow to the head even if you feel fine. Also, tell your coach if one of your teammates might have a concussion.
- **Get a medical check up.** A doctor or health care professional can tell you if you have a concussion and when you are OK to return to play.
- **Give yourself time to get better.** If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a second concussion. Second or later concussions can cause damage to your brain. It is important to rest until you get approval from a doctor or health care professional to return to play.

HOW CAN I PREVENT A CONCUSSION?

Every sport is different, but there are steps you can take to protect yourself.

- Follow your coach's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.
- Use the proper sports equipment, including personal protective equipment (such as helmets, padding, shin guards, and eye and mouth guards). In order for equipment to protect you, it must be:
  - > The right equipment for the game, position, or activity
  - > Worn correctly and fit well
  - > Used every time you play

July 2007

It's better to miss one game than the whole season.

For more information and to order additional materials **free-of-charge**, visit:
www.cdc.gov/ConcussionInYouthSports

For more detailed information on concussion and traumatic brain injury, visit:
www.cdc.gov/injury

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

A Fact Sheet for **PARENTS**

WHAT IS A CONCUSSION?

A concussion is a brain injury. Concussions are caused by a bump or blow to the head. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF A CONCUSSION?

Signs Observed by Parents or Guardians

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs and symptoms of a concussion:

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

Symptoms Reported by Athlete

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Does not "feel right"

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION?

Every sport is different, but there are steps your children can take to protect themselves from concussion.

- Ensure that they follow their coach's rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
- Learn the signs and symptoms of a concussion.

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

1. **Seek medical attention right away.** A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to sports.

2. **Keep your child out of play.** Concussions take time to heal. Don't let your child return to play until a health care professional says it's OK. Children who return to play too soon—while the brain is still healing—risk a greater chance of having a second concussion. Second or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.

3. **Tell your child's coach about any recent concussion.** Coaches should know if your child had a recent concussion in ANY sport. Your child's coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

It's better to miss one game than the whole season.

July 2007

For more information and to order additional materials **free-of-charge**, visit:
www.cdc.gov/ConcussionInYouthSports

For more detailed information on concussion and traumatic brain injury, visit:
www.cdc.gov/injury

National Federation of State High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Introduction

A concussion is a type of traumatic brain injury that interferes with normal function of the brain. It occurs when the brain is rocked back and forth or twisted inside the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion by medical professionals continues to evolve. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a "ding" on the head, it is now understood that a concussion has the potential to result in a variety of short- or long-term changes in brain function or, in rare cases, even death.

What is a concussion?

You've probably heard the terms "ding" and "bell-ringer." These terms were previously used to refer to minor head injuries and thought to be a normal part of collision sports. Research has now shown us that there is no such thing as a minor brain injury. Any suspected concussion must be taken seriously. The athlete does not have to be hit directly in the head to injure the brain. Any force that is transmitted to the head in any matter may cause the brain to literally bounce around or twist within the skull, potentially resulting in a concussion.

It used to be believed that a player had to lose consciousness or be "knocked-out" to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 5% of players actually lose consciousness with a concussion.

What exactly happens to the brain during a concussion is not entirely understood. It appears to be a very complex process affecting both the structure and function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs,

the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be detected during an examination, or seen on x-rays or MRI. A concussion, however, is primarily an injury that interferes with how the brain works. While there is damage to brain cells, the damage is at a microscopic level and cannot be seen on MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been seriously injured.

Recognition and Management

If an athlete exhibits any signs, symptoms, or behaviors that make you suspicious that he or she may have had a concussion, that athlete must be removed from all physical activity, including sports and recreation. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death.

Parents and coaches are not expected to be able to "diagnose" a concussion. That is the role of an appropriate health-care professional. However, everyone involved in athletics must be aware of the signs, symptoms and behaviors associated with a concussion. If you suspect that an athlete may have a concussion, then he or she must be immediately removed from all physical activity.

Signs Observed by Coaching Staff

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

Symptoms Reported by Athlete

- Headaches or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy or groggy
- Concentration or memory problems
- Confusion

- Does not “feel right” or is “feeling down”

When in doubt, sit them out!

When you suspect that a player has a concussion, follow the “Heads Up” 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure that the athlete is evaluated by an appropriate health-care professional.
3. Inform the athlete’s parents or guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury and until an appropriate health-care professional says he or she is symptom-free and gives the okay to return to activity.

The signs, symptoms, and behaviors associated with a concussion are not always apparent immediately after a bump, blow, or jolt to the head or body and may develop over a few hours or longer. An athlete should be closely watched following a suspected concussion and should never be left alone.

Athletes must know that they should never try to “tough out” a suspected concussion. Teammates, parents and coaches should never encourage an athlete to “play through” the symptoms of a concussion. In addition, there should never be an attribution of bravery to athletes who do play despite having concussion signs and/or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at greater risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

What to do in an Emergency

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following:
    - decreasing level of consciousness,
    - looks very drowsy or cannot be awakened,
    - if there is difficulty getting his or her attention,
    - irregularity in breathing,
    - severe or worsening headaches,
    - persistent vomiting, or

- any seizures.

Cognitive Rest

A concussion can interfere with school, work, sleep and social interactions. Many athletes who have a concussion will have difficulty in school with short- and long-term memory, concentration and organization. These problems typically last no longer than 2 -3 weeks, but for some these difficulties may last for months. It is best to lessen the student's class load early on after the injury. Most students with concussion recover fully. However, returning to sports and other regular activities too quickly can prolong the recovery.

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Students with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. As the symptoms lessen, increased use of computers, phone, video games, etc., may be allowed, as well as a gradual progression back to full academic work.

Return to Learn

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration, and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day**. In the past, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

An athlete should never be allowed to resume physical activity following a concussion until he or she is symptom free and given the approval to resume physical activity by an appropriate health-care professional.

Once an athlete no longer has signs, symptoms, or behaviors of a concussion **and is cleared to return to activity by an appropriate health-care professional**, he or she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete will progress one step each day. The return to activity program schedule **may** proceed as below, **following medical clearance**:

Progressive Physical Activity Program (ideally under supervision)

Step 1: Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training, or any other exercises.

Step 2: Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.

Step 3: Non-contact training drills in full uniform. May begin weight lifting, resistance training and other exercises.

Step 4: Full contact practice or training.

Step 5: Full game play.

If symptoms of a concussion reoccur, or if concussion signs and/or behaviors are observed at any time during the return-to-activity program, the athlete must discontinue all activity and be re-evaluated by his or her health-care provider.

Suggested Concussion Management

1. **No athlete should return to play (RTP) or practice on the same day of a concussion.**
2. **Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.**
3. **Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.**
4. **After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.**

References:

American Medical Society for Sports Medicine position statement: concussion in sport. Harmon KG, Drezner J, Gammons M, Guskiewicz K, Halstead M, Herring S, Kutcher J, Pana A, Putukian M, Roberts W; American Medical Society for Sports Medicine. Clin J Sport Med. 2013 Jan;23(1):1-18.

McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012 J Athl Train. 2013 Jul-Aug;48(4):554-75.

Returning to Learning Following a Concussion. Halstead M, McAvoy K, Devore C, Carl R, Lee M, Logan K and Council on Sports Medicine and Fitness, and Council on School Health. *Pediatrics,* October 2013. American Academy of Pediatrics.

Additional Resources:

Brain 101 – The Concussion Playbook.
http://brain101.orcasinc.com/5000/

Concussion in Sports- What you need to know.
http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000

Heads Up: Concussion in High School Sports
http://www.cdc.gov/concussion/headsup/high_school.html

NFHS Sports Medicine Handbook, 4th Ed, 2011.

REAP Concussion Management Program.
http://www.rockymountainhospitalforchildren.com/sports-medicine/concussion-management/reap-guidelines.htm

Sport Concussion Library
http://www.sportconcussionlibrary.com/content/concussions-101-primer-kids-and-parents

Revised and Approved October 2013
January 2011
April 2009
October 2008
October 2005

Louisiana High School Athletic Association
Parent and Student-Athlete Concussion Statement

☐ I understand that it is my responsibility to report all injuries and illnesses to my coach, athletic trainer and/or team physician.

☐ I have read and understand the Concussion Fact Sheet.

After reading the Concussion Fact Sheet, I am aware of the following information:

Parent Initial	Student Initial	
_____	_____	A concussion is a brain injury, which I am responsible for reporting to my coach , athletic trainer, or team physician.
_____	_____	A concussion can affect my ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance
_____	_____	You cannot see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury.
_____	_____	If I suspect a teammate has a concussion, I am responsible for reporting the injury to my coach, athletic trainer, or team physician.
_____	_____	I will not return to play in a game or practice if I have received a blow to the head or body that results in concussion-related symptoms.
_____	_____	Following concussion the brain needs time to heal. You are much more likely to have a repeat concussion if you return to play before your symptoms resolve.
_____	_____	In rare cases, repeat concussions can cause permanent brain damage, and even death.

_____ _____
Signature of Student-Athlete Date

_____
Printed name of Student-Athlete

_____ _____
Signature of Parent/Guardian Date

_____
Printed name of Parent/Guardian

RETURN TO PLAY POLICIES

Maine

An Act To Establish Head Injury Safety Requirements for School Athletic Programs

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 20-A MRSA §6554 is enacted to read:

§ 6554. Head injury prevention and detection for participants in extracurricular athletic activities

1. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Coach" includes a head coach, assistant coach, athletic director, director, manager, parent volunteer or other person responsible for the supervision of students engaged in an extracurricular athletic activity.

B. "Program" means the program developed pursuant to subsection 2.

C. "School" means a public school or a private school approved for tuition purposes.

D. "Student-athlete" means a student participating in an extracurricular athletic activity.

2. Development of program. The commissioner and the Director of the Maine Center for Disease Control and Prevention in the Department of Health and Human Services jointly shall develop a program for the prevention, diagnosis and treatment of head and neck injuries for participants in extracurricular activities in all schools. The program must contain at least the following provisions:

A. At a minimum:

(1) Training in recognizing the symptoms of potentially catastrophic injuries, including head and neck injuries, concussions and second-impact syndrome;

(2) Information on the biology of concussions; and

(3) The short-term and long-term consequences of concussions;

B. The following persons must satisfactorily complete the program:

(1) A coach; and

(2) A physician or trainer who is employed by a school or school administrative district or who volunteers to assist with an extracurricular athletic activity; and

C. The development of a form to be used by a student-athlete. The form must include information regarding the symptoms of concussions and the short-term and long-term effects of concussions and must be signed by the student and the parent or guardian of the student prior to participation by the student in an extracurricular athletic activity.

The commissioner and the Director of the Maine Center for Disease Control and Prevention shall annually review and update the program.

3. Unreasonably dangerous activity. A coach may not encourage or permit a student-athlete to engage in an unreasonably dangerous activity or technique that unnecessarily endangers the health of the student-athlete, such as using sports equipment as a weapon.

4. Limitation on participation. If a student-athlete becomes unconscious or suffers a concussion, as diagnosed by a medical professional, during a practice or competition, the student-athlete may not:

A. Return to participate in that practice or competition; and

B. Participate in any extracurricular athletic activity until the student-athlete receives written authorization for such participation from a physician.

5. Records. The athletic director of a school shall maintain complete and accurate records of the school's compliance with this section.

6. Posting of policy. A school shall post at entrances the requirements of this section.

7. Penalty. The commissioner shall develop, by rulemaking, penalties for noncompliance with this section. Rules adopted pursuant to this subsection are routine technical rules as provided in Title 5, chapter 375, subchapter 2-A.

8. Waiver of liability or immunity. This section may not be construed to waive any liability or immunity of a school or its officers or employees or to create any liability for a course of legal action against a school or its officers or employees.

9. Immunity for volunteer. A person who volunteers to assist with an extracurricular athletic activity is immune from civil suit or damages arising out of an act or omission relating to the requirements of this section unless that act or omission was willfully negligent.

SUMMARY

This bill requires the Commissioner of Education and the Director of the Maine Center for Disease Control and Prevention in the Department of Health and Human Services to develop jointly a program

for the prevention, diagnosis and treatment of head and neck injuries for participants in extracurricular activities in all schools. A coach or other person in charge of students engaged in an athletic activity is required to complete the program, which includes training in recognizing head injuries.

A student who suffers a loss of consciousness or a concussion during a practice or competition is prohibited from participating further in an extracurricular athletic activity until the student receives authorization from a physician.

RETURN TO PLAY POLICIES

Maryland

Returning to School After a Concussion: A Fact Sheet for School Professionals

HEADS UP SCHOOLS

What is a Concussion?

A concussion is a type of traumatic brain injury (TBI) that results from a bump, blow, or jolt to the head (or by a hit to the body) that causes the head and brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, stretching and damaging the brain cells and creating chemical changes in the brain.

While some research shows that the young brain can be resilient, it may also be more susceptible to the chemical changes that occur in the brain after a concussion. These changes can lead to a set of symptoms affecting the student's cognitive, physical, emotional, and sleep functions.

Concussions affect people differently. Most students will have symptoms that last for a few days or a week. A more serious concussion can last for weeks, months or even longer.

What role do I play in helping a student return to school after a concussion?

Each year hundreds of thousands of K-12 students sustain a concussion as a result of a fall, motor-vehicle crash, collision on the playground or sports field, or other activity. Most will recover quickly and fully. However, school professionals, like you, will often be challenged with helping return a student to school who may still be experiencing concussion symptoms—symptoms that can result in learning problems and poor academic performance.

Knowledge of a concussion's potential effects on a student, and appropriate management of the return-to-school process, is critical for helping students recover from a concussion.

That's where you come in. This fact sheet provides steps that school professionals can take to help facilitate a student's return to school and recovery after a concussion. It emphasizes the importance of a collaborative approach by a team that includes not only school professionals, but also the student's family and the health care professional(s) managing the medical aspects of the student's recovery.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

How can a concussion affect learning?

The effects of concussion on a student's return-to-school experience are unique to each student. In most cases, a concussion will not significantly limit a student's participation in school; however, in some cases, a concussion can affect multiple aspects of a student's ability to participate, learn, and perform well in school. In turn, the experience of learning and engaging in academic activities that require concentration can actually cause a student's concussion symptoms to reappear or worsen. Given this inter-relationship, and the way concussion effects can vary across students, academic adjustments need to be tailored to each student's specific circumstances.

What to Look for After a Concussion

When students return to school after a concussion, school professionals should watch for:

- Increased problems paying attention or concentrating
- Increased problems remembering or learning new information
- Longer time needed to complete tasks or assignments
- Difficulty organizing tasks or shifting between tasks
- Inappropriate or impulsive behavior during class
- Greater irritability
- Less ability to cope with stress
- More emotional than usual
- Fatigue
- Difficulties handling a stimulating school environment (lights, noise, etc.)
- Physical symptoms (headache, nausea, dizziness)

When is a student ready to return to school after a concussion?

A student with a concussion should be seen by a health care professional experienced in evaluating for concussion. A health care professional can make decisions about a student's readiness to return to school based on the number, type and severity of symptoms experienced by the student. The health care professional should also offer guidance about when it is safe for a student to return to school and appropriate levels of cognitive and physical activity. Once a health care professional has given permission for the student to return to the classroom, school professionals can help monitor him/her closely. With proper permission, school professionals can confer on their observations and share those observations with the family and other professionals involved in the student's recovery.

Who should be included as part of the team supporting the student?

Providing appropriate support for a student returning to school after a concussion requires a collaborative team approach. The team should include:

- **The student:** The affected student should be "in the loop," and encouraged to share his/her thoughts about how things are going, and symptoms he or she is experiencing. The student should receive feedback from the rest of the team that is appropriate to his/her age, level of understanding, and emotional status.
- **Parents/Guardians:** Parents and guardians need to understand what a concussion is, that medical attention is required, that most students will get better, the potential effects on school learning and performance, and the importance of following guidance from their student's health care provider in order to ensure the most rapid and complete recovery possible.
- **Other caregivers (i.e., sports coaches, after-school or day care providers):** People who care for or are responsible for a student after school hours can play an important role in monitoring participation in after-school activities and observing any changes in symptoms.
- **Physician and/or other health care professional:** Health care professionals involved in the student's diagnosis and recovery should provide an individualized plan for a student returning to school to help manage cognitive and physical exertion following a concussion. As a student recovers, health care professionals can help guide the gradual removal of academic adjustments or supports that may be instituted as part of the recovery process.
- **School nurse:** Periodic monitoring of the student's symptoms by the school nurse should continue as long as symptoms are present. The school nurse is also a resource for other school professionals who may have questions about their own observations and may also be an important liaison to parents or concussion experts within the community.

With proper permission, members of the school team should meet together on a regular basis to:

- Share observations and any new information obtained from the family or health care professional.
- Work with the family to develop an appropriate program and timeline to meet the student's needs and explain as necessary the reasons for the resulting plan.
- Continually reassess the student for symptoms and progress in healing. This information can help the team to make adjustments to the plan.

- **All teachers interacting with the student (including the physical education teacher):** Teachers can often help observe changes in a student, including symptoms that may be worsening. Teachers are also in a position to interact regularly with the student's parents, thereby providing a channel to obtain and share information with them about the student's progress and challenges.
- **School psychologist and/or school counselor:** School psychologists and/or school counselors can often help with identifying services and resources to help the student and parents or guardians and facilitate getting those services and resources for them, including a 504 Plan or IEP. School psychologists can also help assess a student's current functioning and his/her academic needs for full recovery.
- **Speech language pathologists:** Speech-language pathologists can help monitor or identify students with a concussion who are having trouble in the classroom, as well as changes in how a student is communicating or interacting with others. Speech-language pathology services may include testing, providing classroom strategies or modifications, and direct services to a student.
- **School principal or other school administrator:** The school principal or administrator should appoint the internal members of the team as well as a "case manager" to ensure adequate communication and coordination within the team. The administrator will also be responsible for approving any adjustments to the student's schedule and communicating policies on responding to students who have had a concussion (e.g., return to play policy).

If the student is an athlete, either inside or outside of school, the team should also include coaches and other athletic department staff (e.g., certified athletic trainer). Remember, a student with a concussion should NEVER return to sports, PE class, or other physical activity until a health care professional with experience in evaluating for concussion says the student is no longer experiencing symptoms and it is OK to return to play. Comprehensive information and training modules for athletic coaches and health care professionals are available from the ***Heads Up*** initiatives at www.cdc.gov/Concussion.

It is important to identify someone on this team who will function as a case manager, such as a school nurse, school psychologist, school counselor, speech pathologist, teacher or other identified school professional. This person will have the role of advocating for the student's needs and serve as the primary point of contact with the student, family, and all members of the team. A flexible set of materials to assist case managers and school professionals is available from the *Heads Up to Schools: Know Your Concussion ABCs* initiative at www.cdc.gov/Concussion.

How can understanding concussion symptoms help with identifying a student's individual needs?

A school professional can best support a student's return to school and recovery by understanding possible concussion effects and providing the student with needed accommodations and support. Understanding concussion symptoms can help the student and members of the team identify individual needs of the student, monitor changes, and with proper permission, take action when necessary. This will help facilitate a full recovery and discourage students from minimizing the symptoms due to embarrassment, shame, or pressure to return to activities.

SIGNS AND SYMPTOMS OF A CONCUSSION

SIGNS OBSERVED BY PARENTS OR GUARDIANS

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events prior to the hit, bump, or fall
- Can't recall events after the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

SYMPTOMS REPORTED BY STUDENTS

Thinking/Remembering:
- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Physical:
- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not "feel right"

Emotional:
- Irritable
- Sad
- More emotional than usual
- Nervous

Sleep*:
- Drowsy
- Sleeps less than usual
- Sleeps more than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*

Signs and symptoms of concussion generally show up soon after the injury. However, a concussion is an evolving injury. The full effect of the injury may not be noticeable at first and some symptoms may not show up for hours or days.

In the classroom, concussion symptoms may translate into a variety of challenges with learning. Cognitive symptoms may result in problems with speed of reading, difficulties doing multi-step math problems, problems maintaining consistent attention throughout the class, and/or distractibility. Students' complaints about physical symptoms such headache, fatigue or increased sensitivity to the lights in the classroom or the noise in the hallways and cafeteria may impair the effectiveness of their learning. Problems with emotional control can also be evident. The student can become more easily irritated or agitated or may feel overwhelmed and frustrated by their learning challenges. These different symptoms can impact the student's overall school performance.

What roles do cognitive exertion and rest play in a student's recovery?

Resting after a concussion is *critical* because it helps the brain recover. Mental and cognitive exertion requires the brain's energy, and when the brain's energy is depleted due to injury, symptoms such as headaches and problems concentrating can worsen. For example, if a student with a concussion spends a lot of energy studying intensely for an exam, there will be less energy available to help the brain repair itself, which may delay recovery. These effects are referred to as *cognitive-exertional* effects.

Understanding the effect of cognitive exertion following a concussion is very important for a student because school engagement and learning requires active thinking. Therefore, the goal is to limit cognitive activity to a level that is tolerable for the student and that does not worsen or result in the reemergence of concussion symptoms. A plan for taking a break from intensive cognitive activity, known as *cognitive rest*, should

be included in the return to school management plan provided by the student's health care provider.

Cognitive rest may require a student to limit or refrain from activities, such as working on a computer, driving, watching television, studying for or taking an exam, using a cell phone, reading, playing video games, and text messaging or other activities that cause concussion symptoms to appear or worsen. Many students find limiting or completely avoiding cognitive activities difficult, because these activities are a routine part of their lives. Therefore, it is important to explain to students that ignoring concussion symptoms and trying to "tough it out" often makes symptoms worse and can make recovery take longer, sometimes for months.

Tolerance for cognitive activity increases as the student recovers, but the rate of recovery may vary from one student to another. For example, three days after their injury one student may be able to read for 30 minutes before experiencing fatigue, headache, and reduced concentration; whereas, another student may be able to tolerate only 10 minutes of this same activity three days following the injury. Thus regular monitoring of symptoms, including input from the student, is critical in any return-to-school plan.

It is normal for students to feel frustrated, sad, embarrassed, and even angry...Talk with the student about these issues and offer support and encouragement.

How can I help identify problems and needs?

Based on the identification of symptoms and an analysis of how the student responds to various activities, interventions that are tailored to the specific needs of the student can be identified and implemented.

To start, identify the types of symptoms the student is experiencing. Next, try to identify specific factors that may worsen the student's symptoms so steps can be taken to modify those factors. For example:

- Do some classes, subjects, or tasks appear to pose greater difficulty than others? (compared to pre-concussion performance)
- For each class, is there a specific time frame after which the student begins to appear unfocused or fatigued? (e.g., headaches worsen after 20 minutes)
- Is the student's ability to concentrate, read or work at normal speed related to the time of day? (e.g., the student has increasing difficulty concentrating as the day progresses)
- Are there specific things in the school or classroom environment that seem to distract the student?
- Are any behavioral problems linked to a specific event, setting (bright lights in the cafeteria or loud noises in the hallway), task, or other activity?

Importantly, if a student has a history of concussions, medical condition at the time of the current concussion (such as a history of migraines), or developmental disorders (such as learning disabilities and ADHD), it may take longer to recover from the concussion. Anxiety and depression may also prolong recovery and make it harder for the student to adjust to the symptoms of a concussion.

It is normal for students to feel frustrated, sad, embarrassed, and even angry because they cannot keep up with their schoolwork or participate in their regular activities, such as driving or sports. A student may also feel isolated from peers and social networks. Talk with the student about these issues and offer support and encouragement. In consultation with the student's heath care professional, and as the student's symptoms decrease, the extra help or support can be removed gradually.

Some Strategies for Addressing Concussion Symptoms at School

(Please note: these strategies will vary based on the student's age, level of understanding, and emotional status)

COGNITIVE

Concentrate first on general cognitive skills, such as flexible thinking and organization, rather than academic content.

Focus on what the student does well and expand the curriculum to more challenging content as concussion symptoms subside.

Adjust the student's schedule as needed to avoid fatigue: shorten day, time most challenging classes with time when student is most alert, allow for rest breaks, reduced course load.

Adjust the learning environment to reduce identified distractions or protect the student from irritations such as too-bright light or loud noises.

Use self-paced, computer-assisted, or audio learning systems for the student having reading comprehension problems.

Allow extra time for test/in-class assignment completion.

Help the student create a list of tasks and/or daily organizer.

Assign a peer to take notes for the student.

Allow the student to record classes.

Increase repetition in assignments to reinforce learning.

Break assignments down into smaller chunks and offer recognition cues.

Provide alternate methods for the student to demonstrate mastery, such as multiple-choice or allowing for spoken responses to questions rather than long essay responses.

BEHAVIORAL/SOCIAL/EMOTIONAL

If the student is frustrated with failure in one area, redirect him/her to other elements of the curriculum associated with success.

Provide reinforcement for positive behavior as well as for academic achievements.

Acknowledge and empathize with the student's sense of frustration, anger or emotional outburst: "I know it must be hard dealing with some things right now."

Provide structure and consistency; make sure all teachers are using the same strategies.

Remove a student from a problem situation, but avoid characterizing it as a punishment and keep it as brief as possible.

Establish a cooperative relationship with the student, engaging him/her in any decisions regarding schedule changes or task priority setting.

Involve the family in any behavior management plan.

Set reasonable expectations.

Arrange preferential seating, such as moving the student away from the window (e.g. bright light), away from talkative peers, or closer to the teacher.

When symptoms persist: What types of formal support services are available?

For most students, only temporary, informal, academic adjustments are needed as they recover from a concussion. However, a variety of formal support services may be available to assist a student who is experiencing a prolonged recovery. These support services may vary widely among states and school districts. The type of support will differ depending on the specific needs of each student. Some of these support services may include:

- **Response to Intervention Protocol (RTI):** An RTI may be used for students who need academic adjustments for an extended period and/or need to increase the level of a particular intervention. An RTI allows for a multi-step, targeted approach that school professionals can use to monitor a student's progress through increasing levels of an intervention. At each intervention level, a school professional assesses the students to determine whether additional instruction or support is needed.
- **504 Plan:** Students with persistent symptoms and who require assistance to be able to participate fully in school, may be candidates for a 504 plan. A 504 plan will describe modifications and accommodations to help a student return to pre-concussion performance levels. For example, a student recovering from a concussion might receive environmental adaptations, temporary curriculum modifications, and behavioral strategies.
- **Individualized Education Plan (IEP):** Students with certain classifications of disability that adversely impact educational performance may be eligible for an IEP. These students generally require significant help to access the curriculum. This help may include adjusting the student's workload, adjusting methods or pace of instruction, or allowing the student to work in an environment other than an inclusive classroom. The majority of students with a concussion will not require an IEP; however, a small percentage of students with more chronic cognitive or emotional disabilities may require this level of support.

HEADS UP SCHOOLS

Be sure to check with your national association or school district to learn about existing resources or policies on returning students to school after a concussion.

Materials for school professionals are available from the *Heads Up to Schools: Know Your Concussion ABCs* initiative at www.cdc.gov/Concussion.

Also, see *Heads Up to Clinicians: Addressing Concussion in Sports among Kids and Teens* online course for health care professionals with a free continuing education opportunity.

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To learn more about concussion and to order materials **FREE-OF-CHARGE,** go to **www.cdc.gov/Concussion** or call **1-800-CDC-INFO.**

National Federation of State
High School Associations

A PARENT'S GUIDE TO CONCUSSION

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull, typically from a blow to the head or body. An athlete does not need to lose consciousness (be "knocked-out") to suffer a concussion, and in fact, less than ten percent of concussed athletes suffer loss of consciousness.

Concussion Facts

- A concussion is a type of traumatic brain injury. The result is a more obvious functional problem than a clear structural injury, causing it to be invisible to standard medical imagining (CT and MRI scans).
- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but boys' ice hockey, boys' lacrosse, girls' soccer, girls' lacrosse and girls' basketball follow closely behind. All athletes are at risk.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.
- Concussions can cause symptoms which interfere with school, work, and social life.
- Concussion symptoms may last from a few days to several months.
- An athlete should not return to sports or physical activity like physical education or working-out while still having symptoms from a concussion. To do so puts them at risk for prolonging symptoms and further injury.

What should I do if I think my child has had a concussion?

If an athlete is suspected of having a concussion, he or she must be immediately removed from that activity. Continuing to play or work out when experiencing concussion symptoms can lead to worsening of symptoms, increased risk for further injury and possibly death. Parents and coaches are not expected to be able to make the diagnosis of a concussion. A medical professional trained in the diagnosis and management of concussions will determine the diagnosis. However, you must be aware

of the signs and symptoms of a concussion. If you are suspicious your child has suffered a concussion, he or she must stop activity right away and be evaluated:

When in doubt, sit them out!

All student-athletes who sustain a concussion need to be evaluated by a health care professional who is experienced in concussion management. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions, he or she should be immediately taken to the emergency department.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache
Is confused about what to do	Nausea
Forgets plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or fuzzy vision
Moves clumsily	Sensitivity to light or noise
Answers questions slowly	Feeling sluggish
Loses consciousness	Feeling foggy or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit	Confusion
Can't recall events after hit	

When can an athlete return to play following a concussion?
After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown that the young brain does not recover quickly enough for an athlete to safely return to activity in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers in almost all states to pass laws stating that **no player shall return to play that day following a concussion, and the athlete must be cleared by an appropriate health-care**

professional before he or she is allowed to return to play in games or practices. The laws typically also mandate that players, parents and coaches receive education on the dangers and recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared for return to play, he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average, the athlete will complete a new step each day. An example of a typical return-to-play schedule is shown below:

Day 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.
Day 2: Running in the gym or on the field. No helmet or other equipment.
Day 3: Non-contact training drills in full equipment. Weight-training can begin.
Day 4: Full contact practice or training.
Day 5: Game play.

If symptoms occur at any step, the athlete should cease activity and be re-evaluated by their health care provider.

How can a concussion affect schoolwork?
Following a concussion, many student-athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration and organization.

In many cases after the injury, it is best to decrease the athlete's class load early in the recovery phase. This may include staying home from school for a few days, followed by academic accommodations (such as a reduced class schedule), until the athlete has fully recovered. Decreasing the stress on the brain and not allowing the athlete to push through symptoms will shorten the recovery time.

What can I do?

- Both you and your child should learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has suffered a concussion.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate a concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.

Other Frequently Asked Questions

Why is it so important that athletes not return to play until they have completely recovered from a concussion?

Student-athletes that return to any activity too soon (school work, social activity or sports activity), can cause the recovery time to take longer. They also risk recurrent, cumulative or even catastrophic consequences, if they suffer another concussion. Such risk and difficulties are prevented if each athlete is allowed time to recover from his or her concussion and the return-to-play decisions are carefully and individually made. No athlete should return to sport or other at-risk activity when signs or symptoms of concussion are present and recovery is ongoing.

Is a "CAT scan" or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening head and brain injuries (skull fractures, bleeding or swelling), they are currently insensitive to concussive injuries and do not aid in the diagnosis of concussion. Concussion diagnosis is based upon the athlete's story of the injury and a health care provider's physical examination and testing.

What is the best treatment to help my child recover quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can help speed the recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened or eliminated, if symptoms worsen.

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within 2–3 weeks of the initial injury. You should anticipate that your child will likely be out full participation in sports for about 3-4 weeks following a concussion. However, in some cases symptoms may last for many more weeks or even several months. Symptoms such as headache, memory problems, poor concentration, difficulty sleeping and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.

How many concussions can an athlete have before he or she should stop playing sports?

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances that surround each individual injury, such as how the injury occurred and the duration of symptoms following the concussion, are very important and must be individually considered when assessing an athlete's risk for and potential long-term consequences from incurring further and potentially more serious concussions. The decision to "retire" from sports is a decision

best reached after a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussions.

I've read recently that concussions may cause long-term brain damage in professional football players. Is this a risk for high school athletes who have had a concussion?

The issue of "chronic traumatic encephalopathy (CTE)" in former professional players has received a great deal of media attention lately. Very little is known about what may be causing these dramatic abnormalities in the brains of these unfortunate players. At this time we do not know the long-term effects of concussions (or even the frequent sub-concussive impacts) which happen during high school athletics. In light of this, it is important to carefully manage every concussion and all concussion-like signs and symptoms on an individual basis.

Some of this information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the NFHS's Sports Medicine Advisory Committee. Please go to **www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm** for more information.

Revised and Approved April 2013
April 2010

RETURN TO PLAY POLICIES

Massachusetts

Effective August 1, 2014

105 CMR 201.000: HEAD INJURIES AND CONCUSSIONS IN EXTRACURRICULAR ATHLETIC ACTIVITIES

Section

201.001: Purpose

The purpose of 105 CMR 201.000 is to provide standardized procedures for persons involved in the prevention, training, management and return to activity decisions regarding students who incur head injuries while involved in extracurricular athletic activities, including but not limited to interscholastic sports, in order to protect their health and safety.

201.002: Authority

105 CMR 201.000 is promulgated pursuant to M.G.L. c. 111, § 222.

201.003: Citation

105 CMR 201.000 shall be known and may be cited as 105 CMR 201.000: *Head Injuries and Concussions in Extracurricular Athletic Activities*.

201.004: Scope

The requirements of 105 CMR 201.000 shall apply to all public middle and high schools, however configured, serving grades six through high school graduation, and other schools subject to the official rules of the Massachusetts Interscholastic Athletic Association. The requirements of 105 CMR 201.000 shall apply to students who participate in any extracurricular athletic activity.

201.005: Definitions

As used in 105 CMR 201.000, unless the context clearly requires otherwise, the following words shall have the following meanings:

Athlete means a student who prepares for or participates in an extracurricular athletic activity.

Athletic Director means an individual employed by a school district or school and responsible for administering the athletic program or programs of a school. The term Athletic Director refers to the Director and Assistant Directors. For schools that do not employ an Athletic Director, the term Athletic Director refers to the individual designated to be responsible for administering the athletic program or programs of a school.

Centers for Disease Control and Prevention refers to one of the major agencies of the United States Department of Health and Human Services with a mission to protect the health of people and communities through health promotion, prevention of disease, injury and disability.

Coach means an employee or volunteer responsible for organizing and supervising student athletes to teach them the fundamental skills of extracurricular athletic activities. The term coach refers to both head coaches and assistant coaches.

Commissioner means the Commissioner of the Department of Public Health or his designee.

Concussion means a complex disturbance in brain function, due to direct or indirect trauma to the head, related to neurometabolic dysfunction, rather than structural injury.

Department means the Department of Public Health.

Diagnosed means a physician's, physician assistant's or nurse practitioner's opinion, derived from observation, examination, and evaluation of procedures or tests of a patient, that the patient has or had a concussion.

Extracurricular athletic activity means an organized school sponsored athletic activity generally occurring outside of school instructional hours under the direction of a coach, athletic director or band leader including but not limited to Alpine and Nordic skiing and snowboarding, baseball, basketball, cheerleading, cross country track, fencing, field hockey, football, golf, gymnastics, horseback riding, ice hockey, lacrosse, marching band, rifle, rugby, soccer, skating, softball, squash, swimming and diving, tennis, track (indoor and outdoor), ultimate frisbee, volleyball, water polo, and wrestling. All interscholastic athletics are deemed to be extracurricular athletic activities.

Game Official means a person who officiates at an extracurricular athletic activity, such as a referee or umpire including but not limited to persons enrolled as game officials in Massachusetts Interscholastic Athletic Association.

Head Injury means direct blow to the head or indirect trauma to the head including a concussion or traumatic brain injury. Scalp or facial laceration alone is not a head injury for purposes of 105 CMR 201.000.

Licensed Athletic Trainer means any person who is licensed by the Board of Registration in Allied Health Professions in accordance with M.G.L. c. 112, § 23A and 259 CMR 4.00 as a professional athletic trainer and whose practice includes schools and extracurricular athletic activities. Pursuant to M.G.L. c. 112, § 23A, the athletic trainer practices under the direction of a physician duly registered in the Commonwealth.

Massachusetts Interscholastic Athletic Association (MIAA) is a private, non-profit association organized by its member schools, public and private, to govern, coordinate and promote athletic activities in 33 or more sports for high school students.

MIAA Member Schools means all schools, whether public or private, that participate in interscholastic athletics under the auspices and rules of the Massachusetts Interscholastic Athletic Association.

Neuropsychologist means a professional who is licensed as a psychologist and as a health service provider by the Board of Registration of Psychologists pursuant to M.G.L. c. 112, §§ 118 through 129A with additional specialized training and expertise in the applied science of brain-behavior relationships and who has specific experience in evaluating neurocognitive, behavioral and psychological conditions and their relationship to central nervous system functioning. The neuropsychologist has specialized experience in administering and interpreting neuropsychological tests and has duties which may include, but are not limited to pre-injury measurement of the cognitive abilities that may be disturbed by a concussion, testing within the first few days post-head injury, and periodic retesting to track resolution of the student's symptoms and improvement in cognitive

functioning. The neuropsychologist may also advise school staff regarding the student's need for post injury academic accommodations.

Nurse Practitioner means a duly licensed and registered nurse authorized to practice in an expanded role as a nurse practitioner whose professional activities include performing physical examinations, diagnosing health and developmental problems, managing therapeutic regimens, and ordering therapies and tests.
Parent means the parent or guardian or foster parent of a student.

Physician means a duly licensed doctor of medicine or osteopathy.

Physician Assistant means a duly licensed and registered physician assistant who meets the requirements for registration as set forth in M.G.L. c.112, §9I.
Play means a practice or competition.

School means a single school that operates under the direct administration of a principal, head master, director or school leader appointed by a school district, or a charter school board or independent school board of trustees. School includes a public school operated by a municipal or regional school district, an education collaborative established under M.G.L. c. 40, § 4E, or a school granted a charter by the Board of Elementary and Secondary Education under M.G.L. c. 71, §89 and 603 CMR 1.00: *Charter Schools* and operated by a board of trustees including Commonwealth and Horace Mann charter schools. School includes, but is not limited to, public and other schools that are members of MIAA. The term does not include associations of home-schooled students.

School-based Equivalent means a form or format that a school district or school develops in lieu of Department of Public Health forms, which at minimum include all of the information required by the most current Department form posted on the Department's website.

School district means a municipal school department or regional school district, acting through its school committee or superintendent of schools; a county agricultural school, acting through its board of trustees or superintendent director; a charter school, acting through its board of trustees or school leader; an educational collaborative; or any other public school established by statute or charter, acting through its governing board.

School Nurse means a nurse practicing in a school setting, who is licensed to practice as a Registered Nurse by the Board of Registration in Nursing pursuant to M.G.L. c. 112, who is licensed to work as an educator in a school by the Department of Elementary and Secondary Education pursuant to 603 CMR 7.00: *Educator Licensure and Preparation Program Approval*, and who is appointed or assigned to a public school by a school committee or a board of health in accordance with M.G.L. c. 71, §53 or employed by a superintendency district comprised of several towns in accordance with M.G.L. c. 71, §§ 53A and 53B or,

who is employed, in the case of a charter or private school, by a board of trustees.

School Physician means a licensed physician practicing in a school setting including but not limited to a physician who is appointed or employed by a school committee or board of health in accordance with M.G.L. c. 71, § 53, or employed by a superintendency district comprised of several towns in accordance M.G.L. c. 71, §§ 53A, 53B or, in the case of a charter or private school, by the board of trustees. School physician includes, but is not limited to, physicians assigned to examine children who apply for health certificates in order to obtain an employment permit pursuant to M.G.L. c. 71, §54 and team physicians.

School Health Advisory/Wellness Committee means a committee consisting of school and community members who advise a school district on its comprehensive, coordinated school health program.

Second impact syndrome means a potentially lethal condition that can occur when a person sustains a head injury prior to complete healing of a previous brain injury, causing dysregulation of cerebral blood flow with subsequent vascular engorgement.

Sports means extracurricular athletic activities.

Student means a person enrolled for part-time or full-time attendance in an educational program operated by a school or school district, including home schoolers.

Teacher means any person employed in a school or school district under a license listed in 603 CMR 7.00: *Educator Licensure and Preparation Program Approval* or person employed to teach students in a non-public school.

Team physician means a physician assigned to an interscholastic football game played by any team representing a public secondary school in the Commonwealth pursuant to M.G.L. c. 71, § 54A.

Trainer means a person who provides students who participate in an extracurricular athletic activity with health and fitness instruction, including but not limited to the fundamental skills of performance, strength, or conditioning, but who is not licensed as an athletic trainer.

Traumatic brain injury (TBI) means a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces. TBI may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head. TBI includes, but is not limited to, a concussion.

Volunteer means an adult who volunteers as a game official, coach, assistant coach, team parent, physician, nurse, or in an authoritative role to assist students who are engaged in an extracurricular athletic activity.

201.006: School Policies

(A) All school districts and schools must have policies and procedures governing the prevention and management of sports-related head injuries within the school district or school. The School Committee or Board of Trustees, consulting with the Board of Health where appropriate, shall adopt policies and procedures governing the prevention and management of sports-related head injuries within the school district or school following development of a proposal by a team consisting, at a minimum, of a school administrator, school nurse, school or team physician if on staff, athletic director, licensed athletic trainer if on staff, neuropsychologist if available, guidance counselor, and teacher in consultation with any existing school health/wellness advisory committee. Policies and procedures must address sports-related head injuries occurring in extracurricular athletic activities but may be applied to all head injuries in students. Review and revision of such policies and procedures shall occur as needed but at least every two years. At a minimum, these policies shall include:

(1) Designation, by the superintendent or head master, principal or school leader, of the person responsible for the implementation of these policies and protocols, either the Athletic Director or other school personnel with administrative authority;
(2) Annual training of persons specified in 105 CMR 201.007 in the prevention and recognition of a sports-related head injury, and associated health risks including second impact syndrome, including second impact syndrome, utilizing Department-approved training materials or program, and documentation of each person's completion of such training;
(3) Documentation of physical examination prior to a student's participation in extracurricular athletic activities on an annual basis, consistent with 105 CMR 200.100(B)(3): *Physical Examination of School Children,* and information for students participating in multiple sports seasons that documentation of one physical examination each year is sufficient;
(4) Procedure for the school to obtain and ensure review, prior to each sports season, of current information regarding an athlete's history of head injuries and concussions using either the Department Pre-participation Head Injury/Concussion Reporting Form For Extracurricular Activities (herein after "Pre-participation Form"), or school-based equivalent;
(5) Procedure for medical or nursing review of all Pre-participation Forms indicating a history of head injury;
(6) Procedure for the school to obtain and ensure timely medical or

nursing review of a Department Report of a Head Injury During Sports Season Form (herein after "Report of Head Injury Form"), or school-based equivalent, in the event of a head injury or suspected concussion that takes place during the extracurricular activity season;

(7) Procedure for reporting head injuries or suspected concussions sustained during extracurricular athletic activities to the school nurse and licensed athletic trainer, if on staff;

(8) Procedure for identifying a head injury or suspected concussion, removing an athlete from practice or competition, and referring for medical evaluation;

(9) The protocol for medical clearance for return to play after a concussion that at minimum complies with 105 CMR 201.011;

(10) Procedure for the development and implementation of post-concussion graduated reentry plans to school and academic activities, if indicated, by persons specified in 105 CMR 201.010(E)(1);

(11) Procedure for providing information, and necessary forms and materials, to all parents and athletes including the:

(a) annual training requirement,

(b) procedure for the school to notify parents when an athlete has been removed from play for a head injury or suspected concussion sustained during an extracurricular athletic activity,

(c) protocol for obtaining medical clearance for return to play and academics after a diagnosed concussion,

(d) parent's responsibility for completion of the Pre-participation Form, or school-based equivalent, and

(e) parent's responsibility for completion of the Report of a Head Injury Form, or school-based equivalent;

(12) Inclusion in the student and parent handbooks of information regarding the sports-related head injury policy and how to obtain the policy;

(13) Procedure for communicating with parents with limited English proficiency;

(14) Procedure for outreach to parents who do not return completed forms required for students to participate in extracurricular sports and for how to handle situations where a student verifies completion of the annual training requirement but a parent has not;

(15) Procedure for sharing information concerning an athlete's history of head injury and concussion, recuperation, reentry plan, and authorization to return to play and academic activities on a need to know basis consistent with requirements of 105 CMR 201.000 and applicable federal and state law including but not limited to the Massachusetts Student Records Regulations, 603 CMR 23.00, and the Federal Family Educational Rights and Privacy Act Regulations, 34 CFR Part 99.

(16) Instructions to coaches, licensed athletic trainers, trainers and volunteers:

(a) to teach form, techniques and skills and promote protective

equipment use to minimize sports-related head injury, and (b) to prohibit athletes from engaging in any unreasonably dangerous athletic technique that endangers the health or safety of an athlete, such as using a helmet or any other sports equipment as a weapon;

(17) Penalties, including but not limited to personnel sanctions and forfeiture of games, for failure to comply with provisions of the school district's or school's policy.

(B) These policies and procedures shall be made available to the Department and to the Department of Elementary and Secondary Education upon request.

(C) The school or school district shall provide the Department with an affirmation, on school or school district letterhead, that it has developed policies in accordance with 105 CMR 201.000 and it shall provide an updated affirmation biannually by September 30th every odd numbered year upon review or revision of its policies.

201.007: Training Program

(A) The following persons annually shall complete one of the head injury safety training programs approved by the Department as found on the Department's website:
- (1) Coaches;
- (2) Licensed athletic trainers;
- (3) Trainers;
- (4) Volunteers;
- (5) School and team physicians;
- (6) School nurses;
- (7) Athletic Directors;
- (8) Directors responsible for a school marching band, whether employed by a school or school district or serving in such capacity as a volunteer;
- (9) Parents of a student who participates in an extracurricular athletic activity; and
- (10) Students who participate in an extracurricular athletic activity.

(B) The required training applies to one school year and must be repeated for every subsequent year.

(C) Each school shall maintain a record of completion of annual training for all persons specified by 105 CMR 201.007(A) through:
- (1) a certification of completion for any Department-approved on-line course; or

(2) a signed acknowledgment that the individual has read and understands Department-approved written materials required by 105 CMR 201.008(A)(1); or
(3) an attendance roster from a session using Department-approved training; or
(4) other means specified in school policies and procedures.

(D) If a school district or school offers head injury safety training to guidance counselors, physical education teachers, classroom teachers or other school personnel, the school district or school at minimum shall offer one of the current head injury safety training programs approved by the Department as specified on the Department's website.

(E) Game officials shall complete one of the training programs approved by the Department as specified on the Department's website annually and shall provide independent verification of completion of the training requirement to schools or school districts upon request.

201.008: Participation Requirements for Students and Parents

(A) Pre-participation Requirements:
(1) Each year, a school district or school shall provide current Department-approved training, written materials or a list and internet links for Department-approved on-line courses to all students who plan to participate in extracurricular athletic activities and their parents in advance of the student's participation.
(2) All students who plan to participate in extracurricular athletic activities and their parents shall satisfy the following pre-participation requirements:
(a) Each year, before the student begins practice or competition, the student and their parents shall:
1. Complete current Department-approved training regarding head injuries and concussions in extracurricular athletic activities; and
2. Provide the school with a certification of completion for any Department-approved on-line course or a signed acknowledgment that they have read and understand Department-approved written materials, unless they have attended a school-sponsored training at which attendance is recorded or satisfied other means specified in school policies.
(b) Before the start of every sports season, the student and the parent shall complete and submit a current Pre-participation Form, or school-based equivalent, signed by both, which provides a comprehensive history with up-to-date information relative to

concussion history; any head, face or cervical spine injury history; and any history of co-existent concussive injuries.

(B) Ongoing Requirements: If a student sustains a head injury or concussion during the season, but not while participating in an extracurricular athletic activity, the parent shall complete the Report of Head Injury Form, or a school-based equivalent, and submit it to the coach, school nurse or person specified in school policies and procedures.

201:009: Documentation and Review of Head Injury and Concussion History and Forms

(A) The school shall ensure that all forms or information from all forms that are required by 105 CMR 201.000 are completed and reviewed, and shall make arrangements for:
(1) Timely review of all Pre-participation and Report of Head Injury Forms, or school-based equivalents, by coaches so as to identify students who are at greater risk of repeated head injuries.
(2) Timely review of all Pre-participation Forms which indicate a history of head injury and Report of Head Injury Forms, or school-based equivalents, by:
(a) the school nurse, and
(b) the school physician if appropriate; and
(3) Timely review of accurate, updated information regarding each athlete who has reported a history of head injury or a head injury during the sports season by:
(a) the team's physician if any, and
(b) the school's licensed athletic trainer if any.

(B) The school may use a student's history of head injury or concussion as a factor to determine whether to allow the student to participate in an extracurricular athletic activity or whether to allow such participation under specific conditions or modifications.

201.010: Exclusion from Play

(A) Any student, who during a practice or competition, sustains a head injury or suspected concussion, or exhibits signs and symptoms of a concussion, or loses consciousness, even briefly, shall be removed from the practice or competition immediately and may not return to the practice or competition that day.

(B) The student shall not return to practice or competition unless and until the student provides medical clearance and authorization as specified in 105 CMR 201.011.

(C) The coach shall communicate the nature of the injury directly to the parent in person or by phone immediately after the practice or competition in which a

student has been removed from play for a head injury, suspected concussion, signs and symptoms of a concussion, or loss of consciousness. The coach also must provide this information to the parent in writing, whether paper or electronic format, by the end of the next business day.

(D) The coach or his or her designee shall communicate, by the end of the next business day, with the Athletic Director and school nurse that the student has been removed from practice or competition for a head injury, suspected concussion, signs and symptoms of a concussion, or loss of consciousness.

(E) Each student who is removed from practice or competition and subsequently diagnosed with a concussion shall have a written graduated reentry plan for return to full academic and extracurricular athletic activities.

(1) The plan shall be developed by the student's teachers, the student's guidance counselor, school nurse, licensed athletic trainer if on staff, neuropsychologist if available or involved, parent, members of the building-based student support and assistance team or individualized education program team as appropriate and in consultation with the student's primary care provider or the physician who made the diagnosis or who is managing the student's recovery.

(2) The written plan shall include instructions for students, parents and school personnel, addressing but not be limited to:

(a) Physical and cognitive rest as appropriate;

(b) Graduated return to extracurricular athletic activities and classroom studies as appropriate including accommodations or modifications as needed;

(c) Estimated time intervals for resumption of activities;

(d) Frequency of assessments, as appropriate, by the school nurse, school physician, team physician, licensed athletic trainer if on staff, or neuropsychologist if available until full return to classroom activities and extracurricular athletic activities are authorized; and

(e) A plan for communication and coordination between and among school personnel and between the school, the parent, and the student's primary care provider or the physician who made the diagnosis or who is managing the student's recovery.

(3) The student diagnosed with a concussion must be completely symptom free at rest in order to begin graduated reentry to extracurricular athletic activities. The student must be symptom free at rest, during exertion, and with cognitive activity in order to complete the graduated re-entry plan and be medically cleared to play under 105 CMR 201.011.

<u>201.011: Medical Clearance and Authorization to Return to Play</u>

Each student who is removed from practice or competition for a head injury or suspected concussion, or loses consciousness, even briefly, or exhibits signs and

symptoms of a concussion shall obtain and present to the Athletic Director, unless another person is specified in school policy or procedure, a Department Post Sports-Related Head Injury Medical Clearance and Authorization Form (herein after "Medical Clearance and Authorization Form"), or school-based equivalent, prior to resuming the extracurricular athletic activity. This form must be completed by a physician or one of the individuals as authorized by 105 CMR 201.011(A). The ultimate return to play decision is a medical decision that may involve a multidisciplinary approach, including consultation with parents, the school nurse and teachers as appropriate.

(A) Only the following individuals may authorize a student to return to play:
(1) A duly licensed physician;
(2) A duly licensed athletic trainer in consultation with a licensed physician;
(3) A duly licensed nurse practitioner in consultation with a licensed physician;
(4) A duly licensed physician assistant under the supervision of a licensed physician; or
(5) A duly licensed neuropsychologist in coordination with the physician managing the student's recovery.

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(B) Physicians, nurse practitioners, physician assistants, licensed athletic trainers and neuropsychologists providing medical clearance for return to play shall verify that they have received Department-approved training in post traumatic head injury assessment and management or have received equivalent training as part of their licensure or continuing education.

201.012: Responsibilities of the Athletic Director

(A) The Athletic Director shall participate in the development and biannual review of the policies and procedures required by 105 CMR 201.006 for the prevention and management of sports-related head injuries within the school district or school.

(B) The Athletic Director shall complete the annual training as required by 105 CMR 201.007.

(C) The Athletic Director, unless school policies and procedures provide otherwise, shall be responsible for:
(1) Ensuring that the training requirements for staff, parents, volunteers, coaches and students are met, recorded, and records are maintained in accord with 105 CMR 201. 016;
(2) Ensuring that all students meet the physical examination requirements consistent with 105 CMR 200.000: *Physical Examination of School Children* prior to participation in any extracurricular athletic activity;
(3) Ensuring that all students participating in extracurricular athletic activities have completed and submitted Pre-participation Forms, or

school-based equivalents, prior to participation each season;

(4) Ensuring that students' Pre-participation Forms, or school-based equivalents, are reviewed according to 105 CMR 201.009(A);

(5) Ensuring that the Report of Head Injury Forms, or school-based equivalents, are completed by the parent or coach and reviewed by the coach, school nurse, licensed athletic trainer and school physician as specified in 105 CMR 201.009(A);

(6) Ensuring that athletes are prohibited from engaging in any unreasonably dangerous athletic technique that endangers the health or safety of an athlete, including using a helmet or any other sports equipment as a weapon; and

(7) Reporting annual statistics to the Department in accord with 105 CMR 201. 017.

201.013: Responsibilities of Coaches

(A) Coaches shall be responsible for:

(1) Completing the annual educational training as required by 105 CMR 201.007;

(2) Reviewing Pre-participation Forms, or school-based equivalents, so as to identify those athletes who are at greater risk for repeated head injuries;

(3) Completing a Report of Head Injury Form, or school-based equivalent, upon identification of a student with a head injury or suspected concussion that occurs during practice or competition;

(4) Receiving, unless otherwise specified in school policies and procedures, and reviewing forms that are completed by a parent which report a head injury during the sports season, but outside of an extracurricular athletic activity, so as to identify those athletes who are at greater risk for repeated head injuries;

(5) Transmitting promptly forms in 105 CMR 201.013(A)(2) and (3) to the school nurse for review and maintenance in the student's health record, unless otherwise specified in school policies and procedures;

(6) Teaching techniques aimed at minimizing sports-related head injury;

(7) Discouraging and prohibiting athletes from engaging in any unreasonably dangerous athletic technique that endangers the health or safety of an athlete, including using a helmet or any other sports equipment as a weapon; and

(8) Identifying athletes with head injuries or suspected concussions that occur in play or practice and removing them from play.

B. Coaches are responsible for communicating promptly with the parent of any student removed from practice or competition as directed in 105 CMR 201.010(C) and with the Athletic Director and school nurse as directed in 105 CMR 201.010(D).

201.014: Responsibilities of the Licensed Athletic Trainers

Licensed athletic trainers, if on staff, shall be responsible for:

(A) -Participating in the development and biannual review of the policies and procedures required by 105 CMR 201.006 for the prevention and management of sports-related head injuries within the school district or school;

(B) Completing the annual training as required by 105 CMR 201.007;

(C) Reviewing information from Pre-participation Forms, or school-based equivalents, which indicate a history of head injury and from Report of Head Injury Forms, or school-based equivalents, to identify students who are at greater risk for repeated head injuries;

(D) Identifying athletes with head injuries or suspected concussions that occur in practice or competition and removing them from play; and

(E) Participating, if available, in the graduated reentry planning and implementation for students who have been diagnosed with a concussion.

201.015: Responsibilities of the School Nurse

The School Nurse shall be responsible for:

(A) Participating in the development and biannual review of the policies and procedures required by 105 CMR 201.006 for the prevention and management of sports-related head injuries within the school district or school;

(B) Completing the annual training as required by 105 CMR 201.007;

(C) Reviewing, or arranging for the school physician to review, completed Pre-participation Forms, or school-based equivalents, that indicate a history of head injury and following up with parents as needed prior to the student's participation in extracurricular athletic activities;

(D) Reviewing, or arranging for the school physician to review, Report of Head Injury Forms, or school-based equivalents, and following up with the coach and parent as needed;

(E) Maintaining:
(1) Pre-participation Forms, or school-based equivalents; and
(2) Report of Head Injury Forms, or school-based equivalents, in the student's health record;

(F) Participating in the graduated reentry planning for students who have been diagnosed with a concussion to discuss any necessary accommodations or modifications with respect to academics, course requirements, homework,

testing, scheduling and other aspects of school activities consistent with a graduated reentry plan for return to full academic and extracurricular activities after a head injury and revising the health care plan as needed;

(G) Monitoring recuperating students with head injuries and collaborating with teachers to ensure that the graduated reentry plan for return to full academic and extracurricular activities required by 105 CMR 201. 010(E) is being followed; and

(H) Providing ongoing educational materials on head injury and concussion to teachers, staff and students.

201.016: Record Maintenance

(A) The school, consistent with any applicable state and federal law, shall maintain the following records for three years or at a minimum until the student graduates:

(1) Verifications of completion of annual training and receipt of materials;
(2) Department Pre-participation Forms, or school-based equivalents;
(3) Department Report of Head Injury Forms, or school-based equivalents;
(4) Department Medical Clearance and Authorization Forms, or school-based equivalents; and
(5) Graduated reentry plans for return to full academic and extracurricular activities.

(B) The school shall make these records available to the Department and the Department of Elementary and Secondary Education, upon request or in connection with any inspection or program review.

201.017: Reporting

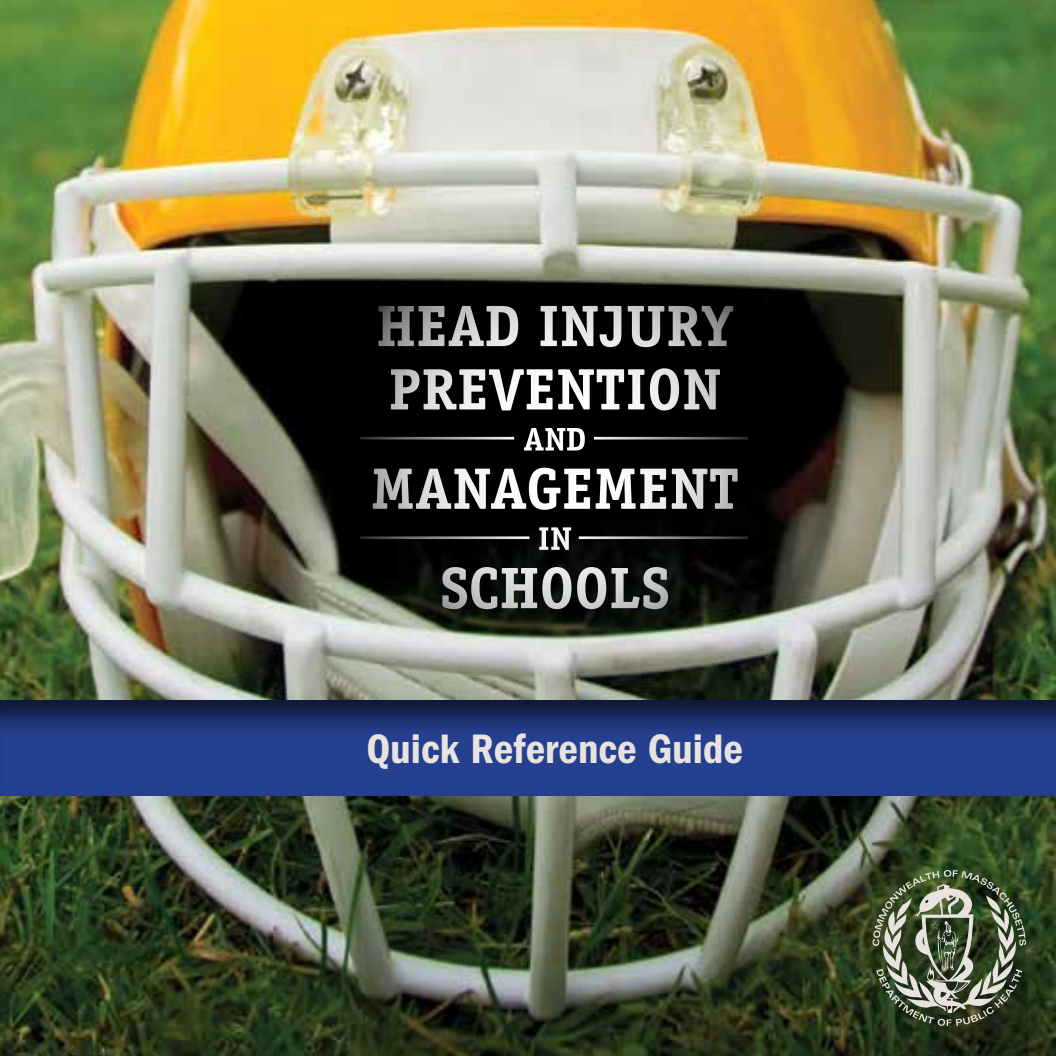
Schools shall be responsible for maintaining and reporting annual statistics on a Department form or electronic format that at minimum report:

(A) The total number of Department Report of Head Injury Forms, or school-based equivalents, received by the school; and

(B) The total number of students who incur head injuries and suspected concussions when engaged in any extracurricular athletic activities.

REGULATORY AUTHORITY

105 CMR 201.000: M.G.L. c. 111, § 222.



HEAD INJURY PREVENTION AND MANAGEMENT IN SCHOOLS

Quick Reference Guide

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC HEALTH

Overview

In 2011, the Massachusetts Department of Public Health (MDPH) issued a regulation* requiring the creation of policies and procedures for the prevention and management of sports-related head injuries for grades 6-12 with extracurricular sports in:

- all public schools
- private schools that are members of the Massachusetts Interscholastic Athletic Association (MIAA)

The regulations seek to prevent concussions and minimize the health impacts if a concussion occurs. This quick reference guide can help staff and schools:

- meet requirements for student participation
- recognize symptoms of a concussion and take appropriate action
- understand steps that must be taken before students can return to play
- comply with requirements around training and policy development
- access available resources

*105 CMR 201.000 Head Injuries and Concussions In Extracurricular Athletic Activities mandated by Chapter 166 of the Acts of 2010, An Act Relative to Safety Regulations for School Athletic Programs

This booklet can be downloaded at: **mass.gov/sportsconcussion**

Pre-participation Requirements

Before the start of every sports season, students and parents must submit the ***MDPH Pre-participation Form*** (or school-based equivalent) providing up-to-date information about the student's concussion history; any head, face or cervical spine injury history; and any history of co-existent head injuries.

This form should be reviewed by a **coach, school nurse, athletic trainer** (if any) and **school physician** (if any) to identify students who are at greater risk of repeated head injuries. The school may use a student's history of head injury as a factor to determine whether to allow the student to participate in an extracurricular athletic activity.

*The **MDPH Pre-participation Form** can be found at:*
mass.gov/sportsconcussion

Symptoms of Concussion

According to the CDC, a concussion is a type of traumatic brain injury caused by a bump, blow, or jolt to the head that causes the brain to move back and forth rapidly. This sudden movement can cause the brain to bounce around or twist in the skull, damaging the brain cells. This injury does not always come from a direct hit to the head. It can be caused by a hit to the body as well.

Concussion Signs and Symptoms:

- Can't recall events before or after a hit or fall
- Appears dazed or stunned
- Forgets an instruction, is confused about an assignment
- Moves clumsily or answers questions slowly
- Loses consciousness (even briefly)*
- Concentration or memory problems
- Just not "feeling right," or "feeling down"
- Shows mood, behavior, or personality changes
- Feels sluggish or foggy
- Headache or feels "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light or noise

If a student experiences one or more of the above symptoms, they might have a concussion and should be removed from play immediately. As CDC says, "When in doubt, sit them out." Some symptoms may show up soon after the injury but other symptoms may not show up for hours or days. See "Removal from Play" on page 6.

*__Important Note:__ You don't have to lose consciousness to have a concussion.

Dangerous Signs & Symptoms

Call 911 or get the patient to the Hospital Emergency Department immediately if any of these symptoms appear:

- One pupil larger than the other
- Drowsiness or inability to wake up
- A headache that gets worse and does not go away
- Slurred speech, weakness, numbness, or decreased coordination
- Repeated vomiting or nausea, convulsions or seizures (shaking or twitching)
- Unusual behavior, increased confusion, restlessness, or agitation
- Loss of consciousness (passed out/knocked out)**
- Repeated vomiting

** Even a brief loss of consciousness should be taken seriously.

Removal from Play

Any student who sustains a head injury or suspected concussion, or loses consciousness (even briefly), should be removed from play immediately and **may not return to play that day**. The student should not return to play **until being medically cleared by a medical provider** (see page 9 on Medical Clearance).

The **coach** or **athletic trainer** shall:

1. explain the injury directly to the **parent** (in person or by phone) immediately after the practice or competition.
2. provide this information to the **parent** in writing (paper or electronic) by the end of the next business day.
3. communicate the injury with the **Athletic Director** and **School Nurse** by the end of the next business day.

If a student sustains a head injury or concussion during the season, outside of extracurricular sports, the parent should complete the ***Report of Head Injury Form*** (or a school-based equivalent) and submit it to the coach, school nurse or person specified in the school's policies and procedures.

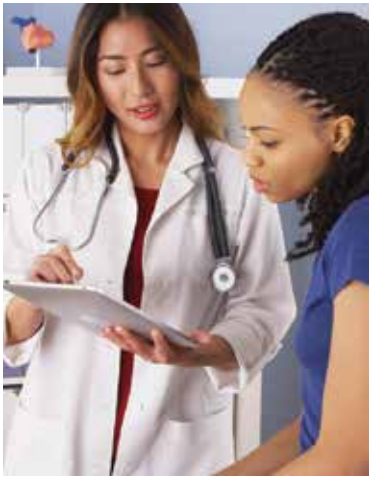
The ***MDPH Report of Head Injury Form*** can be found at: **mass.gov/sportsconcussion**

Supporting Students with Concussion Symptoms in School

- Establish a cooperative relationship with the student, engaging him/her in any decisions regarding schedule changes or task priority setting.
- Concentrate first on general cognitive skills and organization of tasks.
- Focus on what the student does well and expand the curriculum to more challenging content as concussion symptoms subside.
- Adjust the student's schedule as needed to avoid fatigue: shorten the day, allow for rest breaks, reduced the course load.
- Adjust the learning environment to protect the student from irritations such as too-bright light or loud noises.
- Use self-paced, computer-assisted or audio learning for a student having reading comprehension problems.
- Provide structure and consistency; make sure all teachers are using the same strategies.
- Allow extra time for test/in-class assignment completion.
- Help the student create a list of tasks. Assign a peer to take notes for the student.
- Allow the student to record classes. Increase repetition in assignments to reinforce learning.
- Break assignments into smaller chunks.
- Set reasonable expectations.

Source: CDC, Returning to School After a Concussion: A Fact Sheet for School Professionals

Graduated Return to Play



Each student who is diagnosed with a concussion shall have a written, graduated reentry plan for returning to full academic and extracurricular athletic activities.

- The plan shall be developed by the student's **teachers, guidance counselor, school nurse, athletic trainer, neuropsychologist** if available, **parent(s), members of the building-based student support team** and in consultation with the student's **medical provider**.
- The written plan should include step-by-step instructions for students, parents and school personnel, addressing:
  - Physical and cognitive rest.
  - Graduated return to extracurricular athletic activities and classroom studies, including accommodations or modifications.
  - Estimated time intervals for resumption of activities.
  - Frequency of assessments by the **school nurse, school physician, neuropsychologist** or **athletic trainer** until full return to the classroom and extracurricular athletic activities are authorized.
  - A plan for communication and coordination among **school personnel** and between the school, the **parent** and the student's **medical provider**.
- The student must be completely symptom-free at rest in order to begin graduated reentry to extracurricular athletic activities. The student must be symptom-free at rest, during exertion, and with cognitive activity in order to complete the graduated reentry plan and be medically cleared to play.

Medical Clearance

Each student who is removed from athletics for a head injury or suspected concussion shall provide to the **Athletic Director** (unless another person is specified in the school policy) the ***MDPH Medical Clearance and Authorization Form***, or school-based equivalent, prior to resuming the extracurricular sport. Medical clearance should only be provided once the student has completed the graduated return to play.

The following individuals may authorize a student to return to play and must complete the Medical Clearance Form (or school-based equivalent):

- A **physician**
- An **athletic trainer** in consultation with a physician
- A **nurse practitioner** in consultation with a physician
- A **physician assistant** under the supervision of a physician
- A **neuropsychologist** in coordination with the physician managing the student's recovery

All clinicians providing medical clearance for return to play shall verify that they have received MDPH-approved training in post-traumatic head injury assessment and management, or have received equivalent training as part of their licensure or continuing education.

*The **MDPH Medical Clearance and Authorization Form** and all MDPH-approved online and in-person **concussion trainings (for clinicians)** can be found at:*
mass.gov/sportsconcussion

Annual Training Requirement

The following must complete a DPH-approved head injury safety training program every year:

- **Coaches**
- **Licensed athletic trainers**
- **Trainers**
- **Volunteers***
- **School and team physicians**
- **School nurses**
- **Athletic Directors**
- **Directors responsible for a school marching band**
- **Parents of students who participate in an extracurricular athletic activity**
- **Students who participate in an extracurricular athletic activity**

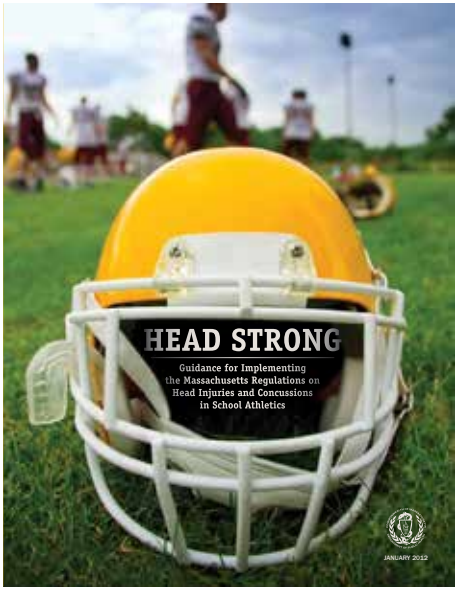
Each school must maintain a record of completion of the annual training for all persons above. Approved trainings can be found on the MDPH sports concussion website at: **mass.gov/sportsconcussion**

*An adult who volunteers as a game official, coach, assistant coach, team parent, physician, nurse or in an authoritative role to assist students who are engaged in an extracurricular athletic activity

Other Requirements

- Schools and school districts must have their own policies and procedures governing the prevention and management of sports-related head injuries.
- Schools or school districts must provide MDPH with an affirmation on letterhead stating they have reviewed and updated their sports-related head injury policies by September 30, 2013 and every 2 years thereafter.
- Schools are responsible for maintaining and reporting annual statistics to MDPH by August 30 every year.
- Schools have to keep the following records for 3 years or at a minimum until student graduates:
  a. Verification of annual training,
  b. Pre-participation Forms,
  c. Report of Head Injury Forms,
  d. Medical Clearance and Authorization Forms and graduated reentry plans.

For more information on how to develop school sports concussion policies see the MDPH guide book *Head Strong* at: **mass.gov/sportsconcussion**



Information on Concussion Prevention and Policies

Massachusetts Department of Public Health
Division of Violence and Injury Prevention
www.mass.gov/sportsconcussion

Centers for Disease Control and Prevention
800-CDC-INFO (800-232-4636)
www.cdc.gov/headsup

Brain Injury Association of Massachusetts
Brain Injury Helpline: 800-242-0030
www.biama.org

Massachusetts Interscholastic Athletic Association (MIAA)
www.miaa.net

Concussion Legacy Foundation
Phone: 781-790-1921
http://concussionfoundation.org

Massachusetts Concussion Management Coalition
info@massconcussion.org
https://mcmc.wildapricot.org

The South Shore Hospital has a recovery protocol called HeadSmart™, A Healthy Transition After Concussion. It can be found at:
www.southshorehospital.org/head-smart

Concussion Treatment Centers

Boston

Beth Israel Concussion and Traumatic Brain Injury Clinic

Boston Children's Hospital Concussion Clinic

Boston Medical Center-Ryan Center

Boston University – Sports Medicine and Related Services

Brigham and Women's Sports Neurology and Concussion Clinic

Mass General Hospital Sports Concussion Clinic

Statewide Program

Brain Injury and Statewide Specialized Community Services

For an up-to-date list of concussion treatment centers, please visit:
mass.gov/sportsconcussion

Outside of Boston

Baystate Medical Center – Sports Concussion Clinic, Springfield, MA

Berkshire Health Systems Concussion Clinic, Pittsfield, MA

Beth Israel Hospital, Plymouth, MA

Concussion Rehab Specialists, Salem MA

Dr. Robert C. Cantu Concussion Center, Concord MA

Southcoast Comprehensive Concussion Management Program, Dartmouth, MA

South Shore Hospital Concussion Management Clinic, Hingham MA

Spaulding Rehab Hospital, East Sandwich, MA

Sports Concussion New England, Brookline MA

SportSmart Signature Healthcare – Concussion Specialty, Brockton MA

UMass Memorial Medical Center Sports Medicine Clinic, Worcester, MA

Concussion Action Plan for Coaches

IF YOU SUSPECT THAT AN ATHLETE HAS A CONCUSSION, YOU SHOULD TAKE THE FOLLOWING STEPS:

1. **Remove the athlete from play.**
2. **Keep the athlete out of play the day of the injury until cleared by a health care provider.**
3. **Record and share information about the injury,** such as how it happened and the symptoms, to help a health care provider assess the athlete.
4. **Inform the athlete's parent(s) or guardian(s)** about the possible concussion. Refer them to the CDC* or MDPH** sports concussion websites for concussion information.
5. **Ask for written instructions from the athlete's health care provider** about the steps you should take to help the athlete safely return to play. Before return to play an athlete should:
   - ▫ Be back to doing their regular school activities.
   - ▫ Not be having any symptoms from the injury when doing normal activities.
   - ▫ Have the green-light from their health care provider to begin the graduated return to play process.

*cdc.gov/HEADSUP

** mass.gov/sportsconcussion

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health

POST SPORTS-RELATED HEAD IN URY MEDICAL CLEARANCE AND AUTHORI ATION FORM

The student must be completely symptom free at rest, during exertion, and with cognitive activity prior to returning to full participation in extracurricular athletic activities. Do not complete this form until a graduated return to play plan has been completed and the student is found to be symptom free at rest, during exertion and with cognitive activity.

Student's Name	Sex	Date of Birth	Grade

Date of injury: _____ Nature and extent of injury: _____

Symptoms following injury (check all that apply):

☐ Nausea or vomiting ☐ Headaches ☐ Light/noise sensitivity

☐ Dizziness/balance problems ☐ Double/blurry vision ☐ Fatigue

☐ Feeling sluggish/"in a fog" ☐ Change in sleep patterns ☐ Memory problems

☐ Difficulty concentrating ☐ Irritability/emotional ups and downs ☐ Sad or withdrawn

☐ Other

Duration of Symptom(s): _____ Diagnosis: □ Concussion □ Other: _____
If concussion diagnosed, date student completed graduated return to play plan without recurrent symptoms: _____

Prior concussions (number, approximate dates): _____

I HEREBY AUTHORIZE THE ABOVE NAMED STUDENT FOR RETURN TO EXTRACURRICULAR ATHLETIC ACTIVITY

Practitioner signature: _____ Date: _____

Print Name:_____

□ Physician □ Licensed Athletic Trainer □ Nurse Practitioner □ Neuropsychologist □ Physician Assistant

License Number: _____

Address: _____ Phone number: _____

Name of Physician providing consultation/coordination/supervision (if not person completing this form; please print): _____

I ATTEST THAT I HAVE RECEIVED CLINICAL TRAINING IN POST-TRAUMATIC HEAD INJURY ASSESSMENT AND MANAGEMENT APPROVED BY THE DEPARTMENT OF PUBLIC HEALTH* OR HAVE RECEIVED EQUIVALENT TRAINING AS PART OF MY LICENSURE OR CONTINUING EDUCATION.

Practitioner's initials: _____

Type of Training: ☐ CDC on-line clinician training ☐Other MDPH approved Clinical Training ☐ Other (Describe)_____

* MDPH approved Clinical Training options can be found at: www.mass.gov/dph/sports concussion

This form is not complete without the practitioner's verification of such training.

Rocky Mountain Hospital for Children
At Presbyterian/St. Luke's
Health ONE

How every family, school and medical professional can create a Community-Based Concussion Management Program

REAP℠ The Benefits of Good Concussion Management

Center for Concussion

REAP℠

Remove/Reduce
Educate
Adjust/Accommodate
Pace

Authored by Karen McAvoy, PsyD

ROCKY MOUNTAIN HOSPITAL *for* CHILDREN℠
At Presbyterian/St. Luke's
HealthONE®

In recent years growing public and medical concern has been focused on the issue of concussions. From our youngest students/athletes to professional team competitors, awareness of a concussion's influence on both short-term and long-term health has escalated in the past decade.

New clinical studies surrounding this growing concern have led to youth concussion clinics opening in most states. However, this proliferation of concussion clinics comes at a time when there is little clear medical consensus on a way to manage and treat concussions.

The REAP approach, developed for Rocky Mountain Hospital for Children's Center for Concussion, offers guidance on a coordinated team approach that will lessen the frustration that the student/athletes, their parents, schools, coaches, certified athletic trainers and the medical professional often experience as they attempt to coordinate care.

REAP has grown as a training resource over the past five years and it is continually updated with the most current research and guidance. In fact, in November of 2013, the American Academy of Pediatrics released a Clinical Report on Returning to Learning Following a Concussion (PEDIATRICS Volume 132, Number 5, November 2013) *"based upon expert opinion and adapted from a program in Colorado". Rocky Mountain Hospital for Children is proud to announce that the program referenced in the AAP Clinical Report is REAP!*

Reginald Washington, MD
FAAP, FAAC, FAHA
Chief Medical Officer
Rocky Mountain Hospital for Children - HealthONE

REAP is authored by: Karen McAvoy, PsyD

Second Edition October 2013

REAP,℠ which stands for **Remove/Reduce · Educate · Adjust/Accommodate · Pace,** is a community-based model for Concussion Management that was developed in Colorado. The early origins of REAP stem from the dedication of one typical high school and its surrounding community after the devastating loss of a freshman football player to "Second Impact Syndrome" in 2004. The author of REAP, Dr. Karen McAvoy, was the psychologist at the high school when the tragedy hit. As a School Psychologist, Dr. McAvoy quickly pulled together various team members at the school (Certified Athletic Trainer, School Nurse, Counselors, Teachers and Administrators) and team members outside the school (Students, Parents and Healthcare Professionals) to create a safety net for all students with concussion. Under Dr. McAvoy's direction from 2004 to 2009, the multi-disciplinary team approach evolved from one school community to one entire school district. Funded by an education grant from the Colorado Brain Injury Program in 2009, Dr. McAvoy sat down and wrote up the essential elements of good multi-disciplinary team concussion management and named it REAP.

With the opening of Rocky Mountain Hospital for Children in August of 2010, Dr. McAvoy was offered the opportunity to open and direct the Center for Concussion, where the multi-disciplinary team approach is the foundation of treatment and management for every student/athlete seen in the clinic.

Family Team	School Physical Team	School Academic Team	Medical Team

The benefits of good concussion management spelled out in REAP are known throughout communities in Colorado, nationally and internationally. REAP has been customized and personalized for various states and continues to be the "go-to" guide from the emergency department to school district to the office clinic waiting room.

Download a digital version of this publication at RockyMountainHospitalForChildren.com.

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Center for Concussion
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14000 E. Arapahoe Rd., Suite #300
Centennial, CO 80112

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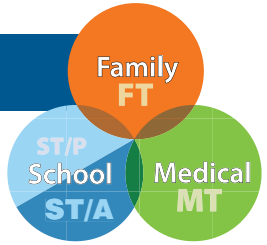
Endorsed by:

CHSAA Colorado High School Activities Association

The Brain Injury Alliance of Colorado

Colorado Brain Injury Program
Education • Services • Research

Community-Based, Multi-Disciplinary Concussion Management Team



How to use this Manual

Because it is important for each member of the Multi-Disciplinary Concussion Management Team to know and understand their part and the part of other members, this manual was written for all of the teams. As information is especially pertinent to a certain group, it is noted by a color.

>> Pay close attention to the sections in ORANGE

FT	Family Team	Student, Parents; may include Friends, Grandparents, Primary Caretakers, Siblings and others…	For more specific information, download parent fact sheets from the various **"Heads Up"** Toolkits on the CDC website: cdc.gov/concussion/headsup/pdf/Heads_Up_factsheet_english-a.pdf and cdc.gov/concussions/pdf/Fact_Sheet_ConcussTBI-a.pdf.

>> Pay close attention to the sections in LIGHT BLUE

ST/P	School Physical Team	Coaches, Certified Athletic Trainers (ATC), Physical Education Teachers, Playground Supervisors, School Nurses and others…	For more specific information, download the free **"Heads Up: Concussion in High School Sports or Concussion in Youth Sports"** from the CDC website: cdc.gov/Concussion/HeadsUp/high_school.html

>> Pay close attention to the sections in DARKER BLUE

ST/A	School Academic Team	Teachers, Counselors, School Psychologists, School Social Workers, Administrators, School Neuropsychologists and others…	For more specific information, download the free **"Heads Up to Schools: Know Your Concussion ABCs"** from the CDC website: cdc.gov/concussion/HeadsUp/Schools.html and cdc.gov/concussion/pdf/TBI_Returning_to_School-a.pdf

>> Pay close attention to the sections in GREEN

MT	Medical Team	Emergency Department, Primary Care Providers, Nurses, Concussion Specialists, Neurologists, Clinical Neuropsychologists and others…	For more specific information, download the free **"Heads Up: Brain Injury in your Practice"** from the CDC website: cdc.gov/concussion/HeadsUp/Physicians_tool_kit.html

Table of Contents

Common Concussion Myths...

TRUE or FALSE?

Loss of consciousness (LOC) is necessary for a concussion to be diagnosed.

False! CDC reports that an estimated 1.6 to 3.8 million sports- and recreation-related concussions occur in the United States each year.[1] Most concussions do not involve a loss of consciousness. While many students receive a concussion from sports-related activities, numerous other concussions occur from non-sports related activities — from falls, from motor vehicle accidents and bicycle and playground accidents.

TRUE or FALSE?

A concussion is just a "bump on the head."

False! Actually, a concussion is a traumatic brain injury (TBI). The symptoms of a concussion can range from mild to severe and may include: confusion, disorientation, memory loss, slowed reaction times, emotional reactions, headaches and dizziness. You can't predict how severe a concussion will be or how long the symptoms will last at the time of the injury.

TRUE or FALSE?

A parent should awaken a child who falls asleep after a head injury.

False! Current medical advice is that it is not dangerous to allow a child to sleep after a head injury, once they have been medically evaluated. The best treatment for a concussion is sleep and rest.

TRUE or FALSE?

A concussion is usually diagnosed by neuroimaging tests (ie. CT scan or MRI).

False! Concussions cannot be detected by neuroimaging tests: a concussion is a "functional" not "structural" injury. Concussions are typically diagnosed by careful examination of the signs and symptoms after the injury. Symptoms during a concussion are thought to be due to an ENERGY CRISIS in the brain cells. At the time of the concussion, the brain cells (neurons) stop working normally. Because of the injury there is not enough "fuel" (sugar/glucose) that is needed for the cells to work efficiently – for playing and for thinking. **While a CT scan or an MRI may be used after trauma to the head to look for bleeding or bruising in the brain, it will be normal with a concussion.** A negative scan does not mean that a concussion did not occur.

Did You Know...

>> **More than 80% of concussions resolve very successfully** if managed well within the first three weeks post-injury.[2] REAP sees the first three weeks post- injury as a "window of opportunity." Research shows that the average recovery time for a child/adolescent is about three weeks, slightly longer than the average recovery time for an adult.[3]

>> REAP works on the premise that a **concussion is best managed by a Multi-Disciplinary Team** that includes: the Student/Athlete, the Family, various members of the School Team and the Medical Team. The unique perspective from each of these various teams is essential!

>> **The first day of the concussion is considered Day 1.** The first day of recovery also starts on Day 1. REAP can help the Family, School and Medical Teams mobilize immediately to maximize recovery during the entire three week "window of opportunity."

Medical note
from Sue Kirelik, MD, Medical Director of the Center for Concussion

When it comes to concussion, the newest recommendations are that kids and teens should be treated much more conservatively than adults. Little is known about the long term risks of concussion that occur in childhood and adolescence, but there is concern that concussions can add up over time and cause permanent problems.

Message to Parents

To maximize your child's recovery from concussion, double up on the Rs. REDUCE and REST! Insist that your child rest, especially for the first few days following the concussion and throughout the three-week recovery period. Some symptoms of concussion can be so severe on the first day or two that your child may need to stay home from school. When your child returns to school, request that he/she be allowed to "sit out" of sports, recess and physical education classes immediately after the concussion. Work with your Multi-Disciplinary Concussion Management Team to determine when your child is ready to return to physical activity, recess and/or PE classes (see PACE).

Don't let your child convince you he/she will rest "later" (after the prom, after finals, etc.). Rest must happen immediately! The school team will help your child reduce their academic load (see Adjust/Accommodate). However, it is your job to help to reduce sensory load at home. Advise your child/teen to:

- avoid loud group functions (games, dances)
- limit video games, text messaging, social media and computer screen time
- limit reading and homework

A concussion will almost universally slow reaction time; therefore, driving should not be allowed pending medical clearance.

Plenty of sleep and quiet, restful activities after the concussion maximizes your child's chances for a great recovery!

When should your child go back to school?
See page 8.

Supplemental information and downloadable forms for parents can be found at RockyMountainHospitalForChildren.com.

EVERY Member of Every Team is Important!

Every team has an essential part to play at certain stages of the recovery

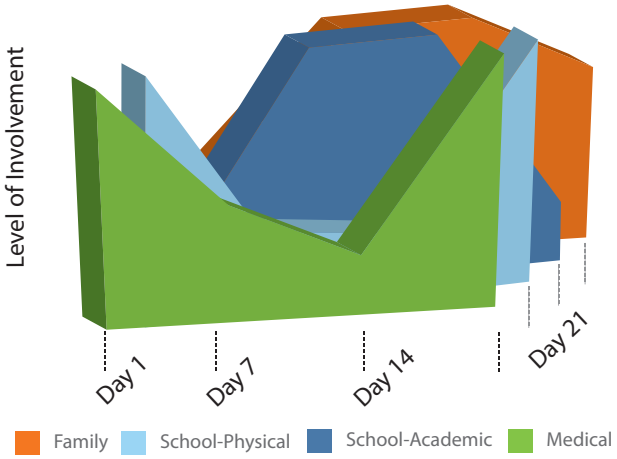
First the School Physical Team (coach, ATC, playground supervisor) and/or the Family Team (parent) have a critical role in the beginning of the concussion as they may be the first to RECOGNIZE and IDENTIFY the concussion and REMOVE the student/athlete from play.

Second The Medical Team then has an essential role in DIAGNOSING the concussion and RULING-OUT a more serious medical condition.

Third for the next 1 to 3 weeks the Family Team and the School Academic Team will provide the majority of the MANAGEMENT by REDUCING social/home and school stimulation.

Fourth when all FOUR teams decide that the student/athlete is 100% back to pre-concussion functioning, the Medical Team can approve the Graduated Return to Play (RTP) steps. See the PACE page.

Finally when the student/athlete successfully completes the RTP steps, the Medical Team can determine final "clearance."



The FOUR teams pass the baton from one to the other (and back again), all the while communicating, collaborating and adjusting the treatment/management.

Communication and Collaboration = Teamwork!

Multi-Disciplinary Teamwork = the safest way to manage a concussion!

A "Multi-Disciplinary Team" Team members who provide multiple perspectives of the student/athlete AND Team members who provide multiple sources of data

Who will be on the Family Team (FT)? Who from the family will watch, monitor and track the emotional and sleep/energy symptoms of the concussion and how will the Family Team communicate with the School and Medical Teams?

Who will be on the School Team — Physical (ST-P)? Who at the school will watch, monitor and track the physical symptoms of the concussion? Who is the ST-P Point Person?

Who will be on the School Team — Academic (ST-A)? Who at the school will watch, monitor and track the academic and emotional effects of the concussion? Who is the ST-A Point Person?

Who will be on the Medical Team (MT)? How will the MT get information from all of the other teams and who with the MT will be responsible for coordinating data and updates from the other teams?

>> REAP suggests the following timeframe:

TEAM		Week 1	Week 2	Week 3
FT	**Family Team** Help child understand he/she must be a "honest partner" in the rating of symptoms	• Impose rest. • Assess symptoms daily — especially monitor sleep/energy and emotional symptoms.	• Continue to assess symptoms (at least 3X week or more as needed), monitor if symptoms are improving. • Continue to assess symptoms and increase/decrease stimulation at home accordingly.	• Continue with all assessments (at least 2X week or more as needed). • Continue to assess symptoms and increase/decrease stimulation at home accordingly.
ST/P	**School Team Physical** Coach/ATC/School Nurse *(Assign 1 point person to oversee/ manage physical symptoms)*	• REMOVE from all play/physical activities! • Assess physical symptoms daily, use objective rating scale. • ATC: assess postural-stability (see NATA reference in RESOURCES). • School Nurse: monitor visits to school clinic. If symptoms at school are significant, contact parents and send home from school.	• Continue to assess symptoms (at least 3X week or more as needed). • ATC: postural-stability assessment.	• Continue with all assessments (at least 2X week or more as needed). • ATC: postural-stability assessment.
ST/A	**School Team Academic** Educators, School Psychologist, Counselor, Social Worker *(Assign1 point person to oversee/ manage cognitive/emotional symptoms)*	• REDUCE (do not eliminate) all cognitive demands. • Meet with student periodically to create academic adjustments for cognitive/ emotional reduction no later than Day 2/3 and then assess again by Day 7. • Educate all teachers on the symptoms of concussion. • See ADJUST/ACCOMMODATE section.	• Continue to assess symptoms (at least 3X week or more as needed) and slowly increase/decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed.	• Continue with all assessments (at least 2X week or more as needed) and increase/ decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed. • Assess if longer term academic accommodations are needed (May need to consider a 504 Plan beyond 3+ weeks).
MT	**Medical Team**	• Assess and diagnose concussion. • Assess for head injury complications, which may require additional evaluation and management. • Recommend return to school with academic adjustments once symptoms are improving and tolerable, typically within 48 to 72 hours. • Educate student/athlete and family on the typical course of concussion and the need for rest. • Monitor that symptoms are improving throughout Week 1 — not worsening in the first 48 to 72 hours.	• Continue to consult with school and home teams. • Follow-up medical check including:comprehensive history, neurologic exam, detailed assessment of mental status, cognitive function, gait and balance.	• Continue to consult with school and home teams. • Weeks 3+, consider referral to a Specialty Concussion Clinic if still symptomatic. **It is best practice that a medical professional be involved in the management of each and every concussion, not just those covered by legislation.**

**Family should sign a Release of Information so that School Team and Medical Team can communicate with each other as soon as possible.*

>> **Don't be alarmed by the symptoms - symptoms are the hallmark of concussion.** The goal is to watch for a slow and steady improvement in ALL symptoms over time. It is typical for symptoms to be present for up to three weeks. If symptoms persist into Week 4, see SPECIAL CONSIDERATIONS.

>> Once a concussion has been diagnosed:

Jake Snakenberg

April 19, 1990 - September 19, 2004

In the Fall of 2004, Jake Snakenberg was a freshman football player at Grandview High School. He likely sustained a concussion in a game the week prior, however, he did not fully understand that he had experienced a concussion and he did not report his symptoms to anyone. One week later, Jake took a typical hit in a game, collapsed on the field and never regained consciousness. Jake passed away from "Second Impact Syndrome" on September 19, 2004.

STEP ONE: REMOVE student/athlete from all physical activities. REDUCE school demands and home/social stimulation.

The biggest concern with concussions in children/teens is the risk of injuring the brain again before recovery. The concussed brain is in a vulnerable state and even a minor impact can result in a much more severe injury with risk of permanent brain damage or rarely, even death. "Second Impact Syndrome" or "SIS" is thought to occur when an already injured brain takes another hit resulting in possible massive swelling, brain damage and/or death[4]. Therefore, once a concussion has been identified, it is critical to REMOVE a student/athlete from ALL physical activity including PE classes, dance, active recess, recreational and club sports until medically cleared.

Secondly, **while the brain is still recovering,** all school demands and home/social stimulation should be REDUCED. Reducing demands on the brain will promote REST and will help recovery.

FT	Family Team	**REMOVE** student/athlete from all physical activity immediately including play at home (ie. playground, bikes, skateboards), recreational, and/or club sports. **REDUCE** home/social stimulation including texting, social media, video games, TV, driving and going to loud places (the mall, dances, games). Encourage **REST**.
ST/P	School Physical Team	**REMOVE** student/athlete from all physical activity immediately. Support **REDUCTION** of school demands and home/social stimulation. Provide encouragement to **REST** and take the needed time to heal.
ST/A	School Aca-demic Team	**REMOVE** student/athlete from all physical activity at school including PE, recess, dance class. **REDUCE** school demands (see ADJUST/ACCOMMODATE for Educators on pages 9-10). Encourage "brain **REST**" breaks at school.
MT	Medical Team	**REMOVE** student/athlete from all physical activity immediately. **RULE-OUT** more serious medical issues including severe traumatic brain injury. Consider risk factors — evaluate for concussion complications. Support **REDUCTION** of school demands and home/social stimulation. Encourage **REST**.

STEP TWO: EDUCATE all teams on the story the symptoms are telling.
It might be two steps forward...one step back.

After a concussion, the brain cells are not working well. The good news is that with most concussions, the brain cells will recover in 1 to 3 weeks. When you push the brain cells to do more than they can tolerate (before they are healed) symptoms will get worse. When symptoms get worse, the brain cells are telling you that you've done too much. As you recover, you will be able to do more each day with fewer symptoms. If trying to read an algebra book or going to the mall flares a symptom initially, the brain is simply telling you that you have pushed too hard today and you need to back it down… try again in a few days. Thankfully, recovery from a concussion is quite predictable… most symptoms will decrease over 1 to 3 weeks and the ability to add back in home/social and school activities will increase over 1 to 3 weeks. Therefore, learn to "read" the symptoms. They are actually telling you the rate of recovery from the concussion.

NOTE: Home/social stimulation and school tasks can be added back in by the parent/teacher as tolerated. Physical activities, however, cannot be added back in without medical approval (see PACE).

PHYSICAL
How a Person Feels Physically

Headache/Pressure	Nausea
Blurred vision	Vomiting
Dizziness	Numbness/Tingling
Poor balance	Sensitivity to light
Ringing in ears	Sensitivity to noise
Seeing "stars"	Disorientation
Vacant stare/Glassy eyed	Neck Pain

COGNITIVE
How a Person Thinks

Feel in a "fog"
Feel "slowed down"
Difficulty remembering
Difficulty concentrating/easily distracted
Slowed speech
Easily confused

EMOTIONAL
How a Person Feels Emotionally

Inappropriate emotions	Irritability
Personality change	Sadness
Nervousness/Anxiety	Lack of motivation
Feeling more "emotional"	

SLEEP/ENERGY
How a Person Experiences Their Energy Level and/or Sleep Patterns

Fatigue	Drowsiness
Excess sleep	Sleeping less than usual
Trouble falling asleep	

Do not worry that your child has symptoms for 1 to 3 weeks; it is typical and natural to notice symptoms for up to 3 weeks. You just want to make sure you are seeing slow and steady resolution of symptoms every day. To monitor your child's progress with symptoms, chart symptoms periodically (see TIMEFRAME on page 5) and use the Symptom Checklist (see APPENDIX). In a small percentage of cases, symptoms from a concussion can last from weeks to months. (See SPECIAL CONSIDERATIONS on page 13.)

Medical Box

"It is not appropriate for a child or adolescent athlete with concussion to Return-to-Play (RTP) on the same day as the injury, regardless of the athletic performance."[5]

Consensus Statement on Concussion in Sport: the 4th International Conference on Concussion in Sport, Zurich 2012.

IMPORTANT!

All symptoms of concussion are important; however, monitoring of physical symptoms, within the first 48 to 72 hours, is critical! If physical symptoms worsen, especially headache, confusion, disorientation, vomiting, difficulty awakening, it may be a sign that a more serious medical condition is developing in the brain.

SEEK IMMEDIATE MEDICAL ATTENTION!

ADJUST/ ACCOMMODATE

STEP THREE: ADJUST/ACCOMMODATE for PARENTS.

AFTER YOUR CHILD HAS RECEIVED THE DIAGNOSIS OF CONCUSSION by a healthcare professional, their symptoms will determine when they should return to school. As the parent, you will likely be the one to decide when your child goes back to school because you are the one who sees your child every morning before school. Use the chart below to help decide when it is right to send your child back to school:

STAY HOME- BED REST

If your child's symptoms are so severe that he/she cannot concentrate for even 10 minutes, he/she should be kept home on total bed rest - no texting, no driving, no reading, no video games, no homework, limited TV. It is unusual for this state to last beyond a few days. Consult a physician if this state lasts more than 2 days.

MAXIMUM REST = MAXIMUM RECOVERY

STAY HOME – LIGHT ACTIVITY

If your child's symptoms are improving but he/she can still only concentrate for up to 20 minutes, he/she should be kept home — but may not need total bed rest. Your child can start light mental activity (e.g. sitting up, watching TV, light reading), as long as symptoms do not worsen. If they do, cut back the activity and build in more REST.

NO physical activity allowed!

TRANSITION BACK TO SCHOOL

When your child is beginning to tolerate 30 to 45 minutes of light mental activity, you can consider returning them to school. **As they return to school:**

- Parents should communicate with the school (school nurse, teacher, school mental health and/or counselor) when bringing the student into school for the first time after the concussion.
- Parents and the school should decide together the level of academic adjustment needed at school depending upon:
  - ✔ The severity of symptoms present
  - ✔ The type of symptoms present
  - ✔ The times of day when the student feels better or worse
- When returning to school, the child MUST sit out of physical activity – gym/PE classes, highly physically active classes (dance, weight training, athletic training) and physically active recess until medically cleared.
- Consider removing child from band or music if symptoms are provoked by sound.

>> GOING BACK TO SCHOOL

Ciera was 15 years old when she suffered a concussion while playing basketball. Her symptoms of passing out, constant headaches and fatigue plagued her for the remainder of her freshman year. A few accommodations helped Ciera successfully complete the school year.

"It really helped me when my teachers had class notes already printed out. That way I could just highlight what the teacher was emphasizing and focus on the concept rather than trying to take notes. Since having a brain injury, I don't really see words on the board, I just see letters. Therefore, having the notes beforehand takes some of the frustration off of me and I am able to concentrate and retain what is being taught in class. Being able to rest in the middle of the day is also very important for me. I become very fatigued after a morning of my rigorous classes, so my counselors have helped me adjust my schedule which allows me some down time so I can keep going through my day. Lastly, taking tests in a different place such as the conference room or teacher's office has helped a great deal." CIERA LUND

Medical Box

"Monday Morning Concussion" — Symptoms of a concussion may not develop immediately after the injury. In fact, symptoms may appear hours or even days later. One common scenario is when a student/athlete suffers a head injury on a Friday or Saturday, perhaps during a sporting event. The student/athlete may have a quiet weekend with few or no symptoms. It is not until they return to school on Monday, when the "thinking demands" from schoolwork increase, does the student/athlete begin to experience symptoms. It is important to recognize that these symptoms are related to the concussion. Students, parents and educators must learn to watch for delayed symptoms. In addition, they must pay attention to the activities that worsen those symptoms after they appear.

-Sue Kirelik, MD, Medical Director of the Center for Concussion

STEP THREE: ADJUST/ ACCOMMODATE for EDUCATORS.

School Team Educators

Alternate challenging classes with lighter classes (e.g. alternate a "core" class with an elective or "off" period). If this is not possible, be creative with flexing mental work followed by "brain rest breaks" in the classroom (head on desk, eyes closed for 5-10 minutes).

Medical Box

The newest research shows that neuropsychological testing has significant clinical value in concussion management. The addition of neuropsychological tests is an emerging best practice. However, limited resources and training are a reality for school districts. Whether or not a school district chooses to include any type of neurocognitive testing, REAP is still the foundation of the Concussion Management program. Data gathered from serial post-concussion testing (by Day 2/3, by Day 7, by Day 14 and by Day 21, until asymptomatic) can only serve to provide additional information. However, no test score should ever be used in isolation. Professionals must adhere to all ethical guidelines of test administration and interpretation.

Most Common "Thinking" Cognitive Problems Post-Concussion

And suggested adjustments/accommodations

Areas of concern	Suggested Accommodations for Return-to-Learn (RTL)
Fatigue, specifically Mental Fatigue	> Schedule strategic rest periods. Do not wait until the student's over-tiredness results in an emotional "meltdown." > Adjust the schedule to incorporate a 15-20 minute rest period mid-morning and mid-afternoon. > It is best practice for the student to be removed from recess/sports. Resting during recess or PE class is strongly advised. > Do not consider "quiet reading" as rest for all students. > Consider letting the student have sunglasses, headphones, preferential seating, quiet work space, "brain rest breaks," passing in quiet halls, etc. as needed.
Difficulty concentrating	> Reduce the cognitive load — it is a fact that smaller amounts of learning will take place during the recovery. > Since learning during recovery is compromised, the academic team must decide: What is the most important concept for the student to learn during this recovery? > Be careful not to tax the student cognitively by demanding that all learning continue at the rate prior to the concussion.
Slowed processing speed	> Provide extra time for tests and projects and/or shorten tasks. > Assess whether the student has large tests or projects due during the 3-week recovery period and remove or adjust due dates. > Provide a peer notetaker or copies of teacher's notes during recovery. > Grade work completed — do not penalize for work not done.
Difficulty with working memory	> Initially exempt the student from routine work/tests. > Since memory during recovery is limited, the academic team must decide: What is the most important concept(s) for the student to know? > Work toward comprehension of a smaller amount of material versus rote memorization.
Difficulty converting new learning into memory	> Allow student to "audit" the material during this time. > Remove "busy" work that is not essential for comprehension. Making the student accountable for all of the work missed during the recovery period (3 weeks) places undue cognitive and emotional strain on him/her and may hamper recovery. > Ease student back into full academic/cognitive load.
Emotional symptoms	Be mindful of emotional symptoms throughout! Students are often scared, overloaded, frustrated, irritable, angry and depressed as a result of concussion. They respond well to support and reassurance that what they are feeling is often the typical course of recovery. Watch for secondary symptoms of depression — usually from social isolation. Watch for secondary symptoms of anxiety — usually from concerns over make-up work or slipping grades.

STEP THREE: ADJUST/ACCOMMODATE for EDUCATORS continued.

Typically, student's symptoms only require 2 to 3 days of absence from school. If more than 3 days are missed, call a meeting with parents and seek a medical explanation.

Teachers, please consider categorizing work into:

Work REMOVED	Consider removing at least 25% of the workload.
NEGOTIABLE	Consider either **"adjusting"** workload (i.e. collage instead of written paper) **OR "delaying"** workload...however, be selective about the workload you postpone.
Work REQUIRED	Consider requiring no more than 25% of the workload.

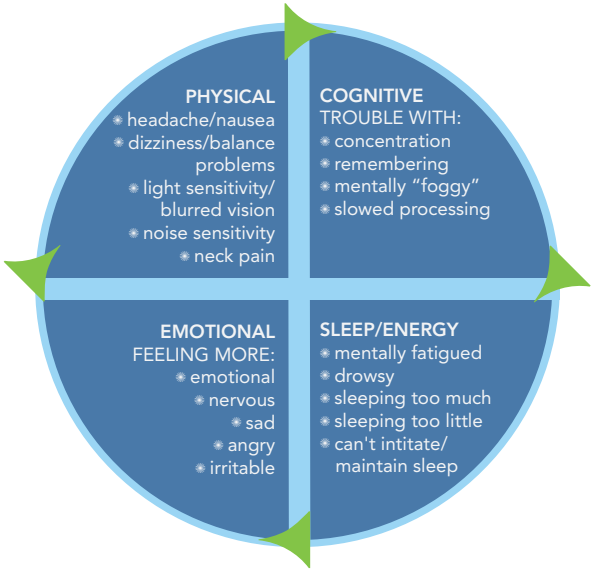
Adapted from William Heinz, M.D.

Academic adjustments fall within the pervue of the classroom/school. They are NOT determined by a healthcare professional. The teacher has the right to adjust up or down academic supports as needed, depending upon how the student is doing daily. Medical "release" from academic adjustments is not necessary.

PHYSICAL:
- "Strategic Rest"scheduled 15 to 20 minute breaks in clinic/quiet space (mid-morning; mid-afternoon and/or as needed)
- Sunglasses (inside and outside)
- Quiet room/environment, quiet lunch, quiet recess
- More frequent breaks in classroom and/or in clinic
- Allow quiet passing in halls
- REMOVE from PE, physical recess, & dance classes without penalty
- Sit out of music, orchestra and computer classes if symptoms are provoked

EMOTIONAL:
- Allow student to have "signal" to leave room
- Help staff understand that mental fatigue can manifest in "emotional meltdowns"
- Allow student to remove him/herself to de-escalate
- Allow student to visit with supportive adult (counselor, nurse, advisor)
- Watch for secondary symptoms of depression and anxiety usually due to social isolation and concern over "make-up work" and slipping grades. These extra emotional factors can delay recovery

Symptom Wheel
Suggested Academic Adjustments



COGNITIVE:
- REDUCE workload in the classroom/homework
- REMOVE non-essential work
- REDUCE repetition of work (ie. only do even problems, go for quality not quantity)
- Adjust "due" dates; allow for extra time
- Allow student to "audit" classwork
- Exempt/postpone large test/projects; alternative testing (quiet testing, one-on-one testing, oral testing)
- Allow demonstration of learning in alternative fashion
- Provide written instructions
- Allow for "buddy notes" or teacher notes, study guides, word banks
- Allow for technology (tape recorder, smart pen) if tolerated

SLEEP/ENERGY:
- Allow for rest breaks –in classroom or clinic (ie."brain rest breaks = head on desk; eyes closed for 5 to 10 minutes)
- Allow student to start school later in the day
- Allow student to leave school early
- Alternate "mental challenge" with "mental rest"

Read "Return to Learning: Going Back to School Following a Concussion" at nasponline.org/publications/cq/40/6/return-to-learning.aspx

Interventions:

Keep in mind, brain cells will heal themselves a little bit each day. Students should be able to accomplish more and more at school each day with fewer and fewer symptoms. Therefore, as the teacher sees recovery, he/she should require more work from the student. By the same token, if a teacher sees an exacerbation of symptoms, he/she should back down work for a short time and re-start it as tolerated.

Data collection:

How the student performs in the classroom is essential data needed by the healthcare professional at the time of clearance. Schools should have a process in place by which a teacher can share observations, thoughts, concerns back to the parents and healthcare professional throughout the recovery. Healthcare professionals should REQUIRE input from teachers on cognitive recovery before approving the Graduated Return-to-Play steps. (See Teacher Feedback Form in APPENDIX.) Parents should sign a Release of Information at the school and/or at the healthcare professionals office for seamless communication between school teams and medical team.

Supplemental materials and downloadable forms for teachers may be found at RockyMountainHospitalForChildren.com.

How do I get back to my sport?
A.K.A. How do I get "cleared" from this concussion

While 80 to 90% of concussions will be resolved in 3 to 4 weeks, a healthcare professional, whether in the Emergency Department or in a clinic, cannot predict the length or the course of recovery from a concussion. In fact, a healthcare professional should never tell a family that a concussion will resolve in X number of days because every concussion is different and each recovery time period is unique. The best way to assess when a student/athlete is ready to start the step-wise process of "Returning-to-Play" is to ask these questions:

>> Is the student/athlete 100% symptom-free at home?

- ❍ Use the Symptom Checklist every few days. All symptoms should be at "0" on the checklist or at least back to the perceived "baseline" symptom level.
- ❍ Look at what the student/athlete is doing. At home they should be acting the way they did before the concussion, doing chores, interacting normally with friends and family.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of home/social, mall or restaurants.

>> Is the student 100% symptom-free at school?

- ❍ Your student/athlete should be handling school work to the level they did before the concussion.
- ❍ Use the Teacher Feedback Form (APPENDIX) to see what teachers are noticing.
- ❍ Watch your child/teen doing homework; they should be able to complete homework as efficiently as before the concussion.
- ❍ In-school test scores should be back to where they were pre-concussion.
- ❍ School workload should be back to where it was pre-concussion.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of school.

>> If the school or healthcare professional has used neurocognitive testing, are scores back to baseline or at least reflect normative average and/or baseline functioning?

>> If a Certified Athletic Trainer is involved with the concussion, does the ATC feel that the student/athlete is 100% symptom-free?

- ❍ Ask ATC for feedback and/or serial administrations of the Symptom Checklist.

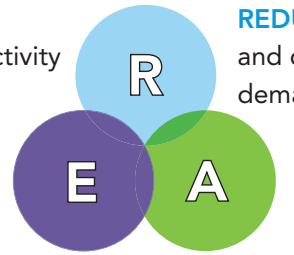
>> Is your child off all medications used to treat the concussion?

- ❍ This includes over the counter medications such as ibuprofen, naproxen and acetaminophen which may have been used to treat headache or pain.

If the answer to any of the questions is "NO," stay the course with management and continue to repeat:

REMOVE physical activity

REDUCE home and cognitive demands



ADJUST/ ACCOMMODATE home/social and school activities

EDUCATE: Let the symptoms direct the interventions

… for however long it takes for the brain cells to heal!

The true test of recovery is to notice a steady decrease in symptoms while noticing a steady increase in the ability to handle more rigorous home/social and school demands.

PARENTS and TEACHERS try to add in more home/social and school activities (just NOT physical activities) and test out those brain cells!

Once the answers to the questions above are all "YES," turn the page to the PACE page to see what to do next!

STEP FOUR: PACE

FAMILY TEAM Is the student/athlete 100% back to pre-concussion functioning?

SCHOOL ACADEMIC TEAM Is the student/athlete 100% back to pre-concussion academic functioning

WHEN ALL FOUR TEAMS AGREE

that the student/athlete is 100% recovered, the MEDICAL TEAM can then approve the starting of the Graduated RTP steps. The introduction of physical activity (in the steps outlined in order below) is the last test of the brain cells to make sure they are healed and that they do not "flare" symptoms. This is the final and formal step toward "clearance" and the safest way to guard against a more serious injury.

MEDICAL TEAM approves the start of the RTP steps

SCHOOL PHYSICAL TEAM Often the ATC at the school takes the athlete through the RTP steps.

If there is no ATC available, the MEDICAL TEAM should teach the FAMILY TEAM to administer and supervise the RTP steps.

A Graduated Return-to-Play (RTP) Recommended by The 2012 Zurich Consensus Statement on Concussion in Sport*

STAGE	ACTIVITY	FUNCTIONAL EXERCISE AT EACH STAGE OF REHABILITATION	OBJECTIVE OF STAGE
1	**No activity**	Symptom limited physicial and cognitive rest.	Recovery
	When 100% symptom free for 24 hours proceed to Stage 2. (Recommend longer symptom-free periods at each stage for younger student/athletes) ▼		
2	**Light aerobic exercise**	Walking, swimming or stationary cycling keeping intensity <70% maximum permitted heart rate. No resistance training.	Increase heart rate
	If symptoms re-emerge with this level of exertion, then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion, then proceed to the next stage.* ▼		
3	**Sport-specific exercise**	Skating drills in ice hockey, running drills in soccer. No head-impact activities.	Add movement
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
4	**Non-contact training drills**	Progression to more complex training drills, e.g., passing drills in football and ice hockey May start progressive resistance training.	Exercise, coordination and cognitive load
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
5	**Full-contact practice**	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
6	**Return to play**	Normal game play.	No restrictions

*bjsm.bmj.com/content/47/5/250.full

The healthcare professional should give the responsibility of the graduated RTP steps over only to a trained professional such as an ATC, PT or should teach the parents. A coach, school nurse or PE teacher does NOT need to be responsible for taking concussed student/athletes through these steps.

Research Note: Earlier introduction of physical activity is being researched and may become best practice. However, at this time, any early introduction of physical exertion should only be conducted in a supervised and safe environment by trained professionals.

PACE

Special Considerations

>> As we know, 80 to 90% of concussions will resolve within 3 to 4 weeks.

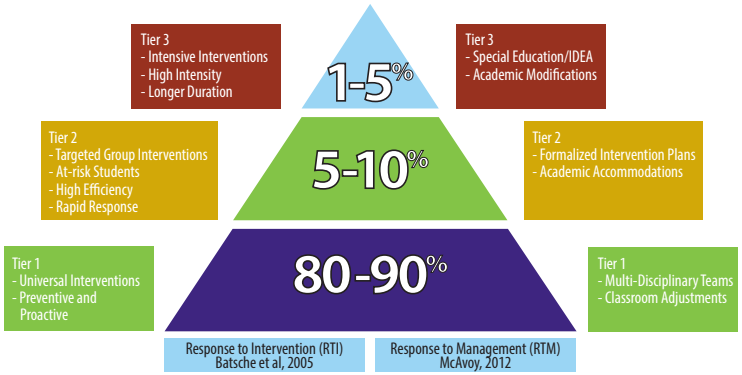
However, there remains the 10 to 20% of student/athletes who have on-going physical, cognitive, emotional or sleep/energy symptoms well beyond the 3 to 4 week mark. In those cases, the parent and medical professionals are advised to look to the school system for existing supports. The 2004 Re-authorization of IDEA (Individuals with Disability Education Act) introduced an educational initiative called "Response to Intervention (RTI)." RTI contends that good teaching and reasonable academic "adjustments" in the general education classroom can help to support 80 to 90% of students with mild/temporary learning or behavioral issues. The same concept holds true for concussions. We have called this "Response to Management (RTM)."

>> In RTI and RTM, we maximize the student/athlete's recovery by focusing on good academic "adjustments" in the general education classroom.

The 10 to 20% of students who struggle beyond the general education classroom may need a small amount of "targeted intervention" called academic "accommodation." Academic "accommodations" may be provided via a Health Plan, a Learning Plan, a 504 Plan[6] or an RTI Plan. It is still hoped that the accommodations for learning, behavior or concussions are temporary and amenable to intervention but may take months (instead of weeks) for progress to show. Lastly, with RTI and RTM, in the rare event that a permanent "disability" is responsible for the educational struggle, the student may be assessed and staffed into special education services (IDEA) and provided an IEP (Individualized Education Plan). This would constitute an extremely small number of students with a concussion.

The multi-disciplinary teams need to continue to work together with the student/athlete with protracted recovery. Parents and medical professionals need to seek medical explanation and treatment for slowed recovery; educators need to continue to provide the appropriate supports and the school physical team needs to continue to keep the student/athlete out of physical play.

Concussion Management Guidelines [8]



Adjustments/Accommodations/ Modifications

DAYS TO WEEKS: Academic Adjustments
Informal, flexible day-to-day adjustments in the general education classroom for the first 3 to 4 weeks of a concussion. Can be lifted easily when no longer needed.

WEEKS TO MONTHS: Academic Accommodations
Slightly longer accommodations to the environment/ learning to account for a longer than 4+ week recovery. Helps with grading, helps justify school supports for a longer time.

MONTHS TO YEARS: Academic Modifications
Actual changes to the curriculum/placement/instruction

Medical Box

Students who have Attention Deficits, Learning Disabilities, a history of migraine headaches, sleep disorders, depression or other mental health disorders may have more difficulty recovering from a concussion.

Students who have had multiple concussions, a recent prior concussion or who are getting symptomatic after less impact may be at risk for long-term complications. Research supports the fact that a person who sustains one concussion is at higher risk for sustaining a future concussion.[7]

Retirement from sport: If the burden of one concussion or each successive concussion is significant, the family, school and medical teams should discuss retirement from sport.

Resources

Centers for Disease Control (CDC)	CDC.gov	1-800-CDC-INFO
Colorado Brain Injury Program	tbicolorado.org	303-866-4779
CO Child/Adolescent Brain Injury	COkidswithbraininjury.com	
Brain Injury Alliance of Colorado (BIAC)	biacolorado.org	303-355-9969
Brain Injury Association of America (BIAA)	biausa.org	1-800-444-6443
Colorado High School Activities Association (CHSAA)	chsaa.org	303-344-5050
Colorado Department of Education (CDE)	cde.state.co.us	303-866-2879
National Association of Athletic Trainers (NATA)	nata.org journalofathletictraining.org	
National Federation of State High School Associations	nfhs.org	317-972-6900
Coaches Training: (free, online coach-training sessions)	National Federation of State High School Associations	nfhslearn.org

>> Please Note:

This publication is not a substitute for seeking medical care.

REAP is available for customization in your state.

>> All questions or comments and requests for inservices/trainings can be directed to:

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- Kelli Jantz, Shannon Jantz, the Jantz/Snakenberg families
- Ciera Lund and the Lund family

This manual is available in Spanish upon request.

This program is part of HealthONE's Rocky Mountain Hospital for Children.

Symptom Checklist

Name: _____ Assessment Date: _____

Date of Injury: _____ Time of Injury 2-3 Hrs 24 Hrs 48 Hrs 72 Hrs Daily Weekly

SYMPTOMS		SEVERITY RATING						
Pathways	Symptoms		Mild	Mild	Moderate	Moderate	Severe	Severe
A	I feel like I'm going to faint	0	1	2	3	4	5	6
V	I'm having trouble balancing	0	1	2	3	4	5	6
	I feel dizzy	0	1	2	3	4	5	6
	It feels like the room is spinning	0	1	2	3	4	5	6
O	Things look blurry	0	1	2	3	4	5	6
	I see double	0	1	2	3	4	5	6
H	I have headaches	0	1	2	3	4	5	6
	I feel sick to my stomach (nauseated)	0	1	2	3	4	5	6
	Noise/sound bothers me	0	1	2	3	4	5	6
	The light bothers my eyes	0	1	2	3	4	5	6
C	I have pressure in my head	0	1	2	3	4	5	6
	I feel numbness and tingling	0	1	2	3	4	5	6
N	I have neck pain	0	1	2	3	4	5	6
S/E	I have trouble falling asleep	0	1	2	3	4	5	6
	I feel like sleeping too much	0	1	2	3	4	5	6
	I feel like I am not getting enough sleep	0	1	2	3	4	5	6
	I have low energy (fatigue)	0	1	2	3	4	5	6
	I feel tired a lot (drowsiness)	0	1	2	3	4	5	6
Cog	I have trouble paying attention	0	1	2	3	4	5	6
	I am easily distracted	0	1	2	3	4	5	6
	I have trouble concentrating	0	1	2	3	4	5	6
	I have trouble remembering things	0	1	2	3	4	5	6
	I have trouble following directions	0	1	2	3	4	5	6
	I feel like my thinking is "foggy"	0	1	2	3	4	5	6
	I feel like I am moving at a slower speed	0	1	2	3	4	5	6
	I don't feel "right"	0	1	2	3	4	5	6
	I feel confused	0	1	2	3	4	5	6
	I have trouble learning new things	0	1	2	3	4	5	6
E	I feel more emotional	0	1	2	3	4	5	6
	I feel sad	0	1	2	3	4	5	6
	I feel nervous	0	1	2	3	4	5	6
	I feel irritable or grouchy	0	1	2	3	4	5	6

Other: _____

Pathways of concern: A=Autonomic V=Vestibular O=Oculomotor H=Headache (Migraine &Non-Migraine) C=Cervicogenic N=Neck Strain S/E=Sleep/Energy Cog=Cognitive E=Emotional

APPENDIX

Teacher Feedback Form

Date _____

>> Student's Name _____

Date of Concussion _____

Student: you have been diagnosed with a concussion. It is **your responsibility to gather data from your teachers** before you return to the doctor for a follow-up visit. A day or two before your next appointment, go around to all of your teachers (especially the CORE classes) and ask them to fill in the boxes below based upon how you are **currently functioning** in their class(es).

Teachers: Thank you for your help with this student. Your feedback is very valuable. We do not want to release this student back to physical activity if you are still seeing physical, cognitive, and emotional or sleep/energy symptoms in your classroom(s). If you have any concerns, please state them below.

1. Your name 2. Class taught	Is the student still receiving any academic adjustments in your class? If so, what?	Have you noticed, or has the student reported, any concussion symptoms lately? (e.g. complaints of headaches, dizziness, difficulty concentrating, remembering; more irritable, fatigued than usual etc.?) If yes, please explain.	Do you believe this student is performing at their pre-concussion learning level?
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:

SENATE BILL 11-040

(1)(a) Each public and private middle school, junior high school, and high school shall require each coach of a youth athletic activity that involves interscholastic play to complete an annual concussion recognition education course.

(a) Each private club or public recreation facility and each athletic league that sponsors youth athletic activities where the majority of the participants are eleven years of age or older and under nineteen years of age shall require each volunteer coach for a youth athletic activity and each coach with whom the club, facility, or league directly contracts with, formally engages, or employs who coaches a youth athletic activity to complete an annual concussion recognition education course.

(2)(a) The concussion recognition education course required by subsection (1) of this section shall include the following:

(I) Information on how to recognize the signs and symptoms of a concussion.

(II) The necessity of obtaining proper medical attention for a person suspected of having a concussion.

(III) Information on the nature and risk of concussions, including the danger of continuing to play after sustaining a concussion and the proper method of allowing a youth athlete who has sustained a concussion to return to athletic activity.

REMOVAL FROM PLAY FOR A "SUSPECTED" CONCUSSION

If a coach who is required to complete concussion recognition education pursuant to subsection (1) of this section suspects that a youth athlete has sustained a concussion following an observed or suspected blow to the head or body in a game, competition, or practice, the coach shall immediately remove the athlete from the game, competition, or practice. The signs and symptoms cannot be readily explained by a condition other than concussion.

RETURN TO PLAY

(4)(a) If a youth athlete is removed from play pursuant to subsection (3) of this section and the signs and symptoms cannot be readily explained by a condition other than concussion, the school coach or private or public recreational facility's designated personnel shall notify the athlete's parent or legal guardian and shall not permit the youth athlete to return to play or participate in any supervised team activities involving physical exertion, including games, competitions, or practices, until he or she is evaluated by a health care provider and receives written clearance to return to play from the health care provider. The health care provider evaluating a youth athlete suspected of having a concussion or brain injury may be a volunteer. "Health Care Provider" means:
• a Doctor of Medicine • Doctor of Osteopathic Medicine • Licensed Nurse Practitioner • Licensed Physician Assistant • Licensed Doctor of Psychology with training in neuropsychology or concussion evaluation and management.

(b) Notwithstanding the provisions of paragraph (a) of this subsection (4), a doctor of chiropractic with training and specialization in concussion evaluation and management may evaluate and provide clearance to return to play for an athlete who is part of the united states Olympic training program.

After a concussed athlete has been evaluated and received clearance to return to play from a health care provider, an organization or association of which a school or school district is a member, a private or public school, a private club, a public recreation facility, or an athletic league may allow a registered athletic trainer with specific knowledge of the athlete's condition to manage the athlete's graduated return to play.

THIS IS COLORADO LAW

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Center for Concussion

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Centennial, CO 80112
720.979.0840

At Red Rocks Medical Center
400 Indiana Street, Suite 350
Golden, CO 80401
303.861.2663

Jake Snakenberg Fund

Dedicated to the Memory
of Jake Snakenberg
April 19, 1990 -
September 19, 2004

In the fall of 2004, Jake Snakenberg passed away from "Second Impact Syndrome." As a result of Jake's death, with the support of Jake's family and a team of dedicated health professionals, REAP and the Center for Concussion exist today.

The Jake Snakenberg Fund is a program of Rocky Mountain Children's Health Foundation, whose mission is to *enhance the quality of life for pediatric patients in the Rocky Mountain region.*

To ensure the ongoing efforts to educate coaches and parents on concussion recognition, please consider a gift to the Jake Snakenberg Fund.

Online: www.rmchildren.org/donation

Mail to:
Rocky Mountain Children's Health Foundation
2055 High Street Suite 240, Denver, CO 80205

Contact: Luanne Williams, Executive Director
303.839.6873

Visit us at: www.rmchildren.org
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Rocky Mountain Children's Health Foundation

Printing of this brochure was paid for by the Jake Snakenberg Fund of the Rocky Mountain Children's Health Foundation.

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HealthONE

RETURN TO PLAY POLICIES

Michigan

MHSAA PROTOCOL FOR IMPLEMENTATION OF NATIONAL FEDERATION SPORTS PLAYING RULES FOR CONCUSSIONS

"Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health care professional."

The language above, which appears in all National Federation sports rule books, reflects a strengthening of rules regarding the safety of athletes suspected of having a concussion. This language reflects an increasing focus on safety and acknowledges that the vast majority of concussions do not involve a loss of consciousness.

This protocol is intended to provide the mechanics to follow during the course of contests when an athlete sustains an apparent concussion.

1. The officials will have no role in determining concussion other than the obvious one where a player is either unconscious or apparently unconscious. Officials will merely point out to a coach that a player is apparently injured and advise that the player should be examined by a health care professional for an exact determination of the extent of injury.
2. If it is confirmed by the school's designated health care professional that the student did not sustain a concussion, the head coach may so advise the officials during an appropriate stoppage of play and the athlete may reenter competition pursuant to the contest rules.
3. Otherwise, if competition continues while the athlete is withheld for an apparent concussion, that athlete may not be returned to competition that day but is subject to the return to play protocol.
    a. The clearance may not be on the same date on which the athlete was removed from play.
    b. Only an M.D., D.O., Physician's Assistant or Nurse Practitioner may clear the individual to return to activity.
    c. The clearance must be in writing **and must be unconditional. It is not sufficient that the M.D., D.O., Physician's Assistant or Nurse Practitioner has approved the student to begin a return-to-play progression. The medical examiner must approve the student's return to unrestricted activity.**
    d. Individual school, districts and leagues may have more stringent requirements and protocols including but not limited to mandatory periods of inactivity, screening and post-concussion testing prior or after to the written clearance for return to activity.
4. Following the contest, an Officials Report shall be filed with a removed player's school and the MHSAA **if the situation was brought to the officials' attention.**
5. **ONLINE REPORTING: Member schools are required to complete and submit an online report designated by the MHSAA to record and track head injury events when they occur in all levels of all sports during the season in practices and competitions. Schools with no concussions for a season (fall, winter and spring) are required to report this at the conclusion of that season.**
6. **POST-CONCUSSION CONSENT FORM:** Prior to returning to physical activity (practice or competition) the student and parent (if a minor student) must complete the Post-Concussion Consent Form which accompanies the written unconditional clearance of an M.D., D.O., P.A or N.P. **This form should be kept on file at the school for seven years after the student's graduation and emailed to concussion@mhsaa.com or faxed to 517-332-4071.**
7. In cases where an assigned MHSAA tournament physician (MD/DO/PA/NP) is present, his or her decision to not allow an athlete to return to activity may not be overruled.

NON-COMPLIANCE WITH CONCUSSION MANAGEMENT POLICY

Following are the consequences for not complying with National Federation and MHSAA rules when players are removed from play because of a concussion:

- A concussed student is ineligible to return to any athletic meet or contest on the *same day* the concussion is sustained.
- A concussed student is ineligible to enter a meet or contest on a *subsequent day* without the written authorization of an M.D., D.O., Physician's Assistant or Nurse Practitioner and the MHSAA-designated "Post-Concussion Return to Activity Consent Form" also signed by the student and parent.

These students are considered ineligible players and any meet or contest which they enter is forfeited.

In addition, that program is placed on probation through that sport season of the following school year.

For a second offense in that sport during the probationary period – that program is continued on probation through that sport season of the following school year and not permitted to participate in the MHSAA tournament in that sport during the original and extended probationary period.

michigan high school athletic association

August 2017

RETURN TO ACTIVITY & POST-CONCUSSION CONSENT FORM

This form is to be used after an athlete is removed from and not returned to activity after exhibiting concussion symptoms. MHSAA rules require 1) Unconditional written authorization from a physician (MD/DO/Physician's Assistant/Nurse Practitioner), and 2) Consent from the student and parent/guardian. **Both Sections 1 & 2 of this form must be completed prior to a return to activity. This form must be kept on file at the school and emailed to Concussion MHSAA.com or faxed to 517-332-4071.**

Student: _____ School:

Event/Sport: _____ Date of Injury:

1. Action of M.D., D.O., Physician's Assistant or Nurse Practitioner

- **The clearance must be in writing and must be unconditional**. It is not sufficient that the M.D., D.O., Physician's Assistant or Nurse Practitioner has approved the student to begin a return-to-activity progression. The medical examiner must approve the student's return to unrestricted activity.
- Individual schools, districts and leagues may have more stringent requirements and protocols including but not limited to mandatory periods of inactivity, screening and post-concussion testing prior to or after the written clearance for return to activity.
- A school or health care facility may use a locally created form for this portion of the return-to-activity protocol, provided it complies with MHSAA regulations. (See MHSAA Protocol.)

I have examined the above named student-athlete following this episode and determined the following: _____

☐ **Permission is granted** for the athlete to return to activity (may **not** return to practice or competition on the same day as the injury).

DATE:

SIGNATURE (must be MD or DO or PA or NP circle one)

Examiner's Name (Printed):

2. Post-Concussion Consent from Student and Parent/Guardian.

- I am fully informed concerning, and knowingly and voluntarily consent to, my/my child's immediate return to participation in athletic activities; I understand, appreciate, acknowledge, and assume the risks associated with such return to activity, including but not limited to concussions, and agree to comply with all relevant protocols established by my/my child's school and/or the MHSAA; and I/my child has been evaluated by, and has received written clearance to return to activity from an M.D., D.O., Physician's Assistant or Nurse Practitioner.
- In consideration of my/my child's continued participation in MHSAA-sponsored athletics, I/we do hereby waive any and all claims, suits, losses, actions, or causes of action against the MHSAA, its members, officers, representatives, committee members, employees, agents, attorneys, insurers, volunteers, and affiliates based on any injury to me, my child, or any person, whether because of inherent risk, accident, negligence, or otherwise, during or arising in any way from my/my child's participation in an MHSAA-sponsored sport.
- I/we consent to the disclosure to appropriate persons, consistent with HIPAA and FERPA, of the treating medical examiner's written statement.

Student's Signature (Required): **Date:**

***Parent/Guardian's Name** ***Parent/Guardian's Signature:**

**Required if student is less than 18 years of age.*

SEE REVERSE FOR OTHER CONCUSSION RELATED INFORMATION INCLUDING INSURANCE

THIS FORM SHOULD BE KEPT ON FILE AT THE SCHOOL FOR SEVEN YEARS FOLLOWING THE STUDENT'S HIGH SCHOOL GRADUATION. **Print Year of HS Graduation:** ☐

SCHOOL CONCUSSION REPORTING

Schools must report concussion events online while logged into MHSAA.com. Report any concussion event in all levels of all MHSAA sports where a student is withheld from activity. This is a separate process from the Return to Activity and Post-Concussion Consent Form on the reverse side.

MHSAA CONCUSSION CARE INSURANCE

The Michigan High School Athletic Association is providing athletic participants at each MHSAA member junior high/middle school and high school with insurance that is intended to pay accident medical expense benefits resulting from concussion. The suspected concussion must be sustained while the athlete is participating in an MHSAA in-season covered activity (practice or competition). Policy limit is $25,000 for each accident.

This program intends to assure that all eligible student-athletes in MHSAA member schools in grades 6 through 12, male and female, in all levels of all sports under the jurisdiction of the MHSAA, receive prompt and professional attention for head injury events even if the child is uninsured or under-insured. Accident medical deductibles and co-pays left unpaid by other policies are reimbursed under this program to the limits of the policy.

Covered students, sports and situations follow to the MHSAA accident medical insurance which pays up to $1,000,000 for medical expenses left unpaid by other insurance after a deductible of $25,000 per claim in paid medical expenses has been met. All students enrolled in grades 6 through 12 at MHSAA member schools who are eligible under MHSAA rules and participating in practices or competition in sports under the MHSAA's jurisdiction are covered by this policy for injuries related to their athletic participation.

CONCUSSION INSURANCE CLAIMS ADMINISTRATOR ADDITIONAL INFORMATION

Ms. Terri Bruner
K & K Insurance Group
1712 Magnavox Way
Fort Wayne, IN 46801
Phone: 800-237-2917 Fax: 312-381-9077
Email: Terri.Bruner@kandkinsurance.com

Claim Forms can be found on MHSAA.com, Health & Safety (upper right corner). See Concussion Insurance Benefits Information and Forms

RETURN TO PLAY POLICIES

Minnesota

Minnesota State High School League

IMPLEMENTATION OF NFHS PLAYING RULES RELATED TO CONCUSSION AND CONCUSSED ATHLETES

In its various sports playing rules, the National Federation of State High School Associations (NFHS) has implemented a standard rule in all sports dealing with concussions in student-athletes. The basic rule in all sports (which may be worded slightly different in each rule book) states that:

"Any athlete who e hibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, di iness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health care professional."

The MSHSL Sports Medicine Advisory Committee highly recommends that every student-athlete and parent should successfully complete the Heads Up: Concussion in high School Sports course. The course can be accessed at: www.cdc.gov/headsup

The role of contest officials in administering the rule

- Officials are to review and know the signs and symptoms of a concussion and immediately remove any athlete who displays the following signs or symptoms from the contest.
  - Headache
  - Fogginess
  - Difficulty concentrating
  - Easily confused
  - Slowed thought processes
  - Difficulty with memory
  - Nausea
  - Lack of energy, tiredness
  - Dizziness, poor balance
  - Blurred vision
  - Sensitive to light and sounds
  - Mood changes – irritable, anxious or tearful

Only an Appropriate Health Care Professional can decide if an athlete has been concussed (has had a concussion)

- An Appropriate Health Care Professional is empowered to make on site determination that an athlete has received concussion.
  An Appropriate Health Care Professional (AHCP) is defined as a medical professional functioning within the levels of their medical education, medical training, and medical licensure.
- If the Appropriate Health Care Professional has determined that an athlete has been concussed, that decision is final and the athlete must be removed from all competition for the remainder of that day.
- If the event continues over multiple days, the designated event AHCP has ultimate authority regarding any return to play decision during the event.

Procedure to follow if an official has removed an athlete and the AHCP has determined the athlete does not have a concussion

- If it is confirmed by the school's designated AHCP that the athlete was removed from competition but did not sustain a concussion, the head coach may so advise the officials during an appropriate stoppage of play, and the athlete may reenter competition pursuant to the contest rules.

Procedure regarding an authorization to return to practice/competition in the sport

- Once a concussion has been diagnosed by an AHCP, only an AHCP can authorize a subsequent return to play.
  a) The clearance must be in writing;
  b) The clearance may not be on the same date on which the athlete was removed from play; and
  c) The form must be kept on file in the school's athletic office.
  d) A parent cannot authorize the return to play for his or her child, even if the parent is also an AHCP.
- The school administration shall notify the coach regarding the concussed athlete's permission to return to play.

Fundamental reminder about this rule

- It has always been the ultimate responsibility of the coaching staff, in all sports, to ensure that players are allowed to compete in practice or contests only if they are physically capable of doing so.

WHEN IN DOUBT…SIT THEM OUT

MSHSL Tournament Series

- In cases where an assigned MSHSL tournament physician is present, his or her decision regarding an athlete's ability to return to competition shall not be overruled by any other AHCP.

NFHS suggested Concussion Management Guidelines for Health Care Professionals if the athlete has been concussed on the day of competition

1. No athlete should Return to Play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an AHCP that day.
3. Any athlete with a concussion should be medically cleared by an AHCP prior to resuming participation in any practice or competition.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon the return of any signs or symptoms.

Acute injury
When a player shows any symptoms or signs of a concussion, the following should be applied.

1. The player should not be allowed to return to play in the current game or practice.
2. The player should not be left alone, and regular monitoring for deterioration is essential over the initial few hours after injury.
3. The player should be medically evaluated after the injury.
4. Return to play must follow a medically supervised stepwise process.

A player should never return to play while symptomatic. "When in doubt, sit them out!"

Return to play protocol
Return-to-play decisions are complex. An athlete may be cleared to return to competition only when the player is free of all signs and symptoms of a concussion at rest and during exercise. Once free of symptoms and signs of concussion, a stepwise symptom free exercise process is required before a player can return to competition.

- Each step requires a minimum of 24 hours.
- The player can proceed to the next level only if he/she continues to be free of any symptoms and or signs at the current level.
- If any symptoms or signs recur, the player should drop back to the previous level.

The return to play after a concussion follows a stepwise process:

1. No activity, complete rest until all symptoms have resolved. Once asymptomatic, proceed to level 2.
2. Light aerobic exercise such as walking or stationary cycling, no resistance training.
3. Sport specific exercise—for example, skating in hockey, running in soccer; progressive addition of resistance training at steps 3 or 4.
4. Non-contact training drills.
5. Full contact training after medical clearance.
6. Game play.

The final return to competition decision is based on clinical judgment and the athlete may return only with written permission from a health care provider who is registered, licensed, certified, or otherwise statutorily authorized by the state to provide medical treatment; is trained and experienced in evaluating and managing concussions; and is practicing within the person's medical training and scope of practice.

Neuropsychological testing or balance testing may help with the return to play decision and may be used after the player is symptom free, but the tests are not required for the symptom free player to return to play.

For more information please refer to the references listed below and www.concussionsafety.com.

Signs Observed By Coaching Staff	**Symptoms Reported By Athlete**
Appears dazed and stunned	Headache or “pressure” in head
Is confused about assignment or position	Nausea or vomiting
Forgets sports plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness (even briefly)	Feeling sluggish, hazy, foggy, or groggy
Shows behavior or personality changes	Concentration or memory problems
Can’t recall events prior to hit or fall	Confusion
Can’t recall events after hit or fall	Does not “feel right”

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RETURN TO PLAY POLICIES

Mississippi

MISSISSIPPI HIGH SCHOOL ACTIVITIES ASSOCIATION, INC.

Concussion Information Form

(Required by MHSAA Annually)

A concussion is a brain injury and all brain injuries are serious. They are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body with the force transmitted to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even though most concussions are mild, all concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly. In other words, even a "ding" or a bump on the head can be serious. You cannot see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of concussion may show up right after the injury or can take hours or days to fully appear. If your child reports any symptoms of concussion, or if you notice the symptoms or signs of concussion yourself, seek medical attention right away.

Symptoms may include one or more of the following:

- Headaches
- "Pressure in head"
- Nausea or vomiting
- Neck pain
- Balance problems or dizziness
- Blurred, double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Drowsiness
- Change in sleep patterns
- Amnesia
- "Don't feel right"
- Fatigue or low energy
- Sadness
- Nervousness or anxiety
- Irritability
- More emotional
- Confusion
- Concentration or memory problems (forgetting game plays)
- Repeating the same question/comment

Signs observed by teammates, parents and coaches include:

- Appears dazed
- Vacant facial expression
- Confused about assignment
- Forgets plays
- Is unsure of game, score, or opponent
- Moves clumsily or displays incoordination
- Answers questions slowly
- Slurred speech
- Shows behavior or personality changes
- Can't recall events prior to hit
- Can't recall events after hit
- Seizures or convulsions
- Any change in typical behavior or personality
- Loses consciousness

(Continued on next page)

RETURN TO PLAY POLICIES

Missouri

MSHSAA Concussion Return to Play Form

If diagnosed with a concussion, an athlete must be cleared for progression to activity by an approved healthcare provider, MD/DO/PAC/LAT/ARNP/Neuropsychologist (**Emergency Room physician cannot clear for progression**).

Athlete's Name: _____ DOB: _____ Date of Injury: _____

THIS RETURN TO PLAY IS BASED ON TODAY'S EVALUATION

Date of Evaluation: _____ Return to School On (Date): _____

The following are the return to physical activities recommendations at the present time:

- □ Diagnosed with a concussion: Cannot return to physical activity, sport or competition (must be re-evaluated).
- □ Diagnosed with a concussion: May return to sports participation under the supervision of your school's administration after completing the return to play protocol (see below).
- □ Not diagnosed with a concussion. Patient has diagnosis of _____ and MAY/MAY NOT return to play at this time.

Medical Office Information (Please Print/Stamp):

Evaluator's Name: _____ Office Phone: _____

Evaluator's Signature: _____

Evaluator's Address: _____

Return to Play (RTP) Procedures After a Concussion

Return to activity and play is a medical decision. Progression is individualized, must be closely supervised according to the school's policies and procedures, and will be determined on a case-by-case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may be progressed more slowly as determined by the healthcare provider who has evaluated the athlete. After the student has not experienced symptoms attributable to the concussion for a **minimum of 24 hours** and has returned to school on a full-time basis (if school is in session), the stepwise progression below shall be followed:

Step 1: Light cardiovascular exercise.
Step 2: Running in the gym or on the field. No helmet or other equipment.
Step 3: Non-contact training drills in full equipment. Weight-training can begin.
Step 4: Full, normal practice or training (a walk-through practice does not count as a full, normal practice).
Step 5: **Full participation.** Must be cleared by MD/DO/PAC/LAT/ARNP/Neuropsychologist before returning to play.

The athlete should spend a minimum of one day at each step before advancing to the next. If concussion symptoms return with any step, the athlete must stop the activity and the treating healthcare provider must be contacted. Depending upon the specific type and severity of the symptoms, the athlete may be told to rest for 24 hours and then resume activity at a level one step below where he or she was at when the symptoms returned.

Return to Play Protocol (Steps 1-4) Completed (Date/Signature): _____

Cleared for Return to Play (Step 5) by: _____ **Date:** _____

I accept responsibility for reporting all injuries and illnesses to my school and medical staff (athletic trainer/team physician) including any signs and symptoms of a CONCUSSION.

Signature of Student Athlete: _____ **Date:** _____

May be advanced back to competition after phone conversation with the healthcare professional that evaluated the athlete (MD/DO/PAC/LAT/ARNP/Neuropsychologist) and documented above.

This form is adapted from the Acute Concussion Evaluation (ACE) care plan on the CDC website (www.cdc.gov/injury). All medical providers are encouraged to review this site if they have questions regarding the latest information on the evaluation and care of the scholastic athlete following a concussion injury.

What can happen if my child keeps on playing with a concussion or returns too soon?

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one. This can lead to prolonged recovery, or even to severe brain swelling (second impact syndrome) with devastating and even fatal consequences. It is well known that adolescent or teenage athletes will often fail to report symptoms of injuries. Concussions are no different. As a result, education of administrators, coaches, parents and students is key to a student-athlete's safety.

MHSAA Concussion Policy:

- An athlete who reports or displays any symptoms or signs of a concussion in a practice or game setting should be removed immediately from the practice or game. The athlete should not be allowed to return to the practice or game for the remainder of the day regardless of whether the athlete appears or states that he/she is normal.
- The athlete should be evaluated by a licensed, qualified medical professional working within their scope of practice as soon as can be practically arranged.
- If an athlete has sustained a concussion, the athlete should be referred to a licensed physician preferably one with experience in managing sports concussion injuries.
- The athlete who has been diagnosed with a concussion should be returned to play only after full recovery and clearance by a physician. Recovery from a concussion, regardless of loss on consciousness, usually take 7-14 days after resolution of all symptoms.
- Return to play after a concussion should be gradual and follow a progressive return to competition. An athlete should not return to a competitive game before demonstrating that he/she has no symptoms in a full supervised practice.
- Athletes should not continue to practice or return to play while still having symptoms of a concussion. Sustaining an impact to the head while recovering from a concussion may cause Second Impact Syndrome, a catastrophic neurological brain injury.

Remember, it is better to miss one game than to miss the whole season.

I have reviewed this information on concussions and am aware that a release by a medical doctor is required before a student may return to play under this policy.

Student-Athlete Name Printed	Student-Athlete Signature	Date
Parent Name Printed	Parent Signature	Date

RETURN TO PLAY POLICIES

Montana

MHSA/MOA Concussion and Injury Procedure

Officials, coaches and administrators are being asked to make all efforts to ensure the safety of athletes who participate in MHSA activities. In regard to players experiencing possible concussions or other serious injuries during MHSA contests or practices, the following procedures will be immediately implemented:

Officials' Responsibilities:

- Officials are asked to use their best judgment in observing the signs, symptoms and behaviors of a concussion and other possible serious injuries. If there is a player that exhibits signs and symptoms of an injury (listed below from the NFHS Rule Book), officials will make coaches aware of the injured player and call an injury time out.
- The official should notify the coach by making the following statement:
    - *"Coach, you need to take a look at this player; he/she is exhibiting signs and symptoms of an injury."*
- Once the official notifies the coach, it is now the coach's responsibility.
- The official does not need written permission for an athlete to return to play nor does the official need to verify the credentials of the appropriate health-care professional.
- Ultimately, the decision to return an athlete to competition rests with the coach, after the affected player is evaluated by an appropriate health-care professional (MD, DO, NP or PAC).

Remember, when in doubt, sit them out!

Suggested Guidelines for Management of Concussion (NFHS Rule Book)

A concussion is a traumatic brain injury that interferes with normal brain function. An athlete does not have to lose consciousness (be "knocked out") to have suffered a concussion.

Common Symptoms of Concussion Include:

- Headache
- Fogginess
- Difficulty concentrating
- Easily confused
- Slowed thought processes
- Difficulty with memory
- Nausea
- Lack of energy, tiredness
- Dizziness, poor balance
- Blurred vision
- Sensitive to light and sounds
- Mood changes- irritable, anxious, or tearful

Coaches' Responsibilities:

- After the official has notified the coach of the injury and has sent the athlete off of the field/court, or if a coach witnesses an incident in practice, the coach must then make the initial determination of the injury. For instance, if the coach knows that a player is diabetic, and may be experiencing a diabetic episode, the coach should have the student treated appropriately and then return the player to play or practice.
- If the coach suspects the athlete is exhibiting the signs, symptoms or behaviors consistent with a concussion (listed below from the NFHS Rule Book), then the coach must have the player evaluated by an appropriate health-care professional. (MD, DO, NP or PAC)
- If an appropriate health-care professional on the sideline determines that the athlete HAS NOT suffered a concussion, the athlete may return to play.
- If an appropriate health-care professional is not available to evaluate the athlete, the athlete SHOULD NOT be allowed by the coach to return to play.
- In game situations, the official does not need written permission for an athlete to return to play nor does the official need to verify the credentials of the appropriate health-care professional.
- Ultimately, the decision to return an athlete to competition or practice rests with the coach, after the affected player is evaluated by an appropriate health care professional (MD, DO, NP or PAC).

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- Blurred vision
- Sensitive to light and sounds
- Mood changes- irritable, anxious, or tearful

Suggested Concussion Management:

1. No athlete should return to play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
3. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming participation in any practice or competition.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

For further details please see the "NFHS Suggested Guidelines for Management of Concussion" at www.nfhs.org.

Administrators' Responsibilities:

- Administrators must require all coaches to review and implement this procedure.
- Administrators should have regular reviews with their coaching staffs concerning these procedures.
- Administrators should require coaches to report all incidents to the administration immediately following the practice or contest. All incidents should be documented.
- Administrators must understand the responsibilities that coaches have in the decision to return athletes to play. MHSA Rules and Regulations item (4) states: *A participant in any MHSA sanctioned sport who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems) or other serious injury shall be immediately removed from the game, evaluated by the coaching staff in regard to the nature of the injury, and if it is determined to be a possible concussion or other serious injury, the player shall not return to play until cleared by an appropriate health-care professional (MD, DO, PAC or NP).*
- Ultimately, the decision to return an athlete to competition rests with the coach, after the affected player is evaluated by an appropriate health care professional (MD, DO, NP or PAC).

Remember, when in doubt, sit them out!

Suggested Guidelines for Management of Concussion (NFHS Rule Book)

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- Dizziness, poor balance
- Blurred vision
- Sensitive to light and sounds
- Mood changes- irritable, anxious, or tearful

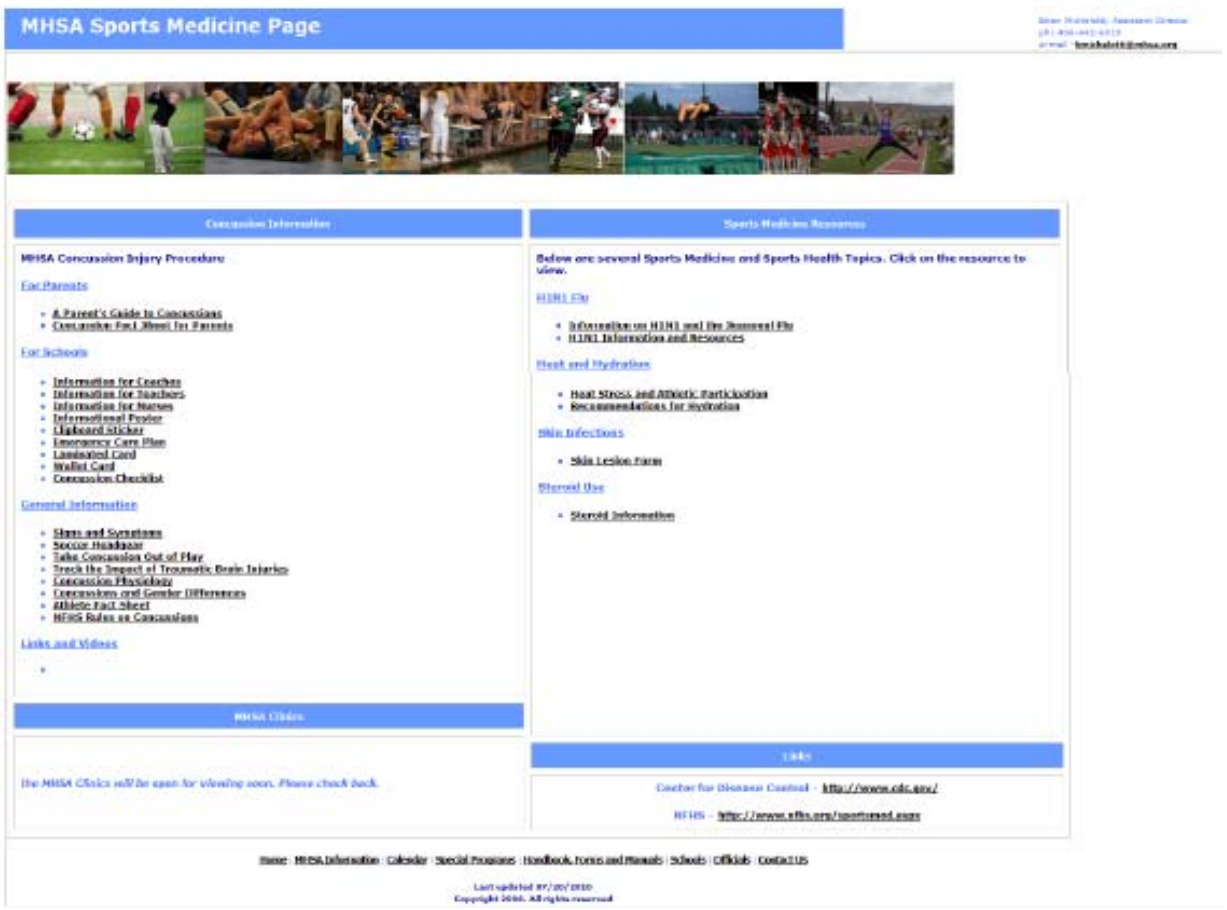
Suggested Concussion Management:

5. No athlete should return to play (RTP) or practice on the same day of a concussion.
6. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
7. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming participation in any practice or competition.
8. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

For further details please see the "NFHS Suggested Guidelines for Management of Concussion" at www.nfhs.org.

Concussion Resource Information

Various information and resources are available on the MHSA website. Visit www.mhsa.org and proceed to the Sports Medicine page from the link on the home page.



Student-Athlete & Parent/Legal Guardian Concussion Statement

Because of the passage of the Dylan Steigers' Protection of Youth Athletes Act, schools are required to distribute information sheets for the purpose of informing and educating student-athletes and their parents of the nature and risk of concussion and head injury to student athletes, including the risks of continuing to play after concussion or head injury. Montana law requires that each year, before beginning practice for an organized activity, a student-athlete and the student-athlete's parent(s)/legal guardian(s) must be given an information sheet, and both parties must sign and return a form acknowledging receipt of the information to an official designated by the school or school district prior to the student-athletes participation during the designated school year. The law further states that a student-athlete who is suspected of sustaining a concussion or head injury in a practice or game shall be removed from play at the time of injury and may not return to play until the student-athlete has received a written clearance from a licensed health care provider.

Student-Athlete Name:_____

This form must be completed for each student-athlete, even if there are multiple student-athletes in each household.

Parent/Legal Guardian Name(s):_____

☐ We have read the *Student-Athlete & Parent/Legal Guardian Concussion Information Sheet.*

If true, please check box

After reading the information sheet, I am aware of the following information:

Student-Athlete Initials		Parent/Legal Guardian Initials
	A concussion is a brain injury, which should be reported to my parents, my coach(es), or a medical professional if one is available.	
	A concussion can affect the ability to perform everyday activities such as the ability to think, balance, and classroom performance.	
	A concussion cannot be "seen." Some symptoms might be present right away. Other symptoms can show up hours or days after an injury.	
	I will tell my parents, my coach, and/or a medical professional about my injuries and illnesses.	*N/A*
	If I think a teammate has a concussion, I should tell my coach(es), parents, or licensed health care professional about the concussion.	*N/A*
	I will not return to play in a game or practice if a hit to my head or body causes any concussion-related symptoms.	*N/A*
	I will/my child will need written permission from a licensed health care professional to return to play or practice after a concussion.	
	After a concussion, the brain needs time to heal. I understand that I am/my child is much more likely to have another concussion or more serious brain injury if return to play or practice occurs before concussion symptoms go away.	
	Sometimes, repeat concussions can cause serious and long-lasting problems.	
	I have read the concussion symptoms on the Concussion fact sheet.	

_____ _____

Signature of Student-Athlete Date

_____ _____

Signature of Parent/Legal Guardian Date

A Fact Sheet for **ATHLETES**

WHAT IS A CONCUSSION?

A concussion is a brain injury that:

- Is caused by a bump or blow to the head
- Can change the way your brain normally works
- Can occur during practices or games in any sport
- Can happen even if you haven't been knocked out
- Can be serious even if you've just been "dinged"

WHAT ARE THE SYMPTOMS OF A CONCUSSION?

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light
- Bothered by noise
- Feeling sluggish, hazy, foggy, or groggy
- Difficulty paying attention
- Memory problems
- Confusion
- Does not "feel right"

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?

- **Tell your coaches and your parents.** Never ignore a bump or blow to the head even if you feel fine. Also, tell your coach if one of your teammates might have a concussion.
- **Get a medical checkup.** A doctor or health care professional can tell you if you have a concussion and when you are OK to return to play.
- **Give yourself time to get better.** If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a second concussion. Second or later concussions can cause damage to your brain. It is important to rest until you get approval from a doctor or health care professional to return to play.

HOW CAN I PREVENT A CONCUSSION?

Every sport is different, but there are steps you can take to protect yourself.

- Follow your coach's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.
- Use the proper sports equipment, including personal protective equipment (such as helmets, padding, shin guards, and eye and mouth guards). In order for equipment to protect you, it must be:

> The right equipment for the game, position, or activity
> Worn correctly and fit well
> Used every time you play

Remember, when in doubt, sit them out!

A Fact Sheet for **PARENTS**

WHAT IS A CONCUSSION?

A concussion is a brain injury. Concussions are caused by a bump or blow to the head. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF A CONCUSSION?

Signs Observed by Parents or Guardians

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs and symptoms of a concussion:

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily • Answers questions slowly
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

Symptoms Reported by Athlete

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Does not "feel right"

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION?

Every sport is different, but there are steps your children can take to protect themselves from concussion.

- Ensure that they follow their coach's rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.
- Learn the signs and symptoms of a concussion.

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

1. Seek medical attention right away. A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to sports.

2. Keep your child out of play. Concussions take time to heal. Don't let your child return to play until a health care professional says it's OK. Children who return to play too soon—while the brain is still healing—risk a greater chance of having a second concussion. Second or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.

3. Tell your child's coach about any recent concussion. Coaches should know if your child had a recent concussion in ANY sport. Your child's coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

Remember, when in doubt, sit them out!

Be Prepared

A concussion is a type of traumatic brain injury, or TBI, caused by a bump, blow, or jolt to the head that can change the way your brain normally works. Concussions can also occur from a blow to the body that causes the head to move rapidly back and forth. Even a "ding," "getting your bell rung," or what seems to be mild bump or blow to the head can be serious. Concussions can occur in any sport or recreation activity. So, all coaches, parents, and athletes need to learn concussion signs and symptoms and what to do if a concussion occurs.

SIGNS AND SYMPTOMS OF A CONCUSSION

SIGNS OBSERVED BY PARENTS OR GUARDIANS	SYMPTOMS REPORTED BY YOUR CHILD OR TEEN	
•Appears dazed or stunned •Is confused about events •Answers questions slowly •Repeats questions •Can't recall events prior to the hit, bump, or fall •Can't recall events after the hit, bump, or fall •Loses consciousness (even briefly) •Shows behavior or personality changes •Forgets class schedule or assignments	**Thinking/Remembering:** •Difficulty thinking clearly •Difficulty concentrating or remembering •Feeling more slowed down •Feeling sluggish, hazy, foggy, or groggy **Physical:** •Headache or "pressure" in head •Nausea or vomiting •Balance problems or dizziness •Fatigue or feeling tired •Blurry or double vision •Sensitivity to light or noise •Numbness or tingling •Does not "feel right"	**Emotional:** •Irritable •Sad •More emotional than usual •Nervous **Sleep*:** •Drowsy •Sleeps less than usual •Sleeps more than usual •Has trouble falling asleep **Only ask about sleep symptoms if the injury occurred on a prior day.*

LINKS TO OTHER RESOURCES

- CDC –Concussion in Sports
  - http://www.cdc.gov/concussion/sports/index.html
- National Federation of State High School Association/ Concussion in Sports
  - www.nfhslearn.com
- Montana High School Association – Sports Medicine Page
  - http://www.mhsa.org/SportsMedicine/SportsMed.htm

RETURN TO PLAY POLICIES

Nebraska

BRIDGING THE GAP

From

CONCUSSION

To the

CLASSROOM

February 2014

NEBRASKA DEPARTMENT OF EDUCATION

Return to Learn

BRIDGING THE GAP FROM CONCUSSION TO THE CLASSROOM: RETURN TO LEARN

On April 8, 2011, the Nebraska Legislature passed the Concussion Awareness Act on a vote of 43- 0. The Concussion Awareness Act became effective in Nebraska on July 1, 2012. The goal of the Act is to provide a consistent means to identify and manage concussions and help ensure the safety of those involved in youth sports.

The Concussion Awareness Act contains the three tenets of model legislation as described by the Brain Injury Association and the National Football League.

1. Education: Coaches, Parents and Student Athletes
2. Removal from Play – If a concussion is reasonably suspected
3. Clearance by a Licensed Health Care Professional

While Nebraska law requires a specified Return to Play protocol, equally important in the academic setting is a Return to Activity policy. "Bridging the Gap from Concussion to the Classroom: Return to Learn" was developed to provide guidance to assist Nebraska school districts in developing a concussion management policy, including the provision of appropriate classroom adjustments for concussed students facing learning challenges.

Just as effective concussion management requires communication and collaboration, this document has been developed, reviewed and edited collaboratively by a Concussion Task Force comprised of Nebraska Brain injury School Support Teams (BIRSST) and the following individuals representing several disciplines:

Nova Adams, Educational Liaison, Madonna Rehabilitation Hospital
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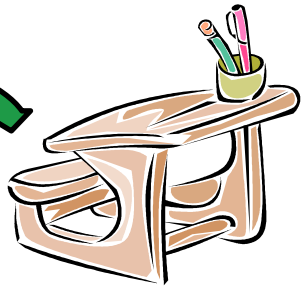
Michelle Hawley-Grieser, Parent, Nebraska Brain Injury Advisory Council
Crystal Kjar, Lincoln Southwest High School, Head Athletic Trainer
Rusty McKune, Coordinator, the Nebraska Medical Center, Sports Medicine Program
Kody Moffatt, MD, Pediatrics and Pediatric Sports Medicine
Peg Ogea-Ginsburg, Nebraska Department of Health and Human Services, Office of Injury Prevention
Peggy Reisher, Executive Director, Nebraska Brain injury Association
Rose Dymacek, Education Specialist, Nebraska Department of Education, Office of Special Education

BRIDGING THE GAP FROM CONCUSSION TO THE CLASSROOM: RETURN TO LEARN



What is a Brain Injury?

Acquired Brain Injury (ABI)

- An acquired brain injury is an injury to the brain, which is not hereditary, congenital or degenerative that has occurred after birth. (Includes anoxia, aneurysms, infections to the brain and stroke.)

Traumatic Brain Injury (TBI)

- A TBI is caused by a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain. Not all blows or jolts to the head result in a TBI. The severity of a TBI may range from "mild," i.e., a brief change in mental status or consciousness to "severe," i.e., an extended period of unconsciousness or amnesia after the injury. The majority of TBIs that occur each year are concussions or other forms of mild TBI.

Concussions

- A concussion is a type of **traumatic brain injury**, or TBI, caused by a bump, blow, or jolt to the head. A concussion is **any head trauma that causes an altered mental state that may or <u>may not</u> involve a loss of consciousness. Only 10 percent of concussions involve a loss of consciousness**!
- Concussions can also occur following a fall or a blow to the body that causes the head and brain to move back and forth quickly.
- This sudden movement can cause the brain to bounce around in the skull, stretching and damaging the brain cells and creating chemical changes in the brain.
- Health care professionals may describe a concussion as a “mild” brain injury because concussions are usually not life-threatening. Even so, their effects can be serious. (Centers for Disease Control & Prevention)

A CONCUSSION IS A BRAIN INJURY!

Incidence of Youth Concussions in Nebraska

Figure 1. Concussion rates among persons aged 5-19 years, by month – Nebraska 2008-2012

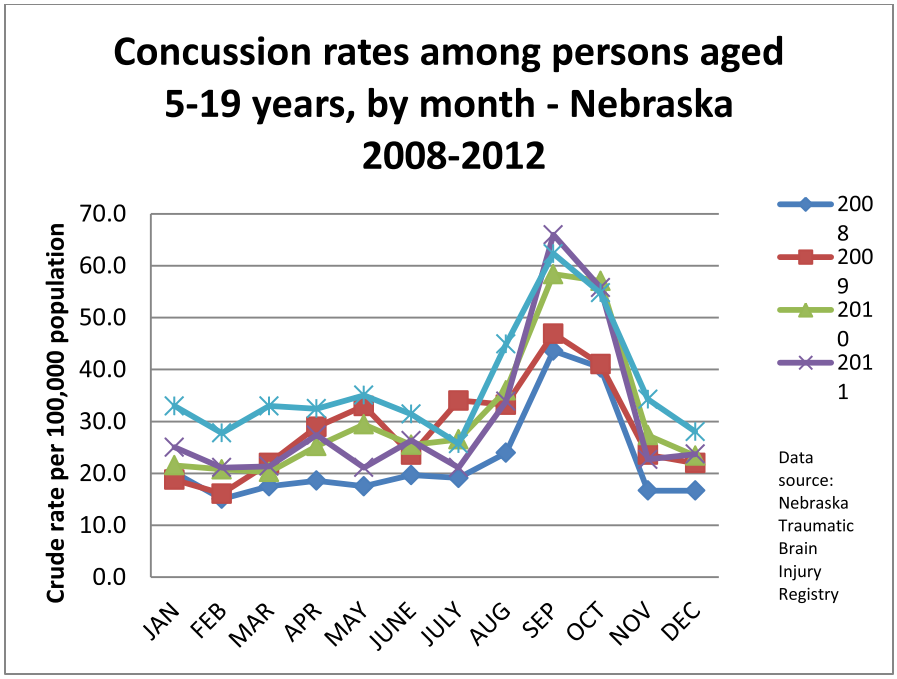
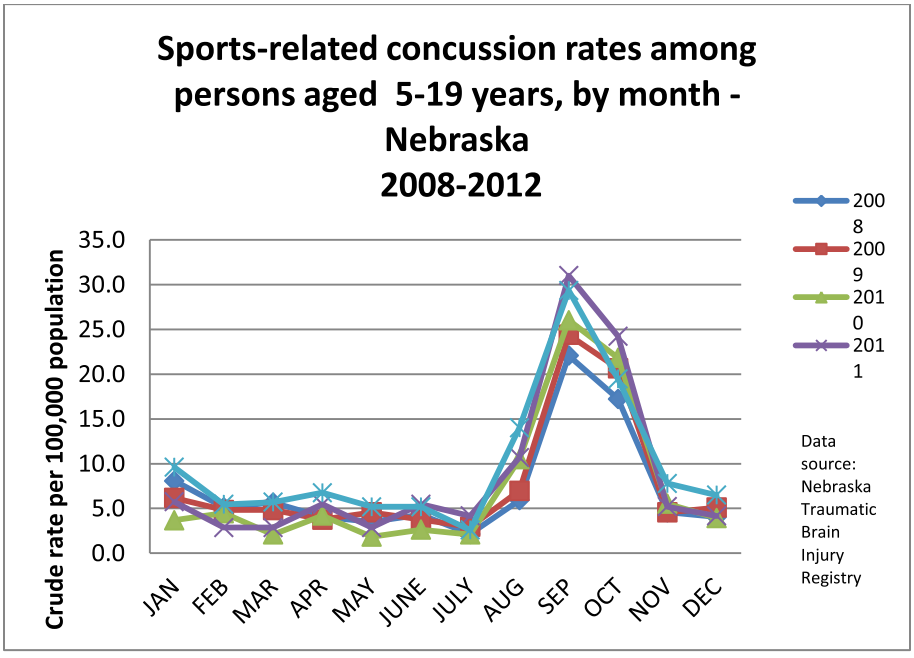


Figure 2. Sports-related concussions among persons aged 5-19 years, by month – Nebraska 2008-2012



Nebraska Department of Health and Human Services, 2013

Both figures above show a peak in concussion rates among school-aged Nebraskans in September and October. This trend has been consistent over the past 5 years. Figure 1 also shows that higher rates of concussions were diagnosed in 2012. These graphs represent persons treated in the office of a physician or psychologist or admitted to or treated at a hospital or a rehabilitation center located within a hospital in Nebraska.

Why are Concussions Such a Big Deal?

- **A CONCUSSION IS A BRAIN INJURY!**
- A concussion can occur from an impact to the head. The most common cause of a concussion is a whiplash type injury, a rapid acceleration of the head.
- Most concussions (90%) occur without loss of consciousness!
- A "ding," "getting your bell rung," or what seems to be a mild bump, blow or jolt to the head can be serious and can change the way the brain normally works! (Center for Disease Control 2013).
- Because of changes in the neurophysiology of the brain, symptoms may continue to develop over the next few hours following an injury.

- After a concussion, among other effects, connections within the brain become stressed, resulting in the breaking of some connections between different brain areas and limiting the ability of the brain to process information efficiently and quickly. (Molfese 2013)
- These changes can lead to a set of symptoms affecting the student's cognitive, physical, emotional and sleep functions, which may result in reduced ability to do tasks at home, at school, or work.
- During this time, returning to play or full-time academics before symptoms have cleared can result in **prolonged recovery time or risk of further injury.**
- Ignoring the symptoms and trying to "tough it out" often makes symptoms worse!
- "Second Impact Syndrome" may occur when a brain already injured takes another blow or hit before the brain recovers from the first –usually within a short period of time (hours, days, or weeks). A repeat concussion can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage and even death. (Center for Disease Control 2013)
- As the chemistry of the brain returns to normal, the symptoms begin to subside and for most people, they resolve within 1 to 6 weeks.
- **During the recovery period, it is very important that individuals are monitored for full resolution of symptoms and referred if further evaluation or treatment is needed**. (Terryberry-Spohr 2013)

Symptoms of TBI/Concussion

School professionals can best support a student's return to school by understanding the effects of concussion and providing the needed academic adjustments and supports. Knowledge of concussion symptoms can help the student and the school team identify the specific needs of the student, monitor changes and provide appropriate accommodations to facilitate the student's recovery and minimize the pressure to return to activities too soon. (CDC 2013)
Symptoms of TBI/Concussion that may affect school performance fall into four categories:

- Thinking/Cognitive/Remembering
- Sleep
- Physical Symptoms
- Emotional/Mood Symptoms

Thinking/Cognitive Red Flags

Look for increased difficulty with:

- Thinking clearly
- Concentrating, Staying on task
- Remembering new information
- Slowed response or processing of information (Feeling slowed down)
- Reduced academic performance

Sleep Red Flags

Sleep symptoms tend to last longer than other symptoms. Look for increased:

- Drowsiness
- Sleeps more than usual
- Sleeps less than usual
- Difficulty falling asleep
- Fatigue – tired, having no energy

Physical Red Flags

Look for increased difficulty with:

- Headaches
- Fuzzy or Blurred Vision (visual problems)
- Balance problems
- Dizziness
- Nausea, vomiting
- Sensitivity to light
- Sensitivity to noise
- Disorientation

Social Emotional Red Flags

Look for increased difficulty with:

- Irritability
- Sadness
- More emotional
- Changes in mood
- Nervousness
- Anxiety

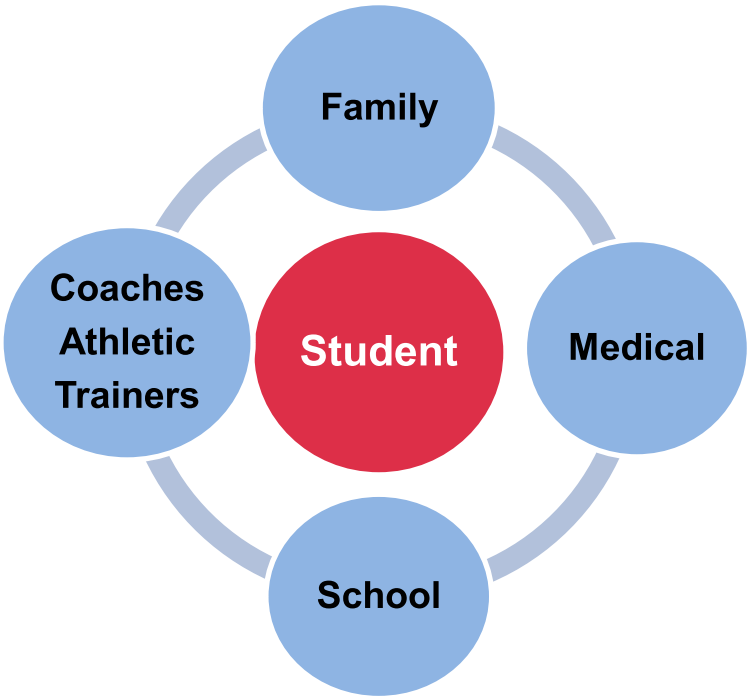
Return to Activity = Return to Learn + Return to Play

- The Center for Disease Control estimates that 1.7 million traumatic brain injuries occur annually and that 75% of those injuries are mild TBIs (concussions). Concussions occur from sports, falls, playground and bicycle accidents as well as motor vehicle accidents.
- Attention has been given to sports-related concussions because concussion laws have been passed in nearly every state and procedures for Return to Play are familiar to parents, schools and medical personnel.
- Equally important is Return to Learning in the classroom!
- After a concussion, the child or adolescent does not appear to be ill or physically injured. In fact, they may "look" just fine. Nonetheless, a concussion can have direct effects on learning and evidence suggests that using a concussed brain to learn may worsen concussion symptoms and may prolong recovery. (Halstead, McAvoy, et al 2013)
- As the brain is recovering, reducing demands on the brain and avoiding overexertion of the brain at home and at school through a reduction in physical and cognitive activity is beneficial to the recovery of the student
- **Every student and every concussion is different!** No two concussions are the same! The amount of time needed between the injury and the commencement of return to learn activities will vary not only between students, but also between concussions (should a student suffer more than one).
- A Return to Activity plan is composed of two parts:
  - Return to Academics – a gradual return to school and academic requirements implemented by the teaching staff
  - Return to Play – a gradual return to sports implemented by the athletic staff.
- Both the return to academics, and when appropriate, the return to play progression should be allowed to progress over time and as symptoms subside.
- **Please refer to the Return to Academics Progression and Return to Play Progression suggestions at the end of this document. *****

Concussion Management: Recommended Best Practice for Nebraska Schools

- Once a concussion has been diagnosed by a healthcare professional, managing the concussion is best accomplished by creating a support system for the student/athlete. **Communication and collaboration** among parents, school personnel, coaches and athletic trainers, and healthcare providers in overseeing both the return to academics and return to play progressions is essential for the recovery process. Teamwork is required to adjust the treatment and management of the concussion. **Best practice indicates that the student should return to school with a RELEASE OF INFORMATION SIGNED BY THE PARENTS that allows for two-way communication between school personnel and the healthcare provider.** (McAvoy, 2012)

A collaborative approach with the student as the CENTER OF FOCUS!



- Each school district creates a **Concussion Management policy** that incorporates:
  - **Knowledge** about concussion as a mild traumatic brain injury
  - **Training** for all coaches, athletes, parents, and school staff about concussion management
  - **A Concussion Management Team** with a designated contact person.

The Concussion Management Team

Members may include:

Health Care Professional*
Parent(s)*
School Administrator or designee*
Athletic Director
Athletic Trainer
Coach
School Nurse
Teacher(s)
Speech Language pathologist
School Psychologist
School Counselor
Occupational Therapist
Physical Therapist
Student Athlete

Essential members*

Concussion Management Team (CMT) Responsibilities:

- The CMT ensures that every student who suffers a concussion is monitored for a safe return to activity. The CMT designs the Return to Activity Plan with input from the healthcare provider.
- **CMT** contact person is notified of concussion (by parents or athletic trainers, coaches); CMT contact person notifies parent if concussion occurs during school activity;
- CMT contact person notifies school nurse, athletic trainer/coach and teachers as appropriate;
- **Assess** and document the physical, cognitive, behavioral, emotional and sleep **symptoms** and **needs** of a concussed student/athlete;
- Design an **individual plan** for schedule **adjustments**, supports, academic adjustments (i.e., reduced assignments) and physical activity, including PE, dance, active recess, as appropriate and share with school personnel, student and parents;
- **Teachers, Parents, Coaches, Medical providers & Student** communicate, monitor the effectiveness of the plan and document symptoms and academic progress;
- CMT (SAT) meets regularly to **review the student's symptoms and progress**, make adjustments and notifies school staff and health care professional of updates;
- **Adjustments continue until the student no longer needs academic adjustments as a result of the concussion;**
- CMT offers resources on concussions to parents;
- Contact **Brain Injury Regional School Support Team (BIRSST)** for assistance or resources;
- Follow a **gradual Return-to-Activity** for academics and athletics;
- **After symptoms subside and CMT certifies there are no academic concerns or adjustments needed and family and coaches agree student is symptom-free without medication, then**
- Written clearance from a medical provider is given if student/athlete is "back to baseline" on neurocognitive measures and
- Written permission for Return to Activity from parents is obtained;
- Student/athlete returns to academic activities without adjustments and begins Return to Play Protocol; **a successful Return to Learn is necessary before approval for Return to Play. (McAvoy, 2012).**
- Document concussion in student's education file;
- If symptoms last more than 3 – 4 weeks, follow-up assessment and academic adjustments may need to be strengthened or remain in place longer;
- If problems persist, academic accommodations and student supports may be provided through an (Response to Intervention (RtI) Plan, a Health Plan or a 504 Plan;
- The majority of concussed students will not require an IEP; however, a small percentage of students may require a special education referral.
- Parents and medical professions seek medical explanation and treatment for slowed recovery and schools continue to provide appropriate supports.

- **Keep in mind that progression is individual for each student!**

Return to Learn BEFORE Return to Play!

If a student athlete continues to receive academic adjustments due to the presence of any symptoms, they should be considered symptomatic and not be allowed to resume physical activity. McAvoy, Returning to Learn: Going Back to School Following a Concussion. Communique on line, April 2011.

Brain Injury Regional School Support Teams (BIRSST)

- Nebraska has five regional BIRSST teams
  - Refer to attached **map** for **BIRSST team locations and contacts**
- BIRSST teams can assist school districts in:
  - Identifying strategies to support student success
  - Providing information on brain injury and resources
  - Providing training and consultation for Concussion Management Team

Tips for Teachers

Symptoms of concussion often create learning difficulties for students. Immediately after diagnosis of a concussion, an individualized plan for learning adjustments should be initiated with a gradual, monitored return to full academics as symptoms clear. Typical classroom adjustments and accommodations include:

- Reduce course workload
- Decrease homework
- Allow breaks during the day, i.e. rest in quiet area
- Allow additional time to complete assignments
- Provide instructor's notes, outline or study guide for student
- Avoid over-stimulation (noise and light)
- Avoid testing or completion of major projects during recovery time when possible

Refer to **Tips for Teachers** in Appendices for additional adjustments or accommodations.

Tips for Parents

- Parents play a key role in maximizing the child's recovery from a concussion.
- Parents take student to ER or contact the child's healthcare provider immediately after the concussion.
- After the diagnosis of a concussion by the healthcare professional, parents monitor symptoms and activities at home.
- Parents enforce rest, both physical and cognitive, and ensure that the child receives sufficient sleep and engages in quiet, restful activities immediately after a concussion.
- Parents take student to follow-up appointments with the healthcare provider.
- For the first few days, the student/athlete may have symptoms that interfere with concentration and may need to stay home from school to rest for a day or two and refrain from:

    - Watching TV
    - Playing video games
    - Texting
    - Working/playing on computer
    - Driving
    - Use of Cell phone
    - Blowing on a musical instrument
    - Piano lessons

- Light mental activities can resume as long as symptoms do not worsen. When the student/athlete can tolerate 30-45 minutes of light mental activity, a gradual return to school can commence.
- Parents monitor and track symptoms at home and communicate regularly with the school Concussion Management Team (CMT) Coordinator and/or health care provider.
- Parents sign Permission for two-way Release Information between the medical provider and the school district.
- Parents may request information from the school CMT on concussions.
- Parents are aware of academic adjustments in the school setting.
- Deliver medical clearance from the healthcare provider to the CMT when appropriate.

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WHAT CAN YOU DO TO CHANGE THE CULTURE OF CONCUSSION IN NEBRASKA?

- ✓ Educate
- ✓ Communicate
- ✓ Collaborate

→

- Parents
- Students
- Schools
- Physicians

Wear your helmet!

Nebraska Sports Concussion Network

www.NebSportsConcussion.org

RETURN TO LEARN GUIDELINES

Following Concussion (Aug. 2017)

Concussion injuries can directly impact a student's learning ability. Conversely, the cognitive learning process can adversely affect a student's recovery from a concussion. Therefore, concussed students may need varying levels of instructional modifications and academic accommodations during their symptom recovery, particularly early on in the acute stage, but may extend several weeks or months.

Current concussion management guidelines recommend an initial 24-48 hr. period of rest, both physically and cognitively to facilitate recovery from symptoms. Thereafter, symptom-limited activity can be encouraged where such activity does not bring on or worsen symptoms. Cognitive rest refers to limiting mentally taxing activity, i.e. analytical problem solving, mathematical equation work, focused or prolonged reading, computer use, particularly activities involving saccadic eye movements, i.e. using eyes to track objects, reading, smart board work. Playing video games, texting, watching TV, listening to music with earphones may also trigger symptoms during the acute-symptomatic phase and may need to be limited.

Just as concussed athletes have followed a stepwise progression for "Returning To Play", a progression back to the learning environment is equally as important. A "Return To Learn" (RTL) process emphasizes a collaborative team approach between school administration, school nurse, counselors, teachers, parents, and athletic staff including a school's athletic training staff when student-athletes are involved. Since concussions occurring in athletics are less prevalent than those occurring on playgrounds, during recreational activities as biking or skateboarding, accidents at home, falls, and motor vehicle accidents, a Concussion Management Team can be extremely beneficial for recovery and returning all concussed students, athletic and non-athletic, to the classroom.

School staff should be familiar with the ***Signs and Symptoms*** of concussion. Additionally, school staff should know how to monitor students knowingly having a concussion, as well as recognize those possibly having a concussion unknowingly. There is greater concern for "how long" symptoms last, more so than which ones, or how many might exist, but all 3 elements are important to the proper management of the concussed student.

What Signs To Look For After A Concussion

When students return to school after a concussion, school staff should watch for:

- Increased problems paying attention or concentrating
- Increased problems remembering or learning new information
- Longer time needed to complete tasks or assignments
- Difficulty organizing tasks, or shifting between tasks.
- Inappropriate or impulsive behavior during class
- Greater irritability
- Less ability to cope with stress
- More emotional than usual
- Difficulty handling a stimulating school environment (lights, noise, etc.)
- Physical symptoms (headache, dizziness, nausea, visual problems)

CDC Heads UP: Returning to School After Concussion: A Fact Sheet for School Propfessionals.

Symptoms of a Concussion Indicated by the Student

Physical

- Headache
- Nausea
- Vomiting
- Balance problems
- Dizziness
- Visual problems
- Fatigue
- Sensitivity to light
- Sensitivity to noise
- Dazed or stunned

Emotional

- Irritability
- Sadness
- More emotional
- Nervousness

Cognitive

- Feeling mentally "foggy"
- Feeling slowed down
- Difficulty concentrating
- Difficulty remembering
- Forgetful of recent information or conversations
- Confused about recent events
- Answers questions slowly
- Repeats questions

Sleep Related

- Drowsiness
- Sleeping less than usual
- Sleeping more than usual
- Trouble falling asleep

General Considerations for Return to Learn Progression

In most cases, a concussion will not significantly limit a student's participation in school and usually involve temporary, informal instructional modifications and academic accommodations. The "Return to Learn" process encompasses "Step 1 of the Return to Play Progression" during the time one remains symptomatic, particularly if any activity will bring on or worsen symptoms. Completion of the "Return to Learn" process always precedes beginning "Step 2 of the Return to Play Progression".

In approximately 75% of cases, recover from symptoms occurs within 7 days, while ~90% recover from symptoms within 10 days. But nearly 8%-15% of cases may take several weeks or months to recover from symptoms that experience Post-Concussion Syndrome, a chronic condition where symptoms persist long-term.

The school's athletic trainer or other licensed healthcare provider will help guide decisions for the Concussion Management Team about a student's need for and level of modifications and accommodations, or adjustments, and their readiness to resume various classroom activities.

Symptoms are monitored at regular intervals using a Graded Symptom Scale. Symptom scale scores can remain elevated or increase by exceeding levels of physical and cognitive activity where school activity should then be reduced when symptoms increase as a result. Members of the Concussion Management Team are to help identify triggers that cause symptoms to worsen, and modify school activity accordingly. Thereafter, school activities can be gradually increased as symptoms subside or decrease.

If recovery becomes more prolonged (>3-4 weeks), there should be greater concern for a student feeling isolated or depressed, and anxiety from missed school, falling behind, and missing out on playing sports and other extracurricular activities. Additionally, a 504 Plan or an IEP may need to be considered for those having prolonged recovery extending beyond several months.

School Accommodation Options Based on Symptom Type

Concussion Symptom	Modification & Accommodation Options
Headaches	Allow to lay head down at desk Allow frequent breaks Identify triggers that cause headaches to worsen
Sensitivity to Noise (phonophobia)	No PE, band, chorus, shop; meet in library Avoid lunch room; eat in quiet setting Avoid attending athletic events, gymnasiums Allow early hall pass to class avoiding loud corridors Refrain from using cell phone, headphones/ear buds
Sensitivity to Light (photophobia)	Allow to wear sunglasses Move to area with low-lighting, dimly-lit room Avoid seating with direct sunlight from windows Avoid or minimize bright projector/computer screens
Other visual problems *i.e. blurred or double-vision* *saccadic eye movements (tracking)* *near-point convergence (close-up)*	Limit computer use Reduce/shorten reading assignments Record lectures, use auditory learning apps Allow for more listening & discussion vs. Reading Increase font size on computer screens Desktop work only Refrain from texting, video gaming Refrain from watching TV close-up or from afar
Concentration or Memory (Cognitive) Problems	Place main focus on essential academic content/concepts Postphone major tests or participation in standardized testing Allow extra time for assignments, quizzes Allow extra time to complete tests, projects Reduce class assignments, homework
Sleep Difficulties	Allow late start to school Allow frequent rest breaks

Levels of Instructional Modifications & Academic Accommodations

1	**No School - Stay Home** Initial 24-48 hrs. of relative rest. *3 or more ImPACT Summary Composite Scores exceed RCI *Exceedingly high Graded Symptom Scale Score; i.e. Score: >25-30	Usually no more than 5 days away from school. Symptom-limited activity encouraged after initial 24-48 hrs. of rest. Limit texting, video gaming, watching TV, cell phone use, using ear/head phones, if any trigger symptoms coming-on or worsening. No homework or computer use Cognitve "shut-down" Use darkened, quiet room Start Symptom-limited activity with 5–15 min. at a time and gradually build u
2	**Limited School Attendance (half days/part-time)** **Maximum Accommodations** Able to tolerate up to 30 minutes mental extertion Symptoms have begun to decrease	Limit/partial class attendance; No PE, Band, Chorus, Shop classes Periodic rest breaks away from class in quiet area Allow to lay head down at desk Limit/modify academic classwork No major/standardized testing Provide extra help; Peer note taking "Clear desk", and listen Extra time for quizzes in quiet area Extra time for assignments; modify assignments Minimal or no homework
3	**Full-Day Attendance; Limit class attendance** **Moderate Accommodations** Able to tolerate up to 45 minutes mental extertion No more than 1 or 2 ImPACT Summary Composite Score exceeding RCI Symptoms continue to decrease	No PE Limit attendance in academically challenging classes No major/standardized testing; modified testing Rest periods in classroom as needed Extra time for assignments, quizzes as needed Limited homework, i.e. <30 minutes
4	**Full Class Attendance** **Minimal Accommodations** Able to tolerate up to 60 minutes mental extertion *Graded Symptom Scale Score: <10	No PE Increase return to normal class workload Begin working on missed work/assignments Moderate homework, i.e. <60 minutes
5	**Full Academics** **No Accommodations** *Graded Symptom Scale Score: <5 Academic work does not trigger symptoms	Resume normal homework assignments Identify essential Content & Assignments to make-up Develop realistic timeline for completing assignments Re-evaluate weekly until assignments completed When indicated by school's athletic trainer or a licensed health care provider, start Step 2 - Return to Play Progression No PE until completion of "Return to Play Progression

* *Graded Symptom Scale Score ranges shown are a general guide and are not intended as objective criteria for dilineating stages of recovery or indication for specific instructional modifications or academic accommodations. Graded Symptom Scale Score ranges are extremely subjective and vary dramatically by individual, and are dependent on the selected Grading Symptom Scale used to derive a symptom score.*

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Nebraska Sports Concussion Network

www.NebSportsConcussion.org

Return to Play Progression
Following Sports-Related Concussion (August 2017)

Return to Play protocol following a concussion should follow a stepwise process. Step 1 represents the timeframe while post-concussion symptoms persist, and then begin to resolve (see Concussion Symptom Inventory Form/Sideline Assessment Tool). This phase will vary considerably among individuals, and is affected by age, prior history of head injury, injury severity, number of symptoms, and possibly gender among other clinical considerations. During Step 1, one should follow **Return to Learn Guidelines** where the resolution of symptoms generally occur within 10-14 days on average, but may extend longer for others. As symptoms begin to subside, one can gradually become more active, provided the activity does not bring on or worsen symptoms. Progression to Step 2 and each step thereafter require remaining symptom-free. Generally, a minimum span of 24-48 hours should transpire between steps (after completing Step 2), with each exercise bout being at least 30 minutes or more in duration unless noted otherwise. The athlete should be continually monitored for any symptoms worsening during exercise and afterwards. If at any time an athlete experiences symptoms coming on or worsening, they are to stop and resume the progression at the previous step after being symptom-free at rest for 24-48 hours.

Step 1 **Symptom-Limited Activity;** restrict vigorous exertion**;** follow Return to Learn Guidelines

- An initial 24-48 hrs. of relative rest is recommended, including rest from both physical activity and cognitive/mentally taxing activity (refer to bottom of page).
- If neurocognitive testing is not available, begin counting the number of days once being symptom-free at rest.

Step 2 **Light, Aerobic Activity, 10-20 minutes** (<70% max. heart rate); Symptom-Free at Rest

- This can include walking, swimming, or stationary bike.
- No resistance training or weight lifting.

Step 3 **Sport/Position/Event Specific Exercises, Conditioning Drills**

- Restricted, individual workout: light-moderate conditioning drills; running drills, agility drills; shooting, throwing, catching, kicking, ball control, passing drills; light-moderate intensity resistance training; shadow mat drills (no stand-ups, take-downs, partners). No head impacts.

Step 4 **Non-Contact Practice**

- Athlete must have written authorization from an appropriate licensed healthcare provider (i.e. MD/DO, neuropsychologist, athletic trainer), and have written permission from a parent before resuming practice participation.
- Athlete is able to participate in non-contact practice once neurocognitive post-test composite scores are near or return to baseline, or where testing is otherwise considered acceptable; or
- If neurocognitive testing is not available, the athlete may resume non-contact practices in 7-10 days after being symptom-free only as directed by an approved licensed healthcare provider.
- No live, full-speed, scrimmaging, or full-court activity; no activity that involves using the head.

Step 5 **Full-Contact Practice**

- The athlete is able to fully participate in practices without restrictions.
- Assess readiness to play and compete. Monitor for return of post-concussion symptoms.

Step 6 **Resume Competition**

- The athlete is able to compete without restrictions. Monitor for symptom reoccurrence.

Completion Date/Initials
Step 1
Step 2
Step 3
Step 4
Step 5
Started Step 6

**Cognitive Rest* includes limiting mathematical/analytical problem solving, focused/prolonged reading, texting, video gaming, or prolonged TV watching that trigger symptoms coming on or getting worse.*

RETURN TO PLAY POLICIES

Nevada

IMPLEMENTATION OF NFHS PLAYING RULES CHANGES
RELATED TO
CONCUSSION AND CONCUSSED ATHLETES

In its various sports playing rules, the National Federation of High Schools (NFHS) has implemented a standard rule change in all sports dealing with concussions in student-athletes:

> *Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional. (Please see NFHS Suggested Guidelines for Management of Concussion included in this document or in the Appendix, located in the back of each NFHS Rules Book).*

The NIAA has adopted these guidelines and defined the following parameters to guide NIAA registered officials and member school representatives in implementing this change:

What is the role of contest officials in administering the new rule?

- Officials are to review and know the signs and symptoms of concussion and to direct immediate removal of any athlete who displays these signs or symptoms.
- Officials have no other role in dealing with this rules change.

Who decides if an athlete has been concussed (has had a concussion)?

- An MD (Medical Doctor), DO (Doctor of Osteopathy), PA (Physician's Assistant), ARNP (Advanced Registered Nurse Practitioner) or LAT (Licensed Athletic Trainer), Paramedic or School Nurse is empowered to make the on-site determination that an athlete has received a concussion.
- If any one of these individuals has answered "yes" and determined that there has been a concussion, that decision is final.

Can an athlete return to play on the same day as he/she receives a concussion?

- No, under no circumstances can that athlete return to play in that event that day.

Once the day has been completed, who can issue authorization to return to practice / competition in the sport?

- Once a concussion has been diagnosed by one of the above listed on-site providers, only an MD or DO can authorize subsequent return to play, and such shall be in writing to the administration of the school.
- School administration shall then notify the coach as to the permission to return to practice or play.

Fundamental Reminders about this change

- It has always been the ultimate responsibility of the coaching staff, in all sports, to ensure that players are only put into practice or contests if they are physically capable of performing.
- If an athlete has been removed from play by an official who suspects a concussion has occurred and no appropriate healthcare professional is available to evaluate his/her condition, the player may not return to play that day.

NFHS Suggested Concussion Management by Health Care Professionals

(Once it has been determined that a player has been concussed)

1. No athlete should return to play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
3. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
4. After medical clearance, return to play should follow a step-wise protocol with provisions for delayed return to play based upon the return of any signs or symptoms.

Other Resources

- The NFHS has developed a new 20-minute online coach education course – *Concussion in Sports – What You Need to Know*, the NFHS *Suggested Guidelines for Management of Concussion in Sports* brochure, the NFHS *Sports Medicine Handbook*, materials from the CDC Heads Up program and other materials should all be made available to officials, parents, athletes and schools.

NIAA Adopts the NFHS Guidelines for Management of Concussions in Sports

The guidelines regarding concussion management as published by the National Federation of State High School Associations have been adopted as **minimum mandatory standards** to be utilized by all NIAA member schools. Member Schools / Districts may adopt more restrictive guidelines or protocols but under no circumstances can the NIAA guidelines be diluted especially where specific actions are mandated. Specifically, schools must minimally follow items 1 and 2 under "Sideline Decision Making" found in the "Management of Concussions and Return to Play" section of this document. All individuals involved in interscholastic athletics are encouraged to carefully study and make themselves aware of these guidelines.

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations
PO Box 690, Indianapolis, IN 46206
Released February 2010

INTRODUCTION

Concussions are a common problem in sports and have the potential for serious complications if not managed correctly. Even what appears to be a "minor ding or bell ringer" has the real risk of catastrophic results when an athlete is returned to action too soon. The medical literature and lay press are reporting instances of death from "second impact syndrome" when a second concussion occurs before the brain has recovered from the first one regardless of how mild both injuries may seem.

At many athletic contests across the country, trained and knowledgeable individuals are not available to make the decision to return concussed athletes to play. Frequently, there is undo pressure from various sources (parents, player and coach) to return a valuable athlete to action. In addition, often there is unwillingness by the athlete to report headaches and other findings because the individual knows it would prevent his or her return to play.

Outlined below are some guidelines that may be helpful for parents, coaches and others dealing with possible concussions. Please bear in mind that these are general guidelines and must not be used in place of the central role that physicians and athletic trainers must play in protecting the health and safety of student-athletes.

SIDELINE MANAGEMENT OF CONCUSSION

1. Did a concussion or mild brain injury take place? Based on mechanism of injury, observation, history and unusual behavior and reactions of the athlete, even without loss of consciousness, assume a concussion or mild brain injury has occurred if the head was hit and even the mildest of symptoms occur. (See Signs and Symptoms)

2. Does the athlete need immediate referral for emergency care? If confusion, unusual behavior or responsiveness, deteriorating condition, loss of consciousness, or concern about neck and spine injury exists, the athlete should be referred at once for emergency care.

3. If no emergency is apparent, how should the athlete be monitored? Every 5- 10 minutes, mental status, attention, balance, behavior, speech and memory should be examined until stable over a few hours. If appropriate medical care is not available, an athlete even with mild symptoms should be sent for medical evaluation.

4. No athlete suspected of having a concussion should return to the same practice or contest even if symptoms clear.

MANAGEMENT OF CONCUSSIONS AND RETURN TO PLAY

(See "Sideline Decision-Making")

Increasing evidence is suggesting that initial signs and symptoms, including loss of consciousness and amnesia, may not be very predictive of the true severity of the injury and the prognosis or outcome. More importance is being assigned to the duration of such symptoms and this, along with data showing symptoms may worsen some time after the head injury, has shifted focus to continued monitoring of the athlete. This is one reason why these guidelines no longer include an option to return an athlete to play even if clear in 15 minutes and why there is no discussion about the "Grade" of the concussion.

Any athlete who is removed from play because of a concussion should have medical clearance from an appropriate health care professional before being allowed to return to play or practice. The Second International Conference on Concussion held in Prague recommends an athlete should not return to practice or competition in sport until he or she is asymptomatic including after exercise.

Recent information suggests that mental exertion, as well as physical exertion, should be avoided until concussion symptoms have cleared. Premature mental or physical exertion may lead to more severe and more prolonged post concussion period. Therefore, the athlete should not study, play video games, do computer work or phone texting until his or her symptoms have cleared. Once symptoms are clear, the student-athlete should try reading for short periods of time. When 1-2 hours of studying can be done without symptoms developing, the athlete may return to school for short periods, gradually increasing until a full day of school is tolerated without return of symptoms.

Once the athlete is able to complete a full day of school work, without PE or other exertion, the athlete can begin the gradual return to play protocol as outlined below. Each step increases the intensity and duration of the physical exertion until all skills required by the specific sport can be accomplished without symptoms. These recommendations have been based on the awareness of the increased vulnerability of the brain to concussions occurring close together and of the cumulative effects of multiple concussions on long-term brain function. Research is now revealing some fairly objective and relatively easy-to-use tests which appear to identify subtle residual deficits that may not be obvious from the traditional evaluation. These identifiable abnormalities frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to play in relative safety. The significance of these deficits is still under study and the evaluation instruments represent a work in progress. They may be helpful to the professional determining return to play in conjunction with consideration of the severity and nature of the injury; the interval since the last head injury; the duration of symptoms before clearing; and the level of play.

SIDELINE DECISION-MAKING

1. No athlete should return to play (RTP) on the same day of concussion.
2. Any athlete removed from play because of a concussion must have medical clearance from an appropriate health care professional before he or she can resume practice or competition.
3. Close observation of athlete should continue for a few hours.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based on return of any signs or symptoms.

MEDICAL CLEARANCE / RTP (Return to Play) PROTOCOL

1. No exertional activity until asymptomatic.
2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc.
3. Initiate aerobic activity fundamental to specific sport such as skating or running, and may also begin progressive strength training.
4. Begin non-contact skill drills specific to sport such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.
6. If athlete remains asymptomatic, he or she may return to game/play.

- ✓ **ATHLETE MUST REMAIN ASYMPTOMATIC TO PROGRESS TO THE NEXT LEVEL.**
- ✓ **IF SYMPTOMS RECUR, ATHLETE MUST RETURN TO PREVIOUS LEVEL.**
- ✓ **MEDICAL CHECK SHOULD OCCUR BEFORE CONTACT.**

SIGNS AND SYMPTOMS OF CONCUSSION

Concussions can appear in many different ways. Listed below are some of the signs and symptoms frequently associated with concussions. Most signs, symptoms and abnormalities after a concussion fall into the four categories listed below. A coach, parent or other person who knows the athlete well can often detect these problems by observing the athlete and/or by asking a few relevant questions of the athlete, official or a teammate who was on the field or court at the time of the concussion. Below are some suggested observations and questions a non-medical individual can use to help determine whether an athlete has suffered a concussion and how urgently he or she should be sent for appropriate medical care.

1. **PROBLEMS IN BRAIN FUNCTION**:
   a. Confused state - dazed look, vacant stare or confusion about what happened or is happening.
   b. Memory problems - can't remember assignment on play, opponent, score of game, or period of the game; can't remember how or with whom he or she traveled to the game, what he or she was wearing, what was eaten for breakfast, etc.
   c. Symptoms reported by athlete - Headache, nausea or vomiting; blurred or double vision; oversensitivity to sound, light or touch; ringing in ears; feeling foggy or groggy; dizziness.
   d. Lack of sustained attention - difficulty sustaining focus adequately to complete a task, a coherent thought or a conversation.

2. **SPEED OF BRAIN FUNCTION**: Slow response to questions, slow slurred speech, incoherent speech, slow body movements and slow reaction time.

3. **UNUSUAL BEHAVIORS**: Behaving in a combative, aggressive or very silly manner; atypical behavior for the individual; repeatedly asking the same question over and over; restless and irritable behavior with constant motion and attempts to return to play; reactions that seem out of proportion and inappropriate; and having trouble resting or "finding a comfortable position."

4. **PROBLEMS WITH BALANCE AND COORDINATION**: Dizziness, slow clumsy movements, inability to walk a straight line or balance on one foot with eyes closed.

IMPORTANT NOTE: IF NO MEDICAL PERSONNEL ARE ON HAND AND AN INJURED ATHLETE HAS ANY OF THE ABOVE SYMPTOMS, HE OR SHE SHOULD BE SENT FOR APPROPRIATE MEDICAL CARE.

CHECKING FOR CONCUSSION

The presence of any of the signs or symptoms that are listed in this document suggest a concussion has most likely occurred. In addition to observation and direct questioning for symptoms, medical professionals have a number of other instruments to evaluate attention, processing speed, memory, balance, reaction time, and ability to think and analyze information (called executive brain function). These are the brain functions that are most likely to be adversely affected by a concussion and most likely to persist during the post concussion period.

If an athlete seems "clear" he or she should be exercised enough to increase the heart rate and then evaluate if any symptoms return before allowing that athlete to practice or play.

Computerized tests that can evaluate brain function are now being used by some medical professionals at all levels of sports from youth to professional and elite teams. They provide an additional tool to assist physicians in determining when a concussed athlete appears to have healed enough to return to school and play. This is especially helpful when dealing with those athletes denying symptoms in order to play sooner.

For non-medical personnel, the Centers for Disease Control and Prevention (CDC) has also developed a tool kit ("Heads Up: Concussion in High School Sports"), which has been made available to all high schools, and has information for coaches, athletes and parents. The NFHS is proud to be a co-sponsor of this initiative.

PREVENTION

Although all concussions cannot be prevented, many can be minimized or avoided. Proper coaching techniques, good officiating of the existing rules and use of properly fitted equipment can minimize the risk of head injury. Although the NFHS advocates the use of mouth-guards in nearly all sports and mandates them in some, there is no convincing scientific data that their use will prevent concussions.

Prepared by NFHS Sports Medicine Advisory Committee. 2009

NFHS Suggested Guidelines

Concussion Management

A concussion is a traumatic brain injury that interferes with normal brain function. An athlete does not have to lose consciousness (be "knocked out") to have suffered a concussion.

Common Symptoms of Concussion Include:

- headache
- fogginess
- difficulty concentrating
- easily confused
- slowed thought processes
- difficulty with memory
- nausea
- lack of energy, tiredness
- dizziness, poor balance
- blurred vision
- sensitive to light and sounds
- mood changes- irritable, anxious, or tearful

Suggested Concussion Management:

1. No athlete should return to play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
3. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming participation in any practice or competition.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

For more information please see the "NFHS Suggested Guidelines for Management of Concussion" at www.nfhs.org.

PLEASE NOTE: NFHS Website offers FREE COURSE on Concussion Education

Concussion in Sports - What You Need To Know – Click here to go to Course

All coaches and officials are strongly encouraged to take this course. (Est. Time 25-30 minutes)

RETURN TO PLAY POLICIES

New Hampshire

National Federation of State
High School Associations

A Parent's Guide to Concussion in Sports

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull as a result of a blow to the head or body. An athlete does not have to lose consciousness ("knocked-out") to suffer a concussion.

Concussion Facts

- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but girl's lacrosse, girl's soccer, boy's lacrosse, wrestling and girl's basketball follow closely behind. All athletes are at risk.
- A concussion is a traumatic injury to the brain.
- Concussion symptoms may last from a few days to several months.
- Concussions can cause symptoms which interfere with school, work, and social life.
- An athlete should not return to sports while still having symptoms from a concussion as they are at risk for prolonging symptoms and further injury.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES
Appears dazed or stunned
Is confused about what to do
Forgets plays
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness
Shows behavior or personality changes
Can't recall events prior to hit
Can't recall events after hit

SYMPTOMS REPORTED BY ATHLETE
Headache
Nausea
Balance problems or dizziness
Double or fuzzy vision
Sensitivity to light or noise
Feeling sluggish
Feeling foggy or groggy
Concentration or memory problems
Confusion

What should I do if I think my child has had a concussion?

If an athlete is suspected of having a concussion, he or she must be immediately removed from play, be it a game or practice. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death. Parents and coaches are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, you must be aware of the signs and symptoms of a concussion and if you are suspicious, then your child must stop playing:

When in doubt, sit them out!

All athletes who sustain a concussion need to be evaluated by a health care professional who is familiar with sports concussions. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions he or she should be taken to the emergency department immediately.

When can an athlete return to play following a concussion?

After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers in both Oregon and Washington to pass laws stating that **no player shall return to play following a concussion on that same day and the athlete must be cleared by an appropriate health-care professional before he or she are allowed to return to play in games or practices.** The laws also mandate that coaches receive education on recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared to return to play by health care professional knowledgeable in the care of sports concussions he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average the athlete will complete a new step each day. The return to play schedule should proceed as below following medical clearance:

Step 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.
Step 2: Running in the gym or on the field. No helmet or other equipment.
Step 3: Non-contact training drills in full equipment. Weight-training can begin.
Step 4: Full contact practice or training.
Step 5: Game play.

If symptoms occur at any step, the athlete should cease activity and be re-evaluated by their health care provider.

How can a concussion affect schoolwork?

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short and long-term memory, concentration, and organization.

In many cases it is best to lessen the athlete's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or perhaps a longer period of time, if needed. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

What can I do?

- Both you and your child should learn to recognize the “Signs and Symptoms” of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers, and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has a concussion.
- Monitor sports equipment for safety, fit, and maintenance.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season’s sports.

Other Frequently Asked Questions

Why is it so important that an athlete not return to play until they have completely recovered from a concussion?

Athletes who are not fully recovered from an initial concussion are significantly vulnerable for recurrent, cumulative, and even catastrophic consequences of a second concussive injury. Such difficulties are prevented if the athlete is allowed time to recover from the concussion and return to play decisions are carefully made. No athlete should return-to-sport or other at-risk participation when symptoms of concussion are present and recovery is ongoing.

Is a “CAT scan” or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT (“CAT”) and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening brain injuries (e.g. skull fracture, bleeding, swelling), they are not normally utilized, even by athletes who have sustained severe concussions. A concussion is diagnosed based upon the athlete’s story of the injury and the health care provider’s physical examination.

What is the best treatment to help my child recover more quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can speed the recovery from a concussion. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) all may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms

lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened if symptoms worsen.

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within one week of the initial injury. You should anticipate that your child will likely be out of sports for about two weeks following a concussion. However, in some cases symptoms may last for several weeks, or even months. Symptoms such as headache, memory problems, poor concentration, and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.

How many concussions can an athlete have before he or she should stop playing sports?

There is no “magic number” of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances surrounding each individual injury, such as how the injury happened and length of symptoms following the concussion, are very important and must be considered when assessing an athlete’s risk for further and potentially more serious concussions. The decision to “retire” from sports is a decision best reached following a complete evaluation by your child’s primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussion.

I’ve read recently that concussions may cause long-term brain damage in professional football players. Is this a risk for high school athletes who have had a concussion?

The issue of “chronic encephalopathy” in several former NFL players has received a great deal of media attention lately. Very little is known about what may be causing dramatic abnormalities in the brains of these unfortunate retired football players. At this time we have very little knowledge of the long-term effects of concussions which happen during high school athletics.

In the cases of the retired NFL players, it appears that most had long careers in the NFL after playing in high school and college. In most cases, they played football for over 20 years and suffered multiple concussions in addition to hundreds of other blows to their heads. Alcohol and steroid use may also be contributing factors in some cases. Obviously, the average high school athlete does not come close to suffering the total number or shear force of head trauma seen by professional football players. However, the fact that we know very little about the long-term effects of concussions in young athletes is further reason to very carefully manage each concussion.

Some of this information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the NFHS's Sports Medicine Advisory Committee. Please go to **www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm** for more information.

If you have any further questions regarding concussions in high school athletes or want to know how to find a concussion specialist in your area please contact Michael C. Koester, MD, ATC and Chair of the NFHS Sports Medicine Advisory Committee at **michael.koester@slocumcenter.com**.

April 2010

National Federation of State
High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Introduction

A concussion is a type of traumatic brain injury that impairs normal function of the brain. It occurs when the brain moves within the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion continues to evolve. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a “ding” on the head, it is now understood that a concussion has the potential to result in a variety of short- or long-term changes in brain function or, rarely, death.

What is a concussion?

You’ve probably heard the terms “ding” and “bell-ringer.” These terms were previously used to refer to "minor" head injuries and thought to be a normal part of collision sports. Research has shown that a concussion is a brain injury and by no means minor. Any suspected concussion must be taken seriously. The athlete does not have to be hit directly in the head to injure the brain. Any force that is transmitted to the head may cause the brain to bounce or twist within the skull, resulting in a concussion.

It was once believed that a person had to lose consciousness or be “knocked-out” to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 5% of athletes actually lose consciousness with a concussion.

What happens to the brain during a concussion is not completely understood. It is a very complex process, primarily affecting the function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs, the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be detected during an examination and seen on x-rays or MRI. A concussion, however, is an

injury that interferes with how the brain works and cannot be diagnosed by MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been injured.

Recognition and Management

If an athlete exhibits any signs, symptoms or behaviors that make you suspicious of a concussion, the athlete **must** be removed from play and closely observed. Sustaining another head injury after a concussion can lead to worsening concussion symptoms, increased risk for further injury and, rarely, death.

Parents/guardians and coaches are not expected to "diagnose" a concussion. That is the role of an appropriate health-care professional. However, everyone involved in athletics must be aware of the signs, symptoms and behaviors associated with a concussion. If you suspect that an athlete may have a concussion, then the athlete must be **immediately removed** from all physical activity.

Signs Observed by Coaching Staff

- *Loss of consciousness (even if brief)
- *Seizure
- *Increasing sleepiness
- *Worsening headache
- *Persistent vomiting
- Dazed or stunned appearance
- Confusion about assignment or position
- Forgetful, for example, doesn't follow instructions
- Uncertainty of game, score or opponent
- Clumsy movements
- Slow response to questions
- Mood, behavior or personality changes
- Inability to recall events *prior* to hit or fall
- Inability to recall events *after* hit or fall

***RED FLAGS**

Symptoms Reported by Athlete

- Headaches or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy or groggy
- Concentration or memory problems
- Confusion

- Emotions of "not feeling right" or "feeling down"

When in doubt, sit them out!

When you suspect that a player has a concussion, follow the "Heads Up" 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure the athlete is evaluated by an appropriate health-care professional. (RED FLAGS: If any red flag present, the athlete should go to the emergency department)
3. Inform the athlete's parents/guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury, and until an appropriate health-care professional says the athlete is symptom-free and gives the okay to return to activity.

The signs, symptoms and behaviors associated with a concussion are not always apparent immediately after a bump, blow or jolt to the head or body and may develop over a few hours or longer. An athlete should be closely watched following a suspected concussion and should never be left alone.

Athletes should never try to "tough out" a concussion. Teammates, parents/guardians and coaches should never encourage an athlete to "play through" the symptoms of a concussion. In addition, there should never be an attribution of bravery or courage to athletes who play despite having concussion signs and/or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at greater risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

What to do in an Emergency

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following:

- Seizure
- Increasing sleepiness
- Worsening headache
- Persistent vomiting

Rest

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Athletes with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. Athletes typically require 24-48 hours of rest, though some may require longer.

Return to Learn

Following a concussion, many athletes will have difficulty in school. These problems may last from days to weeks and often involve difficulties with short- and long-term memory, concentration and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school during the short period of rest, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress to the brain in the early phase after a concussion may lessen symptoms and shorten the recovery time. Additional academic adjustments may include decreasing homework, allowing extra time for assignments/tests, and taking breaks during class. Such academic adjustments are best made in collaboration with teachers, counselors and school nurses.

Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day**. **An athlete should *never* be allowed to resume play following a concussion until symptom free and given the approval to resume physical activity by an appropriate health-care professional.**

Once an athlete no longer has signs or symptoms of a concussion **and is cleared to return to activity by an appropriate health-care professional**, he/she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete should progress no more than one step each day, and at times each step may take more than one day. **Below is an example of a return to physical activity program**:

Progressive Physical Activity Program (ideally under supervision)

- *Step 1*: Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training or any other exercises.
- *Step 2*: Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without equipment.
- *Step 3*: Non-contact training drills in full uniform. May begin weightlifting, resistance training and other exercises.
- *Step 4*: Full contact practice or training.
- *Step 5*: Full game play.

If symptoms of a concussion recur, or if concussion signs and/or behaviors are observed at any time during the return-to-activity program, the athlete must discontinue all activity immediately. Depending on previous instructions, the athlete may need to be re-evaluated by the health-care provider, or may have to return to the previous step of the return-to-activity program.

Summary of Suggested Concussion Management

1. **No athlete should return to play (RTP) or practice on the same day of a concussion.**
2. **Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional.**
3. **Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.**
4. **After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.**

References:

American Medical Society for Sports Medicine position statement: concussion in sport. Harmon KG, Drezner J, Gammons M, Guskiewicz K, Halstead M, Herring S, Kutcher J, Pana A, Putukian M, Roberts W; American Medical Society for Sports Medicine.
Clin J Sport Med. 2013 Jan;23(1):1-18.

McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012 J Athl Train. 2013 Jul-Aug;48(4):554-75.

Returning to Learning Following a Concussion. Halstead M, McAvoy K, Devore C, Carl R, Lee M, Logan K and Council on Sports Medicine and Fitness, and Council on School Health. *Pediatrics,* October 2013. American Academy of Pediatrics.

Additional Resources:

Brain 101 – The Concussion Playbook.
http://brain101.orcasinc.com/5000/

Concussion in Sports- What you need to know.
http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000

Heads Up: Concussion in High School Sports
http://www.cdc.gov/concussion/headsup/high_school.html

NFHS Sports Medicine Handbook, 4th Ed, 2011.

REAP Concussion Management Program.
http://www.rockymountainhospitalforchildren.com/sports-medicine/concussion-management/reap-guidelines.htm

Sport Concussion Library
http://www.sportconcussionlibrary.com/content/concussions-101-primer-kids-and-parents

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October 2013
January 2011
April 2009
October 2008
October 2005

RETURN TO PLAY POLICIES

New Jersey

Model Policy and Guidance for
Prevention and Treatment of Sports-Related Concussions and Head Injuries

Introduction

This document is designed to provide guidance to local district boards of education in the development, establishment, and implementation of policies, procedures and programs for the prevention, treatment, and education of Sports- Related Concussions and Head Injuries.

Part I
Background

Legislation (P.L. 2010, Chapter 94) *(N.J.S.A.* 18A:40-41.3) enacted on December 7th, 2010 requires each school district, charter , and non-public school that participates in interscholastic athletics to adopt by September 1, 2011, a policy concerning the prevention and treatment of sports- related concussions and other head injuries among student- athletes. The Center for Disease Control estimates that 300,000 concussions are sustained during sports- related activity in the United States. A concussion is a traumatic brain injury (TBI) caused by a direct or indirect blow to the head or body. In order to ensure the safety of student-athletes, it is imperative that athletes, coaches, and parents/guardians are educated about the nature and treatment of sports- related concussions and head injuries. Allowing a student-athlete to return to play before recovering from a concussion increases the chance of a more serious brain injury that can result in severe disability and/or death.

To assist each district board of education, board of trustees, and non-public school in developing its sports-related concussion and head injuries policy, the legislation required the Commissioner of Education to issue a model policy applicable to grades kindergarten through twelve (K-12), by March 31, 2011. This document includes appropriate references to statutes, regulations and emergent information on sports-related concussions and head injuries.

Part II
Guidance For Local Policy Development

Policy Context

The New Jersey Department of Education (NJDOE) recognizes that the decisions made on the policy governing the care of student-athletes who have sustained sports-related concussions and head injuries is dependent on the individual characteristics in each school district, charter, and non-public school. Each district board of education, charter, and non-public school policy, however, must comply with the

minimum requirements stated in *N.J.S.A.* 18A: 40-41.4 in regards to the care and treatment of a student-athlete who is suspected of sustaining a sports-related concussion or head injury.

Local Policy Development

The following descriptions of applicable regulations make it clear that the **content and format of local policies and procedures must be developed locally:**

- Each district board of education, board of trustees, and non-public school will adopt an Interscholastic Head Injury Training program to be completed by the School/Team Physician, Licensed Athletic Trainer, Coaches, School Nurses, and other appropriate district personnel pursuant to *N.J.S.A.* 18A:40-41.2
- Each district board of education, board of trustees, and non-public school must develop its written policy concerning the prevention and treatment of sports-related concussions and head injuries in accordance with *N.J.S.A.* 18 A:40-41.3.
- Each district board of education, board of trustees, and non-public school must review their sports-related concussion and head injury policy annually , and update as necessary, to ensure that it reflects the most current information available on the prevention, risk, and treatment of sports related concussions and head injuries pursuant to *N.J.S.A.* 18A:40-41.3.

Requirements for Policy Contents

Each district board of education, board of trustees, and non-public school has local control over the content of the Sports-Related Concussion and Head Injury Policy, except that the policy must contain, at a minimum, the following components:

- 18A:40-41.4- Removal of student-athlete from competition, practice; return.
  A student who participates in interscholastic athletics and who sustains or is suspected of sustaining a concussion or other head injury shall be immediately removed from practice or competition. The student-athlete may not return to play until he/she has obtained medical clearance in compliance with local school district return-to-play policy.
- All Coaches, School Nurses, School/ Team Physicians and Licensed Athletic Trainers must complete an Interscholastic Head Injury Training Program.
- The Athletic Head Injury training program must include, but not be limited to:
  1. The recognition of the symptoms of head and neck injuries, concussions, risk of secondary injury, including the risk of second impact syndrome; and
  2. Description of the appropriate criteria to delay the return to sports competition or practice of a student –athlete who has sustained a concussion or other head injury.
- An Athletic Head Injury Training program such as the National Federation of State High Schools Association online “Concussion in Sports” training program or a comparable program that meets mandated criteria shall be completed by the above named staff or others named by local district/school policy. Additional head injury training programs that meet the mandated criteria may be completed by professionals of different levels of medical knowledge and training. Guidance for these additional training programs will be provided to each school district, charter and non-public school by the NJDOE.
- Distribution of NJ Department of Education Concussion and Head Injury fact sheet to every student-athlete who participates in interscholastic sports. Each school district, charter or non public school,

that participates in interscholastic sports shall obtain a signed acknowledgement of the receipt of the fact sheet by the student-athlete's parent/ guardian and keep on file for future reference.

Model Concussion Protocol for the Prevention and Treatment of Sports-Related Concussions and Head Injuries

Prevention

1. Pre-season baseline testing.
2. Review of educational information for student-athletes on prevention of concussions.
3. Reinforcement of the importance of early identification and treatment of concussions to improve recovery.

- Student-athletes who are exhibiting the signs or symptoms of a sports-related concussion or other head injuries during practice or competition shall be immediately removed from play and may not return to play that day.

Possible Signs of Concussion:

(Could be observed by Coaches, Licensed Athletic Trainer, School/Team Physician, School Nurse)

1. Appears dazed, stunned, or disoriented.
2. Forgets plays, or demonstrates short term memory difficulty.
3. Exhibits difficulties with balance or coordination.
4. Answers questions slowly or inaccurately.
5. Loses consciousness.

Possible Symptoms of Concussion

(Reported by the student athlete to Coaches, Licensed Athletic Trainer, School/ Team Physician, School Nurse, Parent/ Guardian)

1. Headache
2. Nausea/Vomiting
3. Balance problems or dizziness.
4. Double vision or changes in vision.
5. Sensitivity to light or sound/noise.
6. Feeling sluggish or foggy.
7. Difficulty with concentration and short term memory.
8. Sleep disturbance.
9. Irritability

- Student-Athletes must be evaluated by a physician or licensed health care provider trained in the evaluation and management of concussion to determine the presence or absence of a sports-related concussion or head injuries.
- To return to practice and competition the student-athlete must follow the protocol:
    1. Immediate removal from competition or practice. 911 should be called if there is a deterioration of symptoms, loss of consciousness, or direct neck pain associated with the injury.
    2. When available the student-athlete should be evaluated by the school's licensed healthcare provider who is trained in the evaluation and management of concussions.

3. School personnel (Athletic Director/Building Administrator, Licensed Athletic Trainer, School Nurse, Coach, etc.) should make contact with the student-athlete's parent/guardian and inform him/her of the suspected sports-related concussion or head injury.
4. School personnel (Athletic Director/ Building Administrator, Licensed Athletic Trainer, School Nurse, Coach, etc.) shall provide the student-athlete with district board of education approved suggestions for management/ medical checklist to provide their parent/guardian and physician or other licensed healthcare professional trained in the evaluation and management of sports related concussions and other head injuries (See attachment sections at end of model policy for examples CDC, NCAA, etc.)
5. The student-athlete must receive written clearance from a physician, trained in the evaluation and management of concussions that states the student-athlete is asymptomatic at rest and may begin the local districts' graduated return-to-play protocol. Medical clearance that is inconsistent with district, charter, and non-public school policy may not be accepted and such matters will be referred to the school/team physician.

Graduated Return to Competition and Practice Protocol

- Complete physical, cognitive, emotional, and social rest is advised while the student-athlete is experiencing symptoms and signs of a sports-related concussion or other head injury. (Minimize mental exertion, limiting overstimulation, multi-tasking etc.)
- After written medical clearance is given by a physician trained in the evaluation and management of concussions stating that the student-athlete is asymptomatic at rest, the student-athlete may begin a graduated individualized return-to-play protocol supervised by a licensed athletic trainer, school/team physician or in cases where the afore mentioned are not available a physician or licensed health care provider trained in the evaluation and management of sports-related concussions. The following steps should be followed:
    1. Completion of a full day of normal cognitive activities (school day, studying for tests, watching practice, interacting with peers) without re-emergence of any signs or symptoms. If no return of symptoms, next day advance to:
    2. Light aerobic exercise, which includes walking, swimming, or stationary cycling, keeping the intensity < 70% maximum percentage heart rate: no resistance training. The objective of this step is increased heart rate. If no return of symptoms, next day advance to:
    3. Sport-specific exercise including skating, and/or running; no head impact activities. The objective of this step is to add movement and continue to increase heart rate. If no return of symptoms, next day advance to:
    4. Non-contact training drills (e.g., passing drills). The student-athlete may initiate progressive resistance training. If no return of symptoms, next day advance to:
    5. Following medical clearance (consultation between school health care personnel, i.e., Licensed Athletic Trainer, School/Team Physician, School Nurse and student-athlete's physician), participation in normal training activities. The objective of this step is to restore confidence and to assess functional skills by the coaching staff. If no return of symptoms, next day advance to:
    6. Return to play involving normal exertion or game activity.
- In the absence of daily testing by knowledgeable school district staff (i.e. Licensed Athletic Trainer, School/Team Physician) to clear a student-athlete to begin the graduated return-to-play

protocol a student –athlete should observe a 7 day rest/recovery period before commencing the protocol. Younger students (K-8) should observe the 7 day rest/recovery period (after they are symptom free at rest) prior to initiating the graduated-return-to play protocol. A physician trained in the evaluation and management of concussion as well as the parents/guardians of the student-athlete shall monitor the student-athlete in the absence of knowledgeable school district staff (i.e., Athletic Trainer, School/Team Physician). School Nurses may serve as an advocate for student-athletes in communicating signs and symptoms to physicians and parents/guardians.

- Utilization of available tools such as symptom checklists, baseline and balance testing are suggested.
- If the student athlete exhibits a re-emergence of any concussion signs or symptoms once they return to physical activity, he/she will be removed from further exertional activities and returned to his/her school/team physician or primary care physician.
- If concussion symptoms reoccur during the graduated return-to-play protocol, the student-athlete will return to the previous level of activity that caused no symptoms.

Temporary Accommodations for Student-Athletes with Sports-Related Head Injuries

- Rest is the best "medicine" for healing concussions or other head injuries. The concussed brain is affected in many functional aspects as a result of the injury. Memory, attention span, concentration and speed of processing significantly impacts learning. Further, exposing the concussed student-athlete to the stimulating school environment may delay the resolution of symptoms needed for recovery.
- Accordingly, consideration of the cognitive effects in returning to the classroom is also an important part of the treatment of sports-related concussions and head injuries.
- Mental exertion increases the symptoms from concussions and affects recovery. To recover, cognitive rest is just as important as physical rest. Reading, studying, computer usage, testing, texting – even watching movies if a student is sensitive to light/sound – can slow a student's recovery. In accordance with the Centers for Disease Control's toolkit on managing concussions boards of education may look to address the student's cognitive needs in the following ways.
- Students who return to school after a concussion may need to:
    1. Take rest breaks as needed.
    2. Spend fewer hours at school.
    3. Be given more time to take tests or complete assignments. (All courses should be considered)
    4. Receive help with schoolwork.
    5. Reduce time spent on the computer, reading, and writing.
    6. Be granted early dismissal to avoid crowded hallways.

Part III
Use of the Model Policy and Guidance

This document is presented as a summary guide and model. District boards of education, boards of trustees, and non-public schools may add additional provisions or protocols to address local issues and priorities, and may use formats that are consistent with the board of education's approved policies and procedures.

Part IV
Implementation of the Interscholastic Sports-Related Concussions and Head Injuries Policy

Statutory and Regulatory Provisions: *N.J.S.A.* 40-41.3 Information regarding the Interscholastic Head Injury Safety training program and policy for the prevention and treatment of sports-related concussions and head injuries which shall be completed by the school/team physician, coaches, athletic trainer, school nurse, and any other school employee the local district, charter, and non-public school deems necessary.

The school district, charter, and non-public school are required to monitor the above named school district employees in the completion of an Interscholastic Head Injury Training program such as the National Federation of State High Schools Association's online, "Concussion in Sports" or a comparable program which meets the mandated criteria and includes but is not limited to:

1. The recognition of the symptoms of head and neck injuries, concussions, and injuries related to second-impact syndrome.
2. Includes the appropriate criteria to delay the return to sports practice or competition of a student-athlete who has sustained a concussion or other head injury.
   *Additional head injury training programs that meet the mandated criteria may be completed by professionals of different levels of medical knowledge and training. Guidance for these additional training programs will be provided to each school district, charter, and nonpublic school by NJDOE.

The school district, charter, or nonpublic school that participates in an interscholastic sports program shall distribute the educational fact sheet annually to the parents or guardians of student-athletes and shall obtain a signed acknowledgement of the receipt of the fact sheet by the student-athlete and his parent or guardian.

Each school district, charter, and non-public school shall develop a written policy concerning the prevention and treatment of sports-related concussions and other head injuries among student-athletes. The policy shall include, but need not be limited to, the procedure followed when it is suspected that student-athlete has sustained a concussion or other head injury. Each school district shall implement the policy by the 2011-2012 school year.

Each school whose students participate in an interscholastic sports program and are suspected of sustaining a concussion or other head injury in practice or competition shall be immediately removed from the sports competition or practice. Student-athletes who are removed from competition or practice shall not participate in further sports activity until they are evaluated by a physician or other licensed healthcare provider trained in the evaluation and management of concussions, and receive written

clearance from a physician trained in the evaluation and management of concussions to return to completion or practice.

Part V
Resources on Interscholastic Sports Related Concussions and Head Injuries

Internet Resources
Centers for Disease Control and Prevention – Concussion Toolkit
http://www.cdc.gov/concussion/HeadsUp/physicians_tool_kit.html
http://www.cdc.gov/concussion/headsup/pdf/ACE-a.pdf
http://www.cdc.gov/concussion/headsup/pdf/ACE_care_plan_school_version_a.pdf
http://www.cdc.gov/concussion/headsup/pdf/Concussion_in_Sports_palm_card-a.pdf

National Federation of State High Schools Association- Online "Concussion in Sports" training program.
www.nfhs.org

Brain Injury Association of New Jersey
www.BIANJ.org
www.sportsconcussion.com

Athletic Trainers Society of New Jersey
www.atsnj.org

National Collegiate Athletic Association
www.NCAA.org/health-safety

New Jersey Interscholastic Athletic Association
www.njsiaa.org

Articles
"Consensus Statement on Concussion in Sport: 3rd International Conference on Concussion in Sport held in Zurich, November 2008". Clinical Journal of Sports Medicine, Volume 19, May 2009, pp.185-200

Clinical Report: Sport-related Concussion in Children and Adolescents" Halstead ME, Walter, KD and the Council on Sports Medicine and Fitness Pediatrics Volume 126, September 2010, pp.597-615.

NEW JERSEY STATE INTERSCHOLASTIC ATHLETIC ASSOCIATION
1161 ROUTE 130 NORTH P.O. BOX 487 ROBBINSVILLE, NJ 08691-0487

NJSIAA WRITTEN CLEARANCE/RETURN TO PLAY FORM

Date of competition/practice: _____

Name of suspected concussed player:_____

Jersey number of suspected concussed player:_____

Time of day/night injury occurred:_____

Time of day/night injured player returned to play:_____

Time on game clock when injured player returned to play:_____

Period/quarter/half when injured player was removed_____

Period/quarter/half when injured player returned to play_____

Brief description of symptoms noted and sideline evaluation_____

_____

This return-to-play is based on today's evaluation on this _____ day of _____,

201_____, I hereby authorize the above-named student to return to play and participate in today's competition without restrictions.

I hereby certify that I have received training in the evaluation and management of concussions. (N.J.S.A. 18a:40-41, 4)

Signature of physician _____MD, DO
(circle one)

Printed name of physician: _____

Title: _____

Office address of physician: _____

Telephone No:_____

RETURN TO PLAY POLICIES

New Mexico

RETURN TO PLAY GUIDELINES
UNDER NEW ME ICO SENATE BILL 38 (2017)

1. Remove athlete immediately from activity when signs/symptoms of a concussion are present.
    - Coaches and Athletes must be educated in signs/ symptoms of a concussion.

2. Athletes must not return to full activity prior to a minimum of 240 hours (10 days).

3. Athletes must be released to participation by an appropriate medical professional before returning.
    - MD, DO, PA, CNP, PT, Licensed Psychologist, Licensed Athletic Trainer (as per Senate Bill 38)

4. School districts are required to develop head injury protocols (guidelines).

5. Coaches must follow school district's head injury protocol when allowing athletes to return to play.

6. Coaches must continue to monitor for signs/symptoms once athletes return to activity.

7. School districts are required to inform parents/ athletes of the potential risks of head injuries in sports.

RETURN TO PLAY POLICIES

New York

CONCUSSION CHECKLIST

(Revision #3)

Name:_____ Age:_____ Grade:_____ Sport:_____

Date of Injury:_____Time of Injury:_____

On Site Evaluation

Description of Injury:_____

_____

_____

Has the athlete ever had a concussion?	Yes	No	
Was there a loss of consciousness?	Yes	No	Unclear
Does he/she remember the injury?	Yes	No	Unclear
Does he/she have confusion after the injury?	Yes	No	Unclear

Symptoms observed at time of injury:

Dizziness	Yes	No	Headache	Yes	No
Ringing in Ears	Yes	No	Nausea/Vomiting	Yes	No
Drowsy/Sleepy	Yes	No	Fatigue/Low Energy	Yes	No
"Don't Feel Right"	Yes	No	Feeling "Dazed"	Yes	No
Seizure	Yes	No	Poor Balance/Coord.	Yes	No
Memory Problems	Yes	No	Loss of Orientation	Yes	No
Blurred Vision	Yes	No	Sensitivity to Light	Yes	No
Vacant Stare/ Glassy Eyed	Yes	No	Sensitivity to Noise	Yes	No

* Please circle yes or no for each symptom listed above.

Other Findings/Comments:_____

_____

Final Action Taken: Parents Notified Sent to Hospital

Evaluator's Signature:_____Title:_____

Address:_____Date:_____Phone No.:_____

Physician Evaluation
(Revision #3)

Date of First Evaluation:_____ **Time of Evaluation:**_____

Date of Second Evaluation:_____ **Time of Evaluation:**_____

Symptoms Observed:	**First Doctor Visit**		**Second Doctor Visit**	
Dizziness	Yes	No	Yes	No
Headache	Yes	No	Yes	No
Tinnitus	Yes	No	Yes	No
Nausea	Yes	No	Yes	No
Fatigue	Yes	No	Yes	No
Drowsy/Sleepy	Yes	No	Yes	No
Sensitivity to Light	Yes	No	Yes	No
Sensitivity to Noise	Yes	No	Yes	No
Anterograde Amnesia *(after impact)*	Yes	No	N/A	N/A
Retrograde Amnesia *(backwards in time from impact)*	Yes	No	N/A	N/A

* Please indicate yes or no in your respective columns. First Doctor use column 1 and second Doctor use column 2.

First Doctor Visit:

Did the athlete sustain a concussion? (**Yes** or **No**) (one or the other must be circled)

**** Post-dated releases will not be accepted. The athlete must be seen and released on the same day.**
Please note that if there is a history of previous concussion, then referral for professional management by a specialist or concussion clinic should be strongly considered.

Additional Findings/Comments:_____

_____

Recommendations/Limitations:_____

_____

Signature:_____ Date:_____

Print or stamp name:_____Phone number:_____

Second Doctor Visit:

***** Athlete must be completely symptom free in order to begin the return to play progression. If athlete still has symptoms more than seven days after injury, referral to a concussion specialist/clinic should he strongly considered.**

Please check one of the following:

- ☐ Athlete is asymptomatic and is ready to begin the return to play progression.
- ☐ Athlete is still symptomatic more than seven days after injury.

Signature:_____ Date:_____

Print or stamp name:_____Phone number:_____

Return to play Protocol following a concussion.

The following protocol has been established in accordance to the National Federation of State High School Associations and the International Conference on Concussion in Sport, Prague 2004.

When an athlete shows **ANY** signs or symptoms of a concussion:

1. The athlete will not be allowed to return to play in the current game or practice.
2. The athlete should not be left alone, and regular monitoring for deterioration is essential over the initial few hours following injury.
3. The athlete should be medically evaluated following the injury.
4. Return to play must follow a medically supervised stepwise process.

The cornerstone of proper concussion management is rest until all symptoms resolve and then a graded program of exertion before return to sport. The program is broken down into six steps in which only one step is covered a day. The six steps involve the following:

1. No exertional activity until asymptomatic for 24 hours.
2. Light aerobic exercise such as walking or stationary bike, etc. No resistance training.
3. Sport specific exercise such as skating, running, etc. Progressive addition of resistance training may begin.
4. Non-contact training/skill drills.
5. Full contact training in practice setting.
6. Return to competition

If any concussion symptoms recur, the athlete should drop back to the previous level and try to progress after 24 hours of rest.

The student-athlete should also be monitored for recurrence of symptoms due to mental exertion, such as reading, working on a computer, or taking a test.

(br5/19/08)

Guidelines for Concussion Management in the School Setting

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Student Support Services
Albany, New York 12234
June 2012

Foreword

The Concussion Management and Awareness Act, specifically Chapter 496 of the Laws of 2011, requires the Commissioner of Education, in conjunction with the Commissioner of Health, to promulgate rules and regulations related to students who sustain a concussion, also known as a mild traumatic brain injury (MTBI), at school and at any district-sponsored event or related activity. These guidelines for return to school and certain school activities apply to all public school students who have sustained a concussion regardless of where the concussion occurred. The law also requires that school coaches, physical education teachers, nurses, and certified athletic trainers complete a New York State Education Department (NYSED) approved course on concussions and concussion management every two years. Finally, the law requires that students who sustained, or are suspected to have sustained, a concussion during athletic activities are to be immediately removed from such activities. Students may not return to athletic activities until they have been symptom-free for a minimum of 24 hours and have been evaluated by, and receive written and signed authorization to return to activities from a licensed physician. Private schools have the option of adopting such policies. Private schools participating in interschool athletics with public school districts should check with their governing athletic body (e.g., New York State Public High School Athletic Association, NYSPHAA; or Public School Athletic League, PSAL) to see if complying with the Concussion Management and Awareness Act is a condition of participation.

The purpose of this document is to provide school district personnel, parents/guardians, students, and private health providers with information on concussion management in school settings. It explains the purpose of a concussion management program in schools and provides guidance for developing an effective program including planning, implementation, and follow-up protocols. This will assist in identifying a student with a potential concussion, and insure that a student who has been diagnosed with a concussion receives the appropriate care and attention at school to aid in his/her recovery.

When developing concussion management plans, districts will promote an environment where reporting signs and symptoms of a concussion is required and important. Students should be seen by their primary medical provider for diagnosis, who then may choose to refer the student to a specialist as needed. If the student does not have a primary medical provider, district health personnel may assist families in finding one by providing information on local clinics and/or providers along with information on public health insurance. Additionally, districts should be cognizant of the various constraints that many students' families face. Although districts may assist parents/guardians with finding an appropriate medical provider, they should not require students to see a district-chosen provider for a fee in order to be cleared to return to athletic activities. Per this law, any evaluation and clearance authorizing a student to return to athletic activities must be performed, written, and signed by a licensed physician. Such written clearance must be sent to school for review by the district medical director and is to be kept in the student's cumulative health record.

Extra-class periods of physical education (PE) means those sessions organized for instruction and practice in skills, attitudes, and knowledge through participation in individual, group, and team activities organized on an intramural, extramural, or interschool athletic basis to supplement regular physical education class instruction [8NYCRR 135.1(h)]. In extra class activities, the district medical director is the final person to clear a student to return to such activities [8NYCRR 135.4(c)(7)(i)]. Education Law Section 902 requires all public school districts to have a director of school health services (commonly referred to as the medical director) who may be either a physician or nurse practitioner. In instances where a school district affiliates itself with a medical practice for its required health and welfare services, one physician or nurse practitioner within that medical practice is to be designated the medical director. The medical director should be consulted when developing district policies and protocols for health related matters such as concussion management.

Every attempt has been made to ensure that the information and resources contained in this document reflect best practice in the fields of medicine and nursing practice. Local educational agencies should review these guidelines with their counsel as necessary to incorporate the guidance with district policy.

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Table of Contents

Concussion Overview

Concussions, a type of traumatic brain injury (TBI), are injuries to the brain that occur as the result of a fall, motor vehicle accident, or any other activity that results in an impact to the head or body.

According to the Centers for Disease Control and Prevention (CDC), *Morbidity and Mortality Weekly Report (MMWR)* [October 7, 2011/ 60(39); 1337-1342]:

- An estimated 2,651,581 million people under age 19 sustain a head injury annually.

In New York State for 2009:

- Approximately 50,500 children under the age of 19 visited the emergency room for traumatic brain injury and of those, approximately 3,000 were hospitalized.

A concussion is a reaction by the brain to a jolt or force that can be transmitted to the head by an impact or blow occurring anywhere on the body. Essentially, a concussion results from the brain moving back and forth or twisting rapidly inside the skull. The symptoms of a concussion result from a temporary change in the brain's function. In most cases, the symptoms of a concussion generally resolve over a short period of time; however in some cases symptoms can last for weeks or longer. In a small number of cases, or in cases of re-injury during the recovery phase, permanent brain injury is possible. Children and adolescents are more susceptible to concussions and take longer than adults to fully recover. Therefore, it is imperative that any student who is suspected of having sustained a concussion be immediately removed from athletic activity (e.g., recess, PE class, sports) and remain out of athletic activities until evaluated **and** cleared to return to athletic activity by a physician.

Policy and Protocol Development

Local boards of education are strongly advised to develop a written concussion management policy. This policy should reference the district's protocols, written collaboratively with the district medical director to give direction to staff involved in the identification of a potential concussion. These policies and protocols assist a student who will return to school and need accommodations after being diagnosed with a concussion. Policies should provide clear protocols, but permit accommodations for individual student needs, as determined by the student's medical provider and/or district medical director.

The New York State Education Department (NYSED) and the New York State Department of Health (DOH) recommend the following be included in a district's policy on concussion management:

- A commitment to implement strategies that reduce the risk of head injuries in the school setting and during district sponsored events. A specific list of preventative strategies should be included in a guidance document appended to the board policy.

- A procedure and treatment plan developed by the district medical director and other licensed health professionals employed by the district, to be utilized by district staff who may respond to a person with a head injury. The procedure and treatment plan should be appended to the board policy.

- A procedure to ensure that school nurses, certified athletic trainers, physical education teachers, and coaches have completed the NYSED-approved, **required** training course (See *Guidelines for the Team* beginning on page 12 for each profession). Additionally, the policy should address the education needs of teachers and other appropriate staff, students, and parents/guardians, as needed.

- A procedure for a coordinated communication plan among appropriate staff to ensure that private provider orders for post-concussion management are implemented and followed.

- A procedure for periodic review of the concussion management policy.

Prevention and Safety

Protecting students from head injuries is one of the most important ways to prevent a concussion. Although the risk of a concussion may always be present with certain types of activities, in order to minimize the risk, districts should insure that (where appropriate) education, proper equipment, and supervision to minimize the risk is provided to district staff, students, and parents/guardians. Instruction should include signs and symptoms of concussions, how such injuries occur, and possible long term effects resulting from such injury. It is imperative that students know the symptoms of a concussion and to inform appropriate personnel, even if they believe they have sustained the mildest of concussions. This information should be reviewed periodically with student athletes throughout each season. Emphasis must be placed on the need for medical evaluation should such an injury occur to prevent persisting symptoms of a concussion, and following the guidelines for return to school and activities. Providing supporting written material is advisable. Additionally, the Concussion Management and Awareness Act requires that consent forms (required for participation in interscholastic athletics) contain information on concussions and/or reference how to obtain information on concussions from the NYSED and DOH websites. It is extremely important that all students be made aware of the importance of reporting any symptoms of a concussion to their parent/guardian and/or appropriate district staff. District staff members must follow district emergency protocols and procedures for any student reporting signs and symptoms of injury or illness.

Activities that present a higher than average risk for concussions include, but are not limited to: interscholastic athletics, extramural activities, physical education classes, and recess. Districts should evaluate the physical design of their facilities and their emergency safety plans to identify potential risks for falls or other injuries. Recess should include adult supervision, with all playground equipment in good repair, and play surfaces composed of approved child safety materials.

Physical education programs should include plans that emphasize safety practices. Lessons on the need for safety equipment should be taught, along with the correct use of such equipment. In addition, rules of play should be reviewed prior to taking part in the physical activity and enforced throughout the duration thereof.

Commissioner's regulation §135.4(c)(4) requires that each school district operating a high school employ a director of physical education who shall have certification in physical education and administrative and supervisory service. Such director shall provide leadership and supervision for the class instruction, intramural activities, and interschool athletic competition in the total physical education program. Where there are extenuating circumstances, a member of the physical education staff may be designated for such responsibilities, upon approval of the Commissioner. School districts may share the services of a director of physical education.

It is recommended that the physical education (PE) director and/or the athletic director (AD) of a school district insure that all interscholastic athletic competition rules

are followed, appropriate safety equipment is used, and rules of sportsmanship are enforced. PE directors should instruct and encourage PE teachers, coaches, and student athletes from initiating contact to another player with their head or to the head of another player. Players should be proactively instructed on sport-specific safe body alignment and encouraged to be aware of what is going on around them. These practices will reduce the number of unexpected body hits that may result in a concussion and/or neck injury. In addition, proper instruction should include the rules of the sport, defining unsportsmanlike like conduct, and enforcing penalties for deliberate violations.

Identification

Any student who is observed to, or is suspected of, suffering a significant blow to the head, has fallen from any height, or collides hard with another person or object, may have sustained a concussion. Symptoms of a concussion may appear immediately, may become evident in a few hours, or evolve and worsen over a few days. Concussions may occur at places other than school. Therefore, district staff members who observe a student displaying signs and/or symptoms of a concussion, or learn of a head injury from the student, should have the student accompanied to the school nurse. If there isn't a school nurse, or he/she is unavailable, the school should contact the parent/guardian. In accordance with the Concussion Management and Awareness Act, any student suspected of having a concussion either based on the disclosure of a head injury, observed or reported symptoms, or by sustaining a significant blow to the head or body must be removed from athletic activity and/or physical activities (e.g., PE class, recess), and observed until an evaluation can be completed by a medical provider. Symptoms of a concussion include, but are not necessarily limited to:

- Amnesia (e.g. decreased or absent memory of events prior to or immediately after the injury, or difficulty retaining new information)
- Confusion or appearing dazed
- Headache or head pressure
- Loss of consciousness
- Balance difficulty or dizziness, or clumsy movements
- Double or blurry vision
- Sensitivity to light and/or sound
- Nausea, vomiting, and/or loss of appetite
- Irritability, sadness or other changes in personality
- Feeling sluggish, foggy, groggy, or lightheaded
- Concentration or focusing problems
- Slowed reaction times, drowsiness
- Fatigue and/or sleep issues (e.g. sleeping more or less than usual)

Students who develop any of the following signs, or if the above listed symptoms worsen, must be seen and evaluated immediately at the nearest hospital emergency room:

- Headaches that worsen
- Seizures
- Looks drowsy and/or cannot be awakened
- Repeated vomiting
- Slurred speech
- Unable to recognize people or places
- Weakness or numbing in arms or legs, facial drooping
- Unsteady gait
- Dilated or pinpoint pupils, or change in pupil size of one eye
- Significant irritability

- Any loss of consciousness
- Suspicion of skull fracture: blood draining from ear, or clear fluid from nose

Districts may choose to allow school staff who are appropriate licensed health professionals, and credentialed to use validated neurocognitive computerized testing concussion assessment tools such as Impact (Immediate Post Concussion Assessment & Cognitive Testing), CogSport (also known as Axon), Headminders, and ANAM (Automated Neuropsychological Assessment Metrics); to obtain baseline and post-concussion performance data. Districts may also choose to allow trained staff to use sideline assessment tools such as SCAT-2 (Sport Concussion Assessment Tool 2), SAC (Standardized Assessment of Concussion), or BESS (Balance Error Scoring System). When choosing to use assessment tests and tools, it is important that districts are cognizant of credentialing requirements of assessors, required testing conditions, along with conditions and time intervals required for post-concussion testing. The school district should seek authorization from the parent/guardian prior to the testing. Additionally, parents/guardians should be given a copy of the results.

Neurocognitive computerized tests and sideline assessments may assist district staff in determining the severity of a student's symptoms. **They are not a replacement for a medical evaluation to diagnose a concussion**. All students with a suspected concussion are to be seen as soon as possible by one of the following medical providers: a physician, nurse practitioner, or physician assistant. Results from assessment tools or tests completed at school should be provided to medical providers to aid in the diagnosis and treatment of students. Students removed from athletic activities at school for a suspected concussion must be evaluated by and receive written and signed authorization from a physician in order to return to *athletic activities* in school.

Diagnosis

In New York State, the diagnosis of a concussion remains within the scope of practice of the following medical providers: physicians, nurse practitioners, and physician assistants. As part of their licensure, these medical providers are encouraged to remain current on best practices in their fields. Medical providers who are not familiar with *current* best practice on concussion management are encouraged to seek out professional development updates. This section provides a general overview of current best practice to familiarize district health professionals, and should not be utilized as a replacement for professional development.

It cannot be emphasized enough that any student suspected of having a concussion – either based on the disclosure of a head injury, observed or reported symptoms, or by sustaining a significant blow to the head or body – **must** be removed from athletic activity and/or physical activities (e.g. PE class, recess), and observed until an evaluation can be completed by a medical provider. In accordance with the Concussion Management and Awareness Act, a student diagnosed with a concussion is not to be returned to athletic activities until at least 24 hours have passed without symptoms and the student has been assessed and cleared by a medical provider to begin a graduated return to activities. Per this statute, students removed from athletic activities at school for a suspected concussion must be evaluated by, and receive written and signed authorization from, a physician in order to return to *athletic activities* in school.

Evaluation by a medical provider of a student suspected of having a concussion should include a thorough health history and a detailed account of the injury. The Centers for Disease Control and Prevention (CDC) recommends that physicians, nurse practitioners, and physician assistants use the Acute Concussion Evaluation Form (ACE) to conduct an initial evaluation. http://www.cdc.gov/concussion/headsup/pdf/ACE-a.pdf

The CDC recommends evaluation of three areas:

- Characteristics of the injury
- Type and severity of cognitive and physical symptoms
- Risk factors that may prolong recovery

Injury Characteristics

The student, and/or the parent/guardian or district staff member who observed the injury, should be asked about the following as part of an initial evaluation:

- Description of the injury
- Cause of the injury
- Student's memory before and after the injury
- If any loss of consciousness occurred
- Physical pains and/or soreness directly after injury

Symptoms

Students should be assessed for symptoms of a concussion including, but not limited to, those listed in the Identification Section on page 5.

Risk Factors to Recovery

According to the CDC's *Heads Up, Facts for Physicians About Mild Traumatic Brain Injury (MTBI*, students with these conditions are at a higher risk for prolonged recovery from a concussion:
http://www.cdc.gov/concussion/headsup/pdf/Facts_for_Physicians_booklet-a.pdf

- History of concussion, especially if currently recovering from an earlier concussion
- Personal and/or family history of migraine headaches
- History of learning disabilities or developmental disorders
- History of depression, anxiety, or mood disorders

Students, whose symptoms worsen or generally show no reduction after 7-14 days, or sooner depending on symptom severity, should be considered for referral to a neuropsychologist, neurologist, physiatrist, or other medical specialist in traumatic brain injury.

Post- Concussion Management

Students who have been diagnosed with a concussion require both physical and cognitive rest. Delay in instituting medical provider orders for such rest may prolong recovery from a concussion. Private medical provider's orders for avoidance of cognitive and physical activity and graduated return to activity should be followed and monitored both at home and at school. Districts should consult their medical director if further discussion and/or clarification is needed regarding a private medical provider's orders, or in the absence of private medical provider orders. Additionally, children and adolescents are at increased risk of protracted recovery and severe, potential permanent disability (e.g. early dementia also known as chronic traumatic encephalopathy), or even death if they sustain another concussion before fully recovering from the first concussion. Therefore, it is imperative that a student is fully recovered before resuming activities that may result in another concussion. Best practice warrants that, whenever there is a question of safety, a medical professional err on the side of caution and hold the athlete out for a game, the remainder of the season, or even a full year.

Cognitive Rest

Cognitive rest requires that the student avoid participation in, or exposure to, activities that require concentration or mental stimulation including, but not limited to:

- Computers and video games
- Television viewing
- Texting
- Reading or writing
- Studying or homework
- Taking a test or completing significant projects
- Loud music
- Bright lights

Parents/guardians, teachers, and other district staff should watch for signs of concussion symptoms such as fatigue, irritability, headaches, blurred vision, or dizziness; reappearing with any type of mental activity or stimulation. If any these signs and symptoms occur, the student should cease the activity. Return of symptoms should guide whether the student should participate in an activity. Initially a student with a concussion may only be able to attend school for a few hours per day and/or need rest periods during the day. Students may exhibit increased difficulties with focusing, memory, learning new information, and/or an increase in irritability or impulsivity. Districts should have policies and procedures in place related to transitioning students back to school and for making accommodations for missed tests and assignments. If the student's symptoms last longer than 7-14 days, a medical provider should consider referring the student for an evaluation by a neuropsychologist, neurologist, physiatrist, or other medical specialist in traumatic brain injury.

Generally, school principals are permitted to authorize certain testing accommodations for students who incur an injury within 30 days prior to the test administration. Principals should refer to test manuals available at http://www.p12.nysed.gov/specialed/publications/policy/testaccess/policyguide.htm for information on the procedures they must follow in authorizing such accommodations. These manuals also provide information on the provisions for a student to be medically excused from a State test, as well as opportunities for make ups.

In some situations, a 504 plan may be appropriate for students whose concussion symptoms are significant or last 6 months or longer. Section 504 is part of the Rehabilitation Act of 1973 and is designed to protect the rights of individuals with disabilities in programs and activities that receive Federal financial assistance from the U.S. Department of Education. Section 504 requires a school district to provide a "free appropriate public education" (FAPE) to each qualified student with a disability who is in the school district's jurisdiction, regardless of the nature or severity of the disability. Under Section 504, FAPE consists of the provision of regular or special education and related aids and services designed to meet the student's individual educational needs as adequately as the needs of nondisabled students are met.

More information is available on Section 504 law at
http://www2.ed.gov/about/offices/list/ocr/index.html

A Q&A on Section 504 including information on addressing temporary impairments such as concussions is available at
http://www2.ed.gov/about/offices/list/ocr/504faq.html

Physical Rest

Physical rest includes getting adequate sleep, taking frequent rest periods or naps, and avoiding physical activity that requires exertion. Some activities that should be avoided include, but are not limited to:

- Ones that result in contact and collision and are high risk for re-injury
- High speed and/or intense exercise and/or sports
- Any activity that results in an increased heart rate or increased head pressure (e.g. straining or strength training)

Students may feel sad or angry about having to limit activities, or having difficulties keeping up in school. Students should be reassured that the situation is temporary, that the goal is to help the student get back to full activity as soon as it is safe, and to avoid activities which will delay their recovery. Students should be informed that the concussion will resolve more quickly when they follow their medical provider’s orders as supported by various studies. Students will need encouragement and support at home and school until symptoms fully resolve.

Return to School Activities

Once a student diagnosed with a concussion has been symptom free at rest for at least 24 hours, a private medical provider may choose to clear the student to begin a graduated return to activities. If a district has concerns or questions about the private medical provider's orders, the district medical director should contact that provider to discuss and clarify. Additionally, the medical director has the final authority to clear students to participate in or return to extra-class physical activities in accordance with 8NYCRR 135.4(c)(7)(i).

Students should be monitored by district staff daily following each progressive challenge, physical or cognitive, for any return of signs and symptoms of concussion. Staff members should report any observed return of signs and symptoms to the school nurse, certified athletic trainer, or administration in accordance with district policy. A student should only move to the next level of activity if they remain symptom free at the current level. Return to activity should occur with the introduction of one new activity each 24 hours. If any post concussion symptoms return, the student should drop back to the previous level of activity, then re-attempt the new activity after another 24 hours have passed. A more gradual progression should be considered based on individual circumstances and a private medical provider's or other specialist's orders and recommendations.

The following is a recommended sample return to physical activity protocol based on the Zurich Progressive Exertion Protocol:
http://bjsm.bmj.com/content/47/5/250/T1.expansion.html

Phase 1- low impact, non-strenuous, light aerobic activity such as walking or riding a stationary bike. If tolerated without return of symptoms over a 24 hour period proceed to;
Phase 2- higher impact, higher exertion, and moderate aerobic activity such as running or jumping rope. No resistance training. If tolerated without return of symptoms over a 24 hour period proceed to;
Phase 3- Sport specific non-contact activity. Low resistance weight training with a spotter. If tolerated without return of symptoms over a 24 hour period proceed to;
Phase 4- Sport specific activity, non-contact drills. Higher resistance weight training with a spotter. If tolerated without return of symptoms over a 24 hour period proceed to;
Phase 5- Full contact training drills and intense aerobic activity. If tolerated without return of symptoms over a 24 hour period proceed to;
Phase 6- Return to full activities without restrictions.

Guidelines for the Concussion Management Team

Concussion management requires a coordinated, collective effort among district personnel along with parent(s)/guardian(s) to monitor an individual student's progress. They should advocate for academic and physical accommodations as appropriate, to reduce delays in a student's ability to return to full activities. A school concussion management team can be a useful strategy to achieve these goals. At their discretion, school districts may form a concussion management team to oversee and implement the school district's concussion policies and protocols. Per the Concussion Management and Awareness Act, this team may include, but is not limited to: the medical director; school nurse(s); administration; physical education director and/ or athletic director; certified athletic trainer(s); physical education teacher(s); coaching staff; pupil personnel services staff such as school psychologists, guidance counselors, and social workers; and others as designated by the district.

Whether or not the district has a formal concussion management team, district staff in collaboration with the private medical provider, the student, and the student's family play a substantial role in assisting the student to recovery. The following section outlines the important role every member of the team contributes to ensuring students are healthy, safe, and achieving their maximum potential. The primary focus of all members should be the student's health and recovery.

Members of the team may include, but are not necessarily limited to:

- Student
- Parents/Guardians
- School Administration/ Pupil Personnel Services Staff
- Medical Director
- Private Medical Provider and other Specialists
- School Nurse
- Director of Physical Education and/or Athletic Director
- Certified athletic trainer
- Physical Education Teacher/Coaches
- Teacher

Education Law § 902 requires districts to employ a medical director who must be either a physician or nurse practitioner. In instances where a school district affiliates itself with a medical practice for its required health and welfare services, one physician or nurse practitioner within that medical practice is to be designated the medical director. Additionally Education Law § 902, allows districts to employ school nurses who are registered professional nurses (RN). If districts also choose to employ licensed practical nurses (LPN) they should be cognizant that LPNs are not independent practitioners and must work under the direction of the RN or medical director. LPNs' scope of practice does not permit them to assess or triage; therefore they cannot be the health professional assessing and triaging injured students, or assessing a student's progress in return to school activities.
(See http://www.op.nysed.gov/prof/nurse/nurse-guide-april09.pdf pp. 36-37)

Guidelines for the Concussion Management Team

The Commissioner's regulations at 8 NYCRR §135.4(c)(4)(iii) requires districts that operate a high school to employ a director of physical education. The director of physical education shall have certification in physical education and administrative and supervisory service. Such director shall provide leadership and supervision for the class instruction, intramural activities, and interschool athletic competition in the total physical education program. Where there are extenuating circumstances, a member of the physical education staff may be designated for such responsibilities, upon approval of the Commissioner. School districts may share the services of a director of physical education according to Commissioner's Regulation 135.4.

Districts may also employ certified athletic trainers at the secondary school level. Athletic trainers employed by secondary schools must be certified athletic trainers according to 8 NYCRR §135.4(7) and must be supervised by a physician according to Education Law § 8351. http://www.op.nysed.gov/prof/at/

Student

Students should be encouraged to communicate any symptoms promptly to district staff and/or parents/guardians, as a concussion is primarily diagnosed by reported and/or observed signs and symptoms. It is the information provided by the student about their signs and symptoms that guide the other members of the team in transitioning the student back to activities. The amount and type of feedback reported by the student will be dependent on age and other factors. Therefore it is recommended that students:

- Be educated about the prevention of head injuries.
- Be familiar with signs and symptoms that must be reported to the coach, certified athletic trainer, school nurse, parent/guardian, or other staff.
- Be made aware of the risk of concussion and be encouraged to tell their coach, parent/guardian, certified athletic trainer, school nurse or other staff members about injuries and symptoms they are experiencing.
- Be educated about the risk of severe injury, permanent disability, and even death that can occur with re-injury by resuming normal activities before recovering from a concussion.
- Follow instructions from their private medical provider.
- Be encouraged to ask for help and to inform teachers of difficulties they experience in class and when completing assignments.
- Encourage classmates and teammates to report injuries.
- Promote an environment where reporting signs and symptoms of a concussion is considered acceptable.

Parent/Guardian

Parent/guardians play an integral role in assisting their child and are the primary advocate for their child. When their child is diagnosed with a concussion, it is important that the parent/guardian communicates with both the medical provider and the school. Understandably this is a stressful time for the parent/guardian as they are concerned about their child's well-being. Therefore, it is recommended that parents/guardians:

- Be familiar with the signs and symptoms of concussions. This may be accomplished by reading pamphlets, Web based resources, and/or attending meetings prior to their child's involvement in interscholastic athletics.
- Be familiar with the Concussion Management and Awareness Act's requirement that any student believed to have suffered a concussion must immediately be removed from athletic activities.
- Be familiar with any concussion policies or protocols implemented by the school district. These policies are in the best interest of their child.
- Be made aware that concussion symptoms that are not addressed can prolong concussion recovery.
- Provide any forms and written orders from the medical provider to the school in a timely manner.
- Monitor their child's physical and mental health as they transition back to full activity after sustaining a concussion.
- Report concerns to their child's private medical provider and the school as necessary.
- Communicate with the school to assist in transitioning their child back to school after sustaining a concussion.
- Communicate with school staff if their child is experiencing significant fatigue or other symptoms at the end of the school day.
- Follow the private medical provider orders at home for return to activities.

School Administrator/ Pupil Personnel Services Staff (PPS)

The school administrator and/or their designee, such as PPS staff, should insure that the district's policies on concussion management are followed. The administrator may choose to designate a formal concussion management team to oversee that district policies are enforced and protocols are implemented. Therefore, administrators should:

- Review the district's concussion management policy with all staff.
- Arrange for professional development sessions regarding concussion management for staff and/or parent meetings.
- Provide emergency communication devices for school activities.
- Provide guidance to district staff on district wide policies and protocols for emergency care and transport of students suspected of sustaining a concussion.
- Develop plans to meet the needs of individual students diagnosed with a concussion after consultation with the medical director, school nurse, or certified athletic trainer.
- Enforce district concussion management policies and protocols.
- Assign a staff member as a liaison to the parent/guardian. The liaison should contact the parent/guardian on a regular basis with information about their child's progress at school.
- Encourage parent/guardian to communicate to appointed district staff if their child is experiencing significant fatigue or other symptoms at the end of the day.
- Invite parent/guardian participation in determining their child's needs at school.
- Encourage parent/guardian to communicate with the private medical provider on the status of their child and their progress with return to school activity.
- Where appropriate, ask a parent/guardian to sign FERPA (Family Educational Rights and Privacy Act) release in order for district staff to provide information regarding the student's progress to the private medical provider.

Medical Director

The district medical director, who is a physician or nurse practitioner, plays a very important role in setting policies and procedures related to identifying students who may have sustained a concussion, along with post concussion management in school. Therefore, the medical director should:

- Collaborate with district administration in developing concussion management policies and protocols.
- Assist district staff by acting as a liaison to the student's medical provider and contacting that provider as necessary to discuss or clarify orders and plan of care.
- Attend 504 and CSE meetings when requested by 504 or CSE director.
- Review all medical providers' written clearance for students to begin graduated physical activity unless the medical director chooses to delegate this to the school nurse or certified athletic trainer. If this task is delegated, the medical director should provide concise written protocols for the school nurse or certified athletic trainer to follow when accepting a private medical provider's clearance. Such protocols should specify the type of symptoms, medical history, and concussion severity etc. that the medical director will need to personally review. This protocol may include permitting the school nurse or certified athletic trainer to act as the medical director's delegate to inform appropriate district staff of the student's return to activity.
- Clear all students returning to extra-class athletic activities in accordance with Commissioner's regulations. This can be done at the discretion of the medical director either by reviewing a private medical provider's clearance, or personally assessing the student.
- Implement district policy on return to activities. Discuss any orders with the private medical provider as needed.
- Work with the Concussion Management Team to monitor the progress of individual students with protracted recovery, multiple concussions, and atypical recovery.
- Encourage school health personnel (medical director, school nurses, and certified athletic trainers) to collaborate and communicate with each other about any student who is suspected of having or is diagnosed with a concussion.
- Become educated in the use and interpretation of neurocognitive testing (e.g. IMPACT, Headminders, and ANAM), if such tests are utilized by the school district.
- Participate in professional development activities as needed to maintain a knowledge base and keep practice current.

Private Medical Providers/ Specialists

The private medical provider is vital to all of the other Concussion Management Team members by providing orders and guidance that determine when the student is able to begin transitioning back to school and activities.

Due to the different laws that govern confidentiality of information, private medical providers and other specialists need to be aware that while they are governed by HIPAA (Health Insurance Portability and Accountability Act), districts are governed by FERPA. In order to send information to the district regarding the student the provider will need parent/guardian consent.

Likewise, a district must require a parent/guardian consent in order to release information to the provider. Further information on how these laws interact is available at http://www2.ed.gov/policy/gen/guid/fpco/doc/ferpa-hipaa-guidance.pdf

Therefore, the provider should:

- Provide orders regarding restrictions and monitoring for specific symptoms that the provider should be made aware of by family and/or district staff members.
- Provide the district with a graduated return to activity schedule to follow, or approve use of the district's graduated return to activity schedule if deemed appropriate.
- Readily communicate with the school nurse, certified athletic trainer, or medical director to clarify orders.
- Provide written signed orders to the district within 48 hours of giving verbal orders to the school nurse and/or certified athletic trainer.
- Provide written clearance for return to full activities (in order for a student to return to athletic activities after he or she sustained a concussion during school athletic activities, an evaluation must be completed by, written, and signed by a licensed physician to meet the requirements of the Concussion Management and Awareness Act).

School Nurse

The school nurse (RN) is often the person who communicates with the private medical provider, medical director, parent/guardian, and district staff. Often, he or she is the district staff member who collects written documentation and orders from the medical provider. The school nurse also plays an integral role in identifying a student with a potential concussion. Additionally, they assess the student's progress in returning to school activities based on private medical provider orders or district protocol. Therefore, the school nurse should:

- Perform baseline validated neurocognitive computerized tests if permitted by district policy, and credentialed in their use.
- Assess students who have suffered a significant fall or blow to the head or body for signs and symptoms of a concussion. Observe for late onset of signs and symptoms, and refer as appropriate.
- Assess the student to determine if any signs and symptoms of concussion warrant emergency transport to the nearest hospital emergency room per district policy.
- Refer parents/guardians of students believed to have sustained a concussion to their medical provider for evaluation.
- Provide parents/guardians with oral and/or written instructions (best practice is to provide both) on observing the student for concussive complications that warrant immediate emergency care.
- Assist in the implementation of the private medical provider's or other specialist's requests for accommodations.
- Use the private medical provider's or other specialist's orders to develop an emergency care plan for staff to follow.
- Monitor and assess the student's return to school activities, assessing the student's progress with each step and communicating with the private medical provider or other specialist, medical director, certified athletic trainer, parent/guardian, and appropriate district staff when necessary.
- Collaborate with the district concussion management team in creating accommodations as requested by the private medical provider or other specialist if it is determined that a 504 plan is necessary.
- Review a private medical provider's or other specialist's written statement to clear a student to return to activities (if the district's medical director has written a policy delegating this to the school nurse). Such protocols should specify the type of symptoms, medical history, and concussion severity etc. that the medical director will need to personally review. This protocol may include permitting the school nurse to act as the medical director's delegate to inform appropriate district staff of the student's return to activity.
- Perform post concussion assessments or use validated neurocognitive computerized tests or other assessment tools, if credentialed or trained in their use, and provide the results to the private medical provider and/or district medical director to aid him/her in determining the student's status.
- Educate students and staff in concussion management and prevention.

Guidelines for the Concussion Management Team

School nurses must complete the Department-approved course* for school nurses and athletic trainers every two (2) years. NYSED has approved the course *Heads Up to Clinicians* for these professions, which is a free web-based course developed by the CDC. It is available at http://preventingconcussions.org/.

Licensed health professionals are encouraged, but not required, to seek out further professional development on concussions.

**Note: This is not a NYS specific training video, therefore the scope of practice of certified athletic trainers and school nurses in NYS may differ from what is described in the training. Registered professional nurses, licensed practical nurses, and certified athletic trainers practicing in NYS must follow NYS laws in regards to licensing and scope of practice.*

Director of Physical Education and/or Athletic Director

The director of physical education provides leadership and supervision for PE class instruction, intramural activities, and interscholastic athletic competition within a school district's total physical education program. In some districts there may be an athletic director solely in charge of the interscholastic athletic program. The director of physical education and/or the athletic director must be aware of district policies regarding concussion management. They should educate PE teachers, coaches, parents/guardians, and students about such policies. The director of PE and/or the athletic director often act as the liaison between district staff and coaches. Therefore, the director of PE and/or athletic director should:

- Ensure that pre-season consent forms include information from the NYSED Web site as required by the Concussion Management and Awareness Act, as well as information about the district's policies and protocols for concussion management.
- Offer educational programs to parents/guardians and student athletes that educate them about concussions.
- Inform the school nurse, certified athletic trainer, or medical director of any student who is suspected of having a concussion.
- Ensure that any student identified as potentially having a concussion is not permitted to participate in any athletic activities until written clearance is received from the district medical director.
- Ensure that game officials, coaches, PE teachers, or parent/guardian are not permitted to determine whether a student with a suspected head injury can continue to play.
- Educate coaches on the school district's policies on concussions and care of injured students during interscholastic athletics, including when to arrange for emergency medical transport.
- Ensure NYSPHAA (New York State Public High School Athletic Association), PSAL (Public School Athletic League), and other NYS athletic associations' policies are followed and enforced for interscholastic athletics.
- Support staff implementation of graduated return to athletics protocol.
- Enforce district policies on concussions including training requirements for coaches, PE teachers, and certified athletic trainers in accordance with Commissioner's Regulation 135.4.
- If the district medical director has authorized the school nurse or certified athletic trainer to review and accept a private provider's clearance, that written policy should be made readily available to the athletic director, PE teachers, and coaches.

Certified Athletic Trainer

A certified athletic trainer under the supervision of a qualified physician can assist the medical director and director of PE by identifying a student with a potential concussion. The certified athletic trainer can also evaluate the student diagnosed with a concussion in their progress in return to athletic activities based on private medical provider orders and/or district protocol. They also play an integral role in ensuring the student athlete receives appropriate post concussion care as directed by the student's medical provider. Therefore, certified athletic trainers should:

- Oversee student athletes taking baseline validated standardized computerized tests if permitted by district policy, and credentialed in their use.
- Evaluate student athletes who may have suffered a significant fall or blow to the head or body for signs and symptoms of a concussion when present at athletic events. Observe for late onset of signs and symptoms, and refer as appropriate.
- Evaluate the student to determine if any signs and symptoms of concussion warrant emergency transport to the nearest hospital emergency room per district policy.
- Refer parents/guardians of student athletes believed to have sustained a concussion to their medical provider for evaluation.
- Provide parents/guardians with oral and/or written instructions (best practice is to provide both) on observing the student for concussive complications that warrant immediate emergency care.
- Assist in implementation of the private medical provider's or other specialists' requests for accommodations.
- Monitor the student's return to school activities, evaluating the student's progress with each step, and communicating with the private medical provider or other specialist, medical director, school nurse, parent/guardian and appropriate district staff.
- Review a private physician's written statement to clear a student for return to activities (if the district's medical director has written a policy delegating this to the certified athletic trainer). Such protocols should specify the type of symptoms, medical history, and concussion severity etc. that the medical director will need to personally review. This protocol may include permitting the school nurse or certified athletic trainer to act as the medical director's delegate to inform appropriate district staff of the student's return to activity.
- May perform post concussion observations or oversee student athletes taking validated standardized computerized tests if credentialed or trained in their use, and provide the results to the private medical provider and/or district medical director to aid him/her in determining the student's status.
- Educate students and staff in concussion management and prevention.

Certified athletic trainers in secondary schools must complete the Department-approved course* for school nurses and certified athletic trainers every two (2) years.

NYSED has approved the course *Heads Up to Clinicians* for these professions, which is a free web-based course that has been developed by the CDC. It is available at http://preventingconcussions.org/.

Licensed health professionals are encouraged, but not required, to seek out further professional development on concussions.

**Note: This is not a NYS specific training video, therefore the scope of practice of certified athletic trainers and school nurses in NYS may differ from what is described in the training. Registered professional nurses, licensed practical nurses, and certified athletic trainers practicing in NYS must follow NYS laws in regards to licensing and scope of practice.*

Physical Education Teacher/ Coaches

Concussions often occur during athletic activities. Coaches are typically the only district staff at all interscholastic athletic practices and competitions. It is essential that coaches and physical education (PE) teachers are familiar with possible causes of concussions along with the signs and symptoms. Coaches and physical education teachers should always put the safety of the student first. Therefore, PE teachers and coaches should:

- Remove any student who has taken a significant blow to head or body, or presents with signs and symptoms of a head injury immediately from play because the Concussion Awareness Management Act requires immediate removal of any student believed to have sustained a concussion.
- Contact the school nurse or certified athletic trainer (if available) for assistance with any student injury.
- Send any student exhibiting signs and symptoms of a more significant concussion (see page 5) to the nearest hospital emergency room via emergency medical services (EMS) or as per district policy.
- Inform the parent/guardian of the need for evaluation by their medical provider. The coach should provide the parent/guardian with written educational materials on concussions along with the district's concussion management policy.
- Inform the PE director, certified athletic trainer, the school nurse and/or medical director of the student's potential concussion. This is necessary to ensure that the student does not engage in activities at school that may complicate the student's condition prior to having written clearance by a medical provider.
- Ensure that students diagnosed with a concussion do not participate in any athletic activities until, in conjunction with the student's physician, the PE teacher/coach has received written authorization from the medical director or their designee that the student has been cleared to participate.
- Ensure that students diagnosed with a concussion do not substitute mental activities for physical activities unless medical provider clears the student to do so (e.g. Due to the need for cognitive rest, a student should not be required to write a report if they are not permitted to participate in PE class by their medical provider).

Complete the Department-approved course for coaches and PE teachers every two years. NYSED has approved the course *Heads Up, Concussion in Youth Sports* for these professions, which is a free web-based course that has been developed by the CDC. It is available at http://www.cdc.gov/concussion/HeadsUp/online_training.html.

Coaches may also meet the mandatory training every two years by taking the approved course *Concussion in Sports-V2.0* from the National Federation of State High School Associations, http://www.nfhslearn.com/electiveDetail.aspx?courseID=38000

District athletic personnel are encouraged, but not required, to seek out further professional development on concussions.

Teacher

Teachers can assist students in their recovery from a concussion by making accommodations that minimize aggravating symptoms so that the student has sufficient cognitive rest. Teachers should refer to district protocols and private medical provider orders in determining academic accommodations. Section 504 plans may need to be considered for some students with severe symptoms requiring an extended time frame for accommodations (see p. 10).

Teachers should be aware of the processing issues a student with a concussion may experience. A student who has a concussion will sometimes have short term problems with attention and concentration, speech and language, learning and memory, reasoning, planning, and problem solving.

More information on classroom accommodations can be found at:
http://www.upstate.edu/pmr/healthcare/programs/concussion/classroom.php
http://www.nationwidechildrens.org/concussions-in-the-classroom
http://www.cdc.gov/concussion/pdf/TBI_Returning_to_School-a.pdf

The table below provides some of the areas of difficulties along with suggested accommodations.

Problem Area	Problem Description	Accommodations
Expression	**Word Retrieval**: May have trouble thinking of specific words (word finding problems) or expressing the specifics of their symptoms or functional difficulties	• Allow students time to express themselves • Ask questions about specific symptoms and problems (i.e., are you having headaches?)
Comprehension	**Spoken:** • May become confused if too much information is presented at once or too quickly • May need extra time processing information to understand what others are saying • May have trouble following complex multi-step directions • May take longer than expected to respond to a question	• Speak slowly and clearly • Use short sentences • Repeat complex sentences when necessary • Allow time for students to process and comprehend • Provide both spoken and written instructions and directions
	Written: • May read slowly • May have trouble reading material in complex formats or with small print • May have trouble filling out forms	• Allow students extra time to read and complete forms • Provide written material in simple formats and large print when possible • Have someone read the items and fill out the forms for students who are having trouble •Provide word prompts •Use of multiple choice responses need to be distinctly different.

Adapted from the Center for Disease Control and Prevention, Heads Up Facts for Physicians About Mild Traumatic Brain Injury,

Guidelines for the Concussion Management Team

Students transitioning into school after a concussion might need academic accommodations to allow for sufficient cognitive rest. These include, but are not necessarily limited to:

- Shorter school day
- Rest periods
- Extended time for tests and assignments
- Copies of notes
- Alternative assignments
- Minimizing distractions
- Permitting student to audiotape classes
- Peer note takers
- Provide assignments in writing
- Refocus student with verbal and nonverbal cues

Resources

American Association of Neurological Surgeons
http://www.aans.org/Patient%20Information/Conditions%20and%20Treatments/Concussion.aspx
accessed 4/25/12

Brain Injury Association of New York State
http://www.bianys.org
accessed 1/28/14

Centers for Disease Control and Prevention
http://www.cdc.gov/concussion/index.html
accessed 1/28/14

Child Health Plus
http://www.health.ny.gov/health_care/managed_care/consumer_guides/about_child_health_plus.htm
accessed 1/28/14

Consensus Statement on Concussion in Sport – The 4th International Conference on Concussion in Sport, held in Zurich, November 2012
http://bjsm.bmj.com/content/47/5/250.full , accessed 1/28/14

ESPN Video- *Life Changed by Concussion*
http://espn.go.com/video/clip?id=7525526&categoryid=5595394
accessed 1/28/14

Local Departments of Social Services- New York State Department of Health
http://www.health.ny.gov/health_care/medicaid/ldss.htm
accessed 1/28/14

Nationwide Children's Hospital- *An Educator's Guide to Concussions in the Classroom*
http://www.nationwidechildrens.org/concussions-in-the-classroom
accessed 1/28/14

New York State Department of Health
http://www.health.ny.gov/prevention/injury_prevention/concussion.htm
accessed 1/28/14

New York State Public High School Athletic Association, *Safety and Research*
http://www.nysphsaa.org/SafetyResearch
accessed 1/28/14

Upstate University Hospital- *Concussion in the Classroom*
http://www.upstate.edu/pmr/healthcare/programs/concussion/classroom.php
accessed 1/28/14

Concussions: The Invisible Injury

Student and Parent Information Sheet

CONCUSSION DEFINITION

A concussion is a reaction by the brain to a jolt or force that can be transmitted to the head by an impact or blow occurring anywhere on the body. Essentially a concussion results from the brain moving back and forth or twisting rapidly inside the skull.

FACTS ABOUT CONCUSSIONS ACCORDING TO THE CENTER FOR DISEASE CONTROL (CDC)

- An estimated 4 million people under age 19 sustain a head injury annually. Of these approximately 52,000 die and 275,000 are hospitalized.
- An estimated 300,000 sports and recreation related concussions occur each year.
- Students who have had at least one concussion are at increased risk for another concussion.

In New York State in 2009, approximately 50,500 children under the age of 19 visited the emergency room for a traumatic brain injury and of those approximately 3,000 were hospitalized.

REQUIREMENTS OF SCHOOL DISTRICTS

Education:

- Each school coach, physical education teacher, nurse, and athletic trainer will have to complete an approved course on concussion management on a biennial basis, starting with the 2012-2013 school year.
  - School coaches and physical education teachers must complete the CDC course. (www.cdc.gov/concussion/HeadsUp/online_training.html)
  - School nurses and certified athletic trainers must complete the concussion course. (http://preventingconcussions.org)

Information:

- Provide concussion management information and sign off with any parental permission form.
- The concussion management and awareness information or the State Education Department's web site must be made available on the school web site, if one exists.

Removal from athletics:

- Require the immediate removal from athletic activities of any pupil that has or is believed to have sustained a mild traumatic brain injury.
- No pupils will be allowed to resume athletic activity until they have been symptom free for 24 hours and have been evaluated by and received written and signed authorization from a licensed physician. For interscholastic athletics, clearance must come from the school medical director.
  - Such authorization must be kept in the pupil's permanent heath record.
  - Schools shall follow directives issued by the pupil's treating physician.

SYMPTOMS

Symptoms of a concussion are the result of a temporary change in the brain's function. In most cases, the symptoms of a concussion generally resolve over a short period of time; however, in some cases, symptoms will last for weeks or longer. Children and adolescents are more susceptible to concussions and take longer than adults to recover.

It is imperative that any student who is suspected of having a concussion is removed from athletic activity (e.g. recess, PE class, sports) and remains out of such activities until evaluated and cleared to return to activity by a physician.

Symptoms include, but are not limited to:

- Decreased or absent memory of events prior to or immediately after the injury, or difficulty retaining new information
- Confusion or appears dazed
- Headache or head pressure
- Loss of consciousness
- Balance difficulties, dizziness, or clumsy movements
- Double or blurry vision
- Sensitivity to light and/or sound
- Nausea, vomiting and/or loss of appetite
- Irritability, sadness or other changes in personality
- Feeling sluggish, foggy or light-headed
- Concentration or focusing problems
- Drowsiness
- Fatigue and/or sleep issues – sleeping more or less than usual

Students who develop any of the following signs, or if signs and symptoms worsen, should be seen and evaluated immediately at the nearest hospital emergency room.

- Headaches that worsen
- Seizures
- Looks drowsy and/or cannot be awakened
- Repeated vomiting
- Slurred speech
- Unable to recognize people or places
- Weakness or numbing in arms or legs, facial drooping
- Unsteady gait
- Change in pupil size in one eye
- Significant irritability
- Any loss of consciousness
- Suspicion for skull fracture: blood draining from ear or clear fluid from the nose

STATE EDUCATION DEPARTMENT'S GUIDANCE FOR CONCUSSION MANAGEMENT

Schools are advised to develop a written concussion management policy. A sample policy is available on the NYSPHSAA web site at www.nysphsaa.org. The policy should include:

- A commitment to reduce the risk of head injuries.
- A procedure and treatment plan developed by the district medical director.
- A procedure to ensure proper education for school nurses, certified athletic trainers, physical education teachers, and coaches.
- A procedure for a coordinated communication plan among appropriate staff.
- A procedure for periodic review of the concussion management program.

RETURN TO LEARN and RETURN TO PLAY PROTOCOLS

Cognitive Rest: Activities students should avoid include, but are not limited to, the following:

- Computers and video games
- Television viewing
- Texting
- Reading or writing
- Studying or homework
- Taking a test or completing significant projects
- Loud music
- Bright lights

Students may only be able to attend school for short periods of time. Accommodations may have to be made for missed tests and assignments.

Physical Rest: Activities students should avoid include, but are not limited to, the following:

- Contact and collision
- High speed, intense exercise and/or sports
- High risk for re-injury or impacts
- Any activity that results in an increased heart rate or increased head pressure

Return to Play Protocol once symptom free for 24 hours and cleared by School Medical Director:

Day 1: Low impact, non strenuous, light aerobic activity.

Day 2: Higher impact, higher exertion, moderate aerobic activity. No resistance training.

Day 3: Sport specific non-contact activity. Low resistance weight training with a spotter.

Day 4: Sport specific activity, non-contact drills. Higher resistance weight training with a spotter.

Day 5: Full contact training drills and intense aerobic activity.

Day 6: Return to full activities with clearance from School Medical Director.

Any return of symptoms during the return to play protocol, the student will return to previous day's activities until symptom free.

CONCUSSION MANAGEMENT TEAM

Schools may, at their discretion, form a concussion management team to implement and monitor the concussion management policy and program. The team could include, but is not limited to, the following:

- Students
- Parents/Guardians
- School Administrators
- Medical Director
- Private Medical Provider
- School Nurse
- Director of Physical Education and/or Athletic Director
- Certified Athletic Trainer
- Physical Education Teacher and/or Coaches
- Classroom Teachers

OTHER RESOURCES

- New York State Education Department

http://www.p12.nysed.gov/sss/schoolhealth/schoolhealthservices

- New York State Department of Health

http://www.health.ny.gov/prevention/injury_prevention/concussion/htm

- New York State Public High School Athletic Association

www.nysphsaa.org/safety/

- Center for Disease Control and Prevention

http://cdc.gov/TraumaticBrainInjury

- National Federation of High Schools

www.nfhslearn.com – The FREE Concussion Management course does not meet education requirement.

- Child Health Plus

http://www.health.ny.gov/health_care/managed_care/consumer_guide/about_child_health_plus.htm

- Local Department of Social Services – New York State Department of Health

http://www.health.ny.gov/health_care/medicaid/ldss/htm

- Brain Injury Association of New York State

http://www.bianys.org

- Nationwide Children's Hospital – Concussions in the Classroom

http://www.nationwidechildrens.org/concussions-in-the-classroom

- Upstate University Hospital – Concussions in the Classroom

http://www.upstate.edu/pmr/healthcare/programs/concussion/classroom.php

- ESPN Video – Life Changed by Concussion

http://espn.go.com/video/clip?id=7525526&categoryid=5595394

- SportsConcussions.org

http://www.sportsconcussions.org/ibaseline/

- American Association of Neurological Surgeons

http://www.aans.org/Patient%20Information/Conditions%20and%20Treatment/Concussion.aspx

- Consensus Statement on Concussion in Sport – Zurich

http://sportconcussions.com/html/Zurich%20Statement.pdf

RETURN TO PLAY POLICIES

North Carolina

Concussion Gradual Return-to-Play (RTP) Protocol FAQ

How will I know if the student-athlete is symptom free and ready to begin the RTP Protocol?

Once a student-athlete is completely free of both documented clinical signs and symptoms at rest and classroom induced signs and symptoms (caused by cognitive stimulation such as reading, computer work, and schoolwork) a gradual Return-to-Play (RTP) progression can be started.

Who can monitor the RTP Protocol?

The Licensed Physician who has examined the student-athlete (or their designee), Licensed Athletic Trainer, Licensed Physician Assistant, Licensed Nurse Practitioner, Licensed Neuropsychologist may monitor the athlete. If one of these licensed medical providers is not accessable, the school's first responder can monitor the RTP.

Who must go through the RTP Protocol?

All student-athletes diagnosed with a concussion are required to complete a Return-to-Play Protocol that proceeds in a step-by-step fashion with gradual, progressive stages.

Can a student-athlete engage in physical activity/exercise prior to starting Stage 1?

A qualified yes; keeping in mind that the physical activitiy/exercise should involve **NO** risk of head trauma and should occur only under direct orders of the treating licensed physician who has evaluated the student-athlete. This light exertion can be started before a student-athlete is entirely asymptomatic. There is evidence that "sub-symptom threshold exercise" (i.e. light exertion that does not cause new or worsen existing symptoms) is safe and may be helpful in concussion recovery,

What activities are included in the RTP Protocol stages?

The RTP Protocol begins with light aerobic exercise designed only to increase your heart rate (e.g. stationary bicycle), then progresses to increasing heart rate with movement (e.g. running), then adds increased intensity and sport-specific movements requiring more levels of neuromuscular coordination and balance including non-contact drills and finally, full practice with controlled contact prior to final clearance to competition.

How does the student-athlete know if he/she is ready to advance to the next stage?

After monitored completion of each stage without provocation/recurrence of signs and/or symptoms, a student-athlete is allowed to advance to the next stage of activity.

How long is a stage?

The length of time of a stage is at least 24 hours.

What should the student-athlete do if signs and/or symptoms return?

If signs/symptoms occur with exercise, the student-athlete should stop and rest. Once free of signs/symptoms for 24 hours, the student-athlete returns to the previously completed stage of the protocol that was completed without recurrence of signs/symptoms and progresses forward in the protocol. During this process, it is important that student-athletes pay careful attention to note any return of concussion signs/symptoms (headache, dizziness, vision problems, lack of coordination, etc.) both during and/or in the minutes to hours after each stage. In the event that signs/symptoms are experienced, they should be reported to the individual monitoring the student-athlete's RTP Protocol.

What should be done if the student-athlete is unable to complete a stage successfully after two attempts?

If a student-athlete is unable to complete a stage twice without return of signs/symptoms, consultation with the licensed physician who has examined the student-athlete is advised. A student-athlete should be progressed to the next stage only if he/she does NOT experience any signs/symptoms.

How long should the completed RTP Protocol form be kept on file?

The completed RTP Protocol form should remain on file at least until the student-athlete graduates from high school.

Rev June 2017

Concussion Return-To-Learn Recommendations

(To be completed by Licensed Physician (MD/DO) or an LAT, PA, or NP under treating physician's supervision)

Name of Athlete: _____ DOB: _____ Date: _____

Following a concussion, most individuals typically need some degree of cognitive and physical rest to facilitate and expedite recovery. Activities such as reading, watching TV or movies, playing video games, working/playing on the computer and/or texting require cognitive effort and can worsen symptoms during the acute period after concussion. Navigating academic requirements and a school setting present a challenge to a recently concussed student-athlete. A Return-To-Learn policy facilitates a gradual progression of cognitive demand for student-athletes in a learning environment. Healthcare providers should consider whether academic and school modifications may help expedite recovery and lower symptom burden. It is important to the review academic/school situation for each student athlete and identify educational accommodations that may be beneficial.

Educational accommodations that may be helpful are listed below.

Return to school with the following supports:

Length of Day

__ Shortened day. Recommended ____ hours per day until re-evaluated or (date) _____.
__ ≤ 4 hours per day in class (consider alternating days of morning/afternoon classes to maximize class participation)
__ Shortened classes (i.e. rest breaks during classes). Maximum class length of _____ minutes.
__ Use _____ class as a study hall in a quiet environment.
__ Check for the return of symptoms when doing activities that require a lot of attention or concentration.

Extra Time

__ Allow extra time to complete coursework/assignments and tests.
__ Take rest breaks during the day as needed (particularly if symptoms recur).

Homework

__ Lessen homework by _____ % per class, or _____ minutes/class; or to a maximum of _____ minutes nightly, no more than _____minutes continuous.

Testing

__ No significant classroom or standardized testing at this time, as this does not reflect the patient's true abilities.
__ Limited classroom testing allowed. No more than _____ questions and/or _____ total time.
    __ Student is able to take quizzes or tests but no bubble sheets.
    __ Student able to take tests but should be allowed extra time to complete.
__ Limit test and quiz taking to no more than one per day.
__ May resume regular test taking.

Vision

__ Lessen screen time (SMART board, computer, videos, etc.) to a maximum _____ minutes per class AND no more than _____ continuous minutes (with 5-10 minute break in between). This includes reading notes off screens.
__ Print class notes and online assignments (14 font or larger recommended) to allow to keep up with online work.
__ Allow student to wear sunglasses or hat with bill worn forward to reduce light exposure.

Environment

__ Provide alternative setting during band or music class (outside of that room).
__ Provide alternative setting during PE and/or recess to avoid noise exposure and risk of injury (out of gym).
__ Allow early class release for class transitions to reduce exposure to hallway noise/activity.
__ Provide alternative location to eat lunch outside of cafeteria.
__ Allow the use of earplugs when in noisy environment.
__ Patient should not attend athletic practice
__ Patient is allowed to be present but not participate in practice, limited to ___ hours

Additional Recommendations:

_____

_____

NCHSAA Concussion Return to Play Protocol

Name of Student- Athlete: _____ Sport: _____ Male/Female

DOB: _____ Date of Injury: _____ Date Concussion Diagnosed: _____

Licensed Athletic Trainers: All 5 stages listed below must be completed under the observation of a Licensed Athletic Trainer. The Return to Play Form can then be signed by the Licensed Athletic Trainer, with approval of the Licensed Physician overseeing the student-athlete's care, thereby releasing the student-athlete to full participation in athletics.

First Responders: If the return to play protocol is being monitored by a First Responder, the **Licensed Physician** overseeing the student-athlete's care should be kept appraised of his/her progress. This progress may be reviewed electronically or by phone and does not require an additional office visit, unless otherwise indicated by the **Licensed Physician**. However, the Return to Play Form **MUST** be completed and signed by the **Licensed Physician** overseeing the student-athlete's care before Stage 5 is begun.

STAGE	EXERCISE	GOAL	DATE SUCESSFULLY COMPLETED	COMMENTS	MONITORED BY
1	20-30 min of cardio activity: walking, stationary bike.	Perceived intensity/exertion: Light Activity			
2	30 min of cardio activity: jogging at medium pace. Body weight resistance exercise (e.g. push-ups, lunge walks) with minimal head rotation x 25 each.	Perceived intensity/exertion: Moderate Activity			
3	30 minutes of cardio activity: running at fast pace, incorporate intervals. Increase repetitions of body weight resistance exercise (eg. sit-ups, push-ups, lunge walks) x 50 each. Sport-specific agility drills in three planes of movement.	Perceived intensity/exertion: Hard Activity, changes of direction with increased head and eye movement			
4	Participate in non-contact practice drills. Warm-up and stretch x 10 minutes. Intense, non-contact, sport-specific agility drills x 30-60 minutes.	Perceived intensity/exertion: High/Maximum Effort Activity			
	If *First Responder* is monitoring progress, The RETURN TO PLAY FORM MUST be signed by the Licensed Physician overseeing student-athlete's care before stage 5 is begun.				
5	Participate in full practice. If in a contact sport, controlled contact practice allowed.				
	If signs or symptoms occur after stage 5 the student-athlete MUST return to Licensed Physician overseeing student-athlete's care.				

Individual who monitored the student-athlete's Return-to Play Protocol should sign and date below when stage 5 is successfully completed.

By signing below, I attest that I have monitored the above named student-athlete's return to play protocol.

_____ _____

Signature of Licensed Physician, Licensed Athletic Trainer, Licensed Physician Assistant, Licensed Nurse Practitioner, Licensed Neuropsychologist, or First Responder (Please Circle) — Date

_____

Please Print Name

Rev June 2017

RETURN TO PLAY POLICIES

North Dakota

North Dakota High School Activities Association
Concussion Management Procedure
In Accordance with North Dakota State Law

In response to North Dakota State Law, the NDHSAA Board of Directors recommends the following procedures.

Concussion Management Administration

NDHSAA registered officials, coaches and individuals directly responsible for the student during practice, training and competition are required to review and know the signs and symptoms of a concussion. They are to immediately remove any athlete who displays the following signs or symptoms:

- Headache
- Fogginess
- Difficulty concentrating
- Easily confused
- Slowed thought process
- Difficulty with memory
- Nausea
- Lack of energy, tiredness
- Dizziness, poor balance
- Blurred vision
- Sensitivity to light and sounds
- Mood changes—irritable, anxious or tearful

The concussion management program must require that a student be removed from practice, training, or competition if:

- The student exhibits any sign or symptom of a concussion.
- A licensed, registered, or certified health care provider whose scope of practice includes the recognition of concussion signs and symptoms determines, after observing the student, that the student may have a concussion.
- The duty to remove a student under the above conditions extends to:
    - Each official
    - The coach of a student
    - Any other individual designated by the school district or nonpublic school as having direct responsibility for the student during practice, training or competition.

Procedure to follow if an athlete is removed

- Student who is removed must be evaluated as soon as practicable by a licensed health care provider who is acting within the provider's scope of practice and trained in the evaluation and management of concussion, as determined by the provider's licensing board.

Procedure regarding an authorization to return to training/competition

- A student who is evaluated and believed to have suffered a concussion may not be allowed to return to practice, training or competition until the student's return is authorized by a licensed health care provider as previously stated.
    - The authorization provided to the school must be :
        - In writing
        - Retained by the school district for a period of seven years after conclusion of the student's enrollment.
    - Any health care provider who signs an authorization is acknowledging they are acting within their scope of practice and trained in the evaluation and management of concussion as determined by the provider's licensing board.

In the event a Transfer of Care form has not been previously filed with event management, school /NDHSAA designated health care providers shall not have their decision regarding an athlete's ability to return to competition overruled by any other health care provider.

School districts or nonpublic schools shall ensure that before a student is allowed to participate in the athletic activity, the student and the student's parent shall document that they have viewed information regarding concussions incurred by students participating in athletic activities.

- The required information must be provided by the student's school district or nonpublic school and must be made available in printed form or in a verifiable electronic format.
- It is highly recommended that every coach, official, student-athlete and parent should successfully complete the 20 minute NFHS online course **"Concussion in Sports—What You Need to Know"**. The course can be accessed at: www.nfhslearn.com

WHEN IN DOUBT…SIT THEM OUT

Approved 6/18-19/13

RETURN TO PLAY POLICIES

Ohio

Ohio Return to Learn/ Concussion Team Model

Ohio Department of Health

Prepared by Dr. Susan Davies, Associate Professor, University of Dayton
June 2016

Table of Contents

Introduction

Many students who have sustained concussions return to school requiring academic and environmental adjustments while the brain heals. School personnel are often not trained on the effects of concussions or ways to help these students transition back to school.

This manual is intended to provide Ohio school districts with guidance in implementing a Concussion Team Model and "Return to Learn" strategies to improve concussion recognition and response. It is a print copy of information that was provided in the webinar training. It is recommended that these resources be shared annually at a staff in-service day. The manual provides:

- Information on how concussions can affect students' learning, health, and social-emotional functioning
- A suggested concussion team model that involves a designated leader and collaboration among the family, medical personnel, and school team
- Strategies for return to learn, including tools for assessment, symptom-based adjustments to the learning environment, and progress monitoring

Part 1: Concussion Effects

Concussion = MTBI

Mild Traumatic Brain Injury

A concussion is caused by a direct blow or jolt to the head, face, or neck, or a blow to the body that causes the head and brain to shift rapidly back and forth; it results in a short-term impairment of neurological function and a constellation of symptoms.

- Accurate prevalence estimates are difficult because many do not seek medical attention.
- Concussions are not visible on standard CT scans or MRIs.
- Nearly 33% of concussions in athletes still go unreported (Meehan, Mannix, O'Brien, & Collins, 2013).

Neurometabolic Changes

- When one sustains a concussion, neurochemical changes take place in the brain.
- Potassium flows out of the brain cells and Calcium flows into the brain cells
- This leads to an inability to properly deliver much-needed nutrients (especially glucose) to the brain.
- These changes hinder one's ability to engage in many physical and mental activities (Giza & Hovda, 2001).

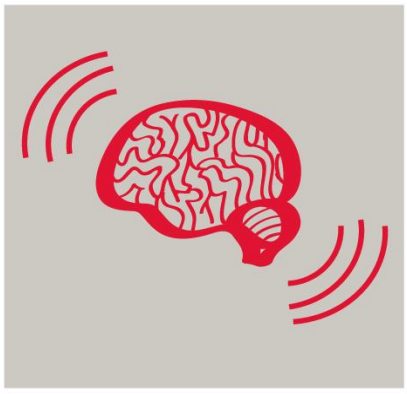
Concussion Signs (observed by others)

- Appears dazed or confused
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events prior to and/or after the hit, bump, or fall
- May or may not lose consciousness (briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

Danger Signs

The student should be seen in an emergency department right away if he or she has:

- One pupil larger than the other
- Drowsiness and cannot be awakened
- A headache that gets rapidly worse
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even briefly)



Centers for Disease Control and Prevention. Heads Up to Schools:
Know Your Concussion ABCs. Retrieved from http://www.cdc.gov/headsup/schools/index.html

Concussion Symptoms (reported by the students)

After a student has sustained a concussion, he or she may experience one or more of these symptoms from one or more categories:

COGNITIVE (thinking)

- Feeling slowed down
- Difficulty concentrating
- Difficulty remembering new information

PHYSICAL

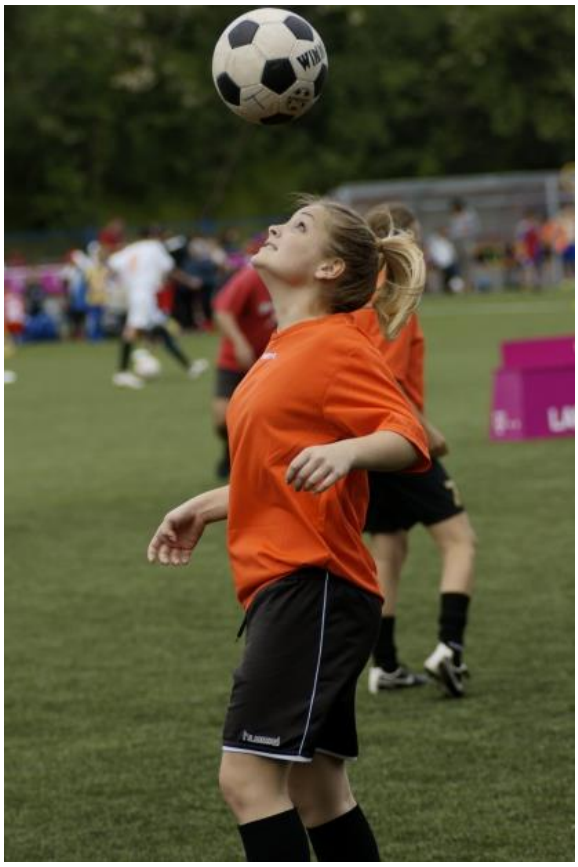
- Headache
- Fuzzy or blurry vision
- Nausea or vomiting (early on)
- Sensitivity to noise or light
- Balance problems
- Feeling tired/having no energy

EMOTIONAL/MOOD

- Irritability
- Sadness
- More emotional
- Nervousness or anxiety

SLEEP

- Sleeping more than usual
- Sleeping less than usual
- Trouble falling asleep



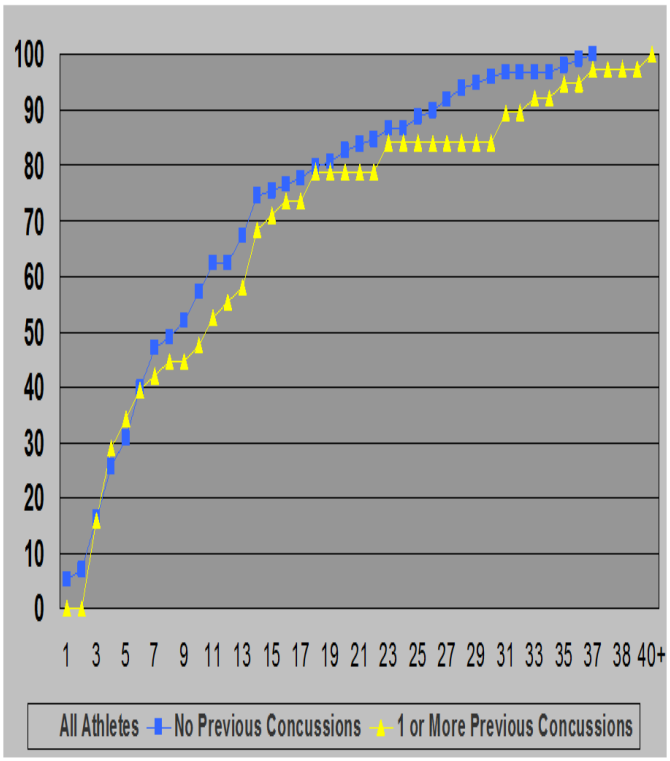
Centers for Disease Control and Prevention. "Concussion". http://www.cdc.gov/concussion/signs_symptoms.html

SYMPTOMS DURING RECOVERY

- Symptoms may flare when the brain is asked to do more than it can tolerate.
  - Trying to "tough it out" can make symptoms worse.
- "Treatment" is physical and cognitive rest.
  - However, prolonged full cognitive rest may slow recovery; balance is needed.

Recovery from a Concussion: How Long Does it Take?

- **Most recover within 3-4 weeks**
  - **The graph on the right shows the percentage of students recovering across a given number of days**
- **Students should receive adjustments (see Appendix E) until symptoms have resolved.**
- **There is a need for balance between physical and cognitive rest and keeping up with schoolwork**



N=134 athletes.
Adapted from: Collins et al., 2006, Neurosurgery

Risk factors for a prolonged recovery include

Developmental history: Learning disabilities, ADHD, developmental disorders
Medical history: History of migraines/headaches
Psychiatric history: Anxiety, depression, sleep disorders, other psychological disorders
Concussion history: Once a student sustains a concussion, he or she may be at 3-6x higher risk for sustaining another concussion, sometimes with less force and often with a more difficult recovery (Guskiewicz, Weaver, Padua, & Garrett, 2000).

Return to Activity Plan

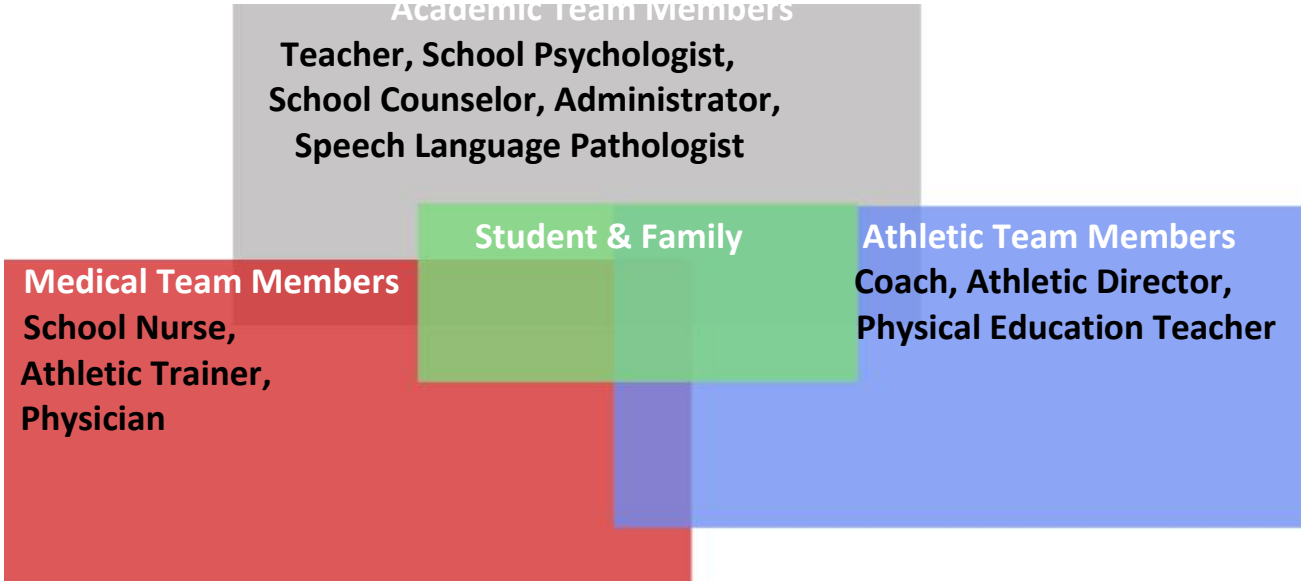
Because every concussion and every student is different, it is important to consider that **symptom clusters** and **recovery rates** will vary. Students receiving academic adjustments do so because symptoms are present. Students who are symptomatic should not engage in physical activity such as sports practice or PE class; however, they can return to school in a modified learning environment. A concussion team can facilitate this process.

Return to Learn → **Return to Play**

Part 2: The Concussion Team Model

The school-based concussion team includes the student and his/her parents, as well as academic, medical, and athletic personnel.

- This team ensures that every student who sustains a concussion is monitored for return to activity.
- When a health issue affects a student's learning, school teams must **communicate** effectively with one another, with medical personnel, and with the family.
- Team members can listen, recognize fear and frustration, focus on solutions, and work together toward common goals



Concussion Team Leader

- The concussion team leader (CTL) is the **"central communicator"** for all team members.
- Depending on roles and responsibilities, this might be the school nurse, school psychologist, school counselor, administrator, or someone else.
  - Receives injury reports; oversees the return-to-learn process and documentation
  - Obtains **Release of Medical Information (ROI)** signed for two-way communication between school and healthcare provider
  - Must be organized, a good communicator, willing to learn, and in the school building most days

Team Member Roles and Responsibilities

Student/Family

- **Student**
  - Clearly and honestly communicate symptoms, academic difficulties, and feelings
  - Carry out assigned duties, such as symptom ratings and modified assignments, to the best of their ability
- **Parent/Guardian**
  - Submit all physician notes and instructions to the school in a timely manner
  - Help the student maintain compliance with any medical and/or academic recommendations given to promote recovery

Academic Team Members

- **Teacher**
  - Help the student get the best education possible given the circumstances and to follow recommended academic adjustments
- **School Psychologist, School Counselor, and/or Speech Language Pathologist**
  - Help create, disseminate, and explain academic adjustments to the student's teachers
  - Consult on prolonged or complicated cases where long-term adjustments or more extensive assessment and educational plans may be necessary
- **Administrator**
  - Direct and oversee the concussion team plan and trouble shoot problems
  - Help create a change in the culture of the school regarding the implementation of programs and policies

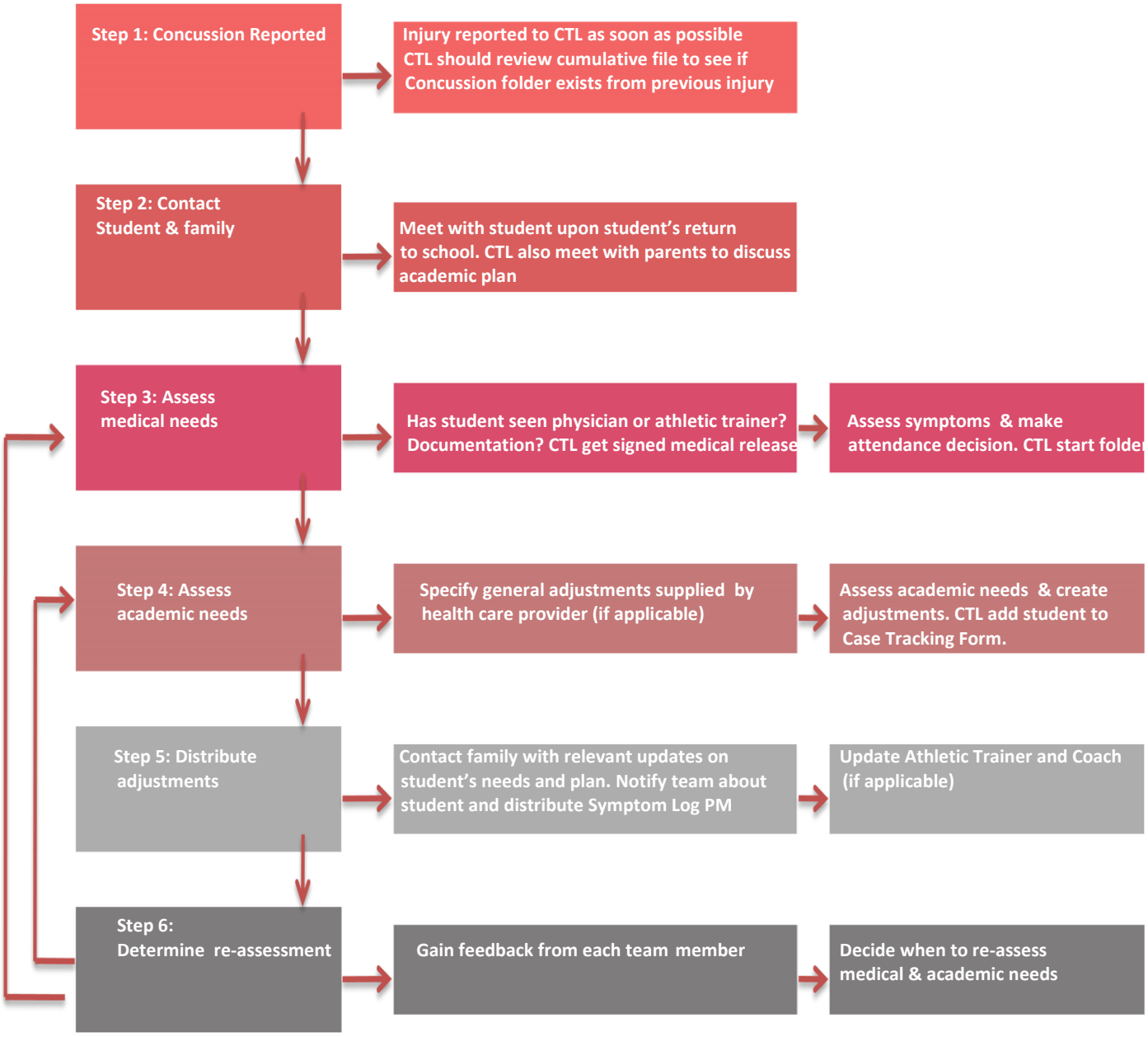
Medical Team Members

- **Athletic Trainer** (is also athletic team member)
  - Evaluate possible injuries and make referrals for student-athletes
  - Monitor symptoms and help coordinate and supervise a student-athlete's safe return to play
  - Communicate with the school about the student's progress
- **Physician**
  - Evaluate, diagnose and manage the student's injury
  - Direct medical and academic recommendations
- **School Nurse**
  - Monitor in-school symptoms and health status changes
  - Help determine if it is appropriate for the student to be in school or if the student needs any health-related adjustments

Athletic Team Members

- **Athletic Director**
  - Oversee the athletic department's concussion team plan, including but not limited to: equipment management, policies, and coach/athlete/parent education.
- **Coach/Physical Education Director**
  - Recognize concussion symptoms and remove a potentially injured player from practice or competition
  - Receive communication from health care providers, parent/guardian and school about readiness to return to play
  - Communicate with the school about the student's progress

Concussion Team Process



Adapted from: Nationwide Children's Hospital. *A School Administrator's Guide to Academic Concussion Management.*

Concussion Team Process

STEP 1: Concussion is reported to CTL as soon as possible

- At the beginning of school year, the CTL should be identified to teachers, coaches, parents and administrators so the responsible adults know to whom they should report injuries.
- Anyone in the school community who suspects a concussion should contact the CTL immediately so the student can be referred for proper evaluation.
- Suspected concussions sustained at school can be evaluated with the Concussion Signs and Symptoms Checklist (Appendix B), which is designed to be shared with parents and medical providers.
- The CTL documents confirmed concussions using the Case Tracking Form (Appendix C).

STEP 2: Contact student and family and meet with the student upon return to school

- The CTL explains his/her role, provides contact information, and describes the steps in the concussion management process.
- The CTL explains the responsibilities of the student and family (e.g.,) honest communication, follow recommendations and requests that they forward physician notes and other relevant documentation.
- This helps ensure good communication with, and compliance from, the student and family.

STEP 3: Assess medical needs

- Determine if the student has been evaluated by an athletic trainer or physician. Get any documentation from them concerning school/activity restrictions and adjustments.
- If no recommendations are available, the CTL or designee (e.g., school nurse) should assess symptoms to determine if the student will benefit from being in school or if attendance is likely to be counterproductive.
- If symptoms are significant or severe, the student may need to be sent home.
- If symptoms are manageable and not becoming significantly worse by attending school, continue to step 4.

STEP 4: Assess academic needs

- If there are academic recommendations from the health care provider, the CTL should specify those general recommendations.
- If no recommendations are available, the CTL or designee (e.g., school psychologist or school counselor) should assess the student's academic needs and document as required.

STEP 5: Distribute adjustments

- Give Staff Notification Letter (Appendix A), Symptom Log for progress monitoring (Appendix D) and recommended Academic Adjustments (Appendix E) to teachers in writing, with instructions on how and when to provide data to CTL.
- Contact family (and, if applicable, coach and athletic trainer) with academic/medical updates and plan.

STEP 6: Identify appropriate timeframe for re-assessment of needs

Re-assess medical and/or academic needs at step 3 or 4 when…

- New physician documentation arrives dictating a new course of action.
- Symptoms have changed (and therefore the prior assessment needs to be altered).
- Symptoms have resolved and are no longer a barrier to school participation or attendance.
- Teachers or parents identify problems in current plan that are not being adequately addressed.
- Once the re-assessment is complete, document as required, and return to step 5 (notify relevant parties of any changes to the plan), then continue to step 6 (identify appropriate timeframe for re-assessment).

A Note on Student Privacy

Remind staff members to only discuss **what is necessary** to manage the situation and make sure they understand how to **appropriately communicate** what is involved in this plan in a way that maintains student privacy.

- Information on a student's health is protected by **HIPAA**
  - http://hhs.gov/ocr/privacy/hipaa/understanding/index.html
- Information on a student's school records is protected by **FERPA**
  - http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

Gaining Support from the School Community

- Keep it simple, introducing key concepts first and gaining support from responsive members of the school community.
- Create opportunities for meaningful discussion
  - Each school district is different; therefore, this model is designed to be flexible. Your district can alter aspects of this plan based on your needs, resources, and experiences.
  - Promote feedback. Discuss how the initiative be improved within your district.
  - Involve all stakeholders in the process, including students, families, staff, and community members.
- Provide training and ongoing professional development in a way that is easily accessible.
- Be patient. A systems change initiative, such as adoption of this model, takes time.

Part 3: Return to School

Limitations Following Concussion

Initially, it is important to rest the brain and get good sleep

Limit physical, emotional, or cognitive activities to a level that is tolerable and does not exacerbate or cause re-emergence of symptoms.

Activity can gradually be increased as long as it does not cause symptoms to flare.

Exertion and Rest Fall Along a Continuum

No activity/Full rest ⟷ **Full activity/No rest**

Cognitive Rest

- If student stays home, he or she must avoid extensive computer/tablet use, texting, video games, television, music, loud music, and music via headphones.
- These activities make the brain work harder to process information and can exacerbate symptoms, thereby slowing recovery.

Physical Rest

- No participation in any physical activity until cleared by a physician, including physical education and sport activities.
- Physical activity after a concussion often magnifies already existing symptoms and puts the child at risk for a second, potentially more serious, concussion.

Return to Academics Progression

Phase 1: No school

- **Symptom Severity**: In this phase, the student may have a high level of symptoms that prevent him or her from benefitting from being in school. Physical symptoms (e.g., headache, fatigue) tend to be the most prominent and interfere with even basic tasks.
- **Treatment:** The student should rest the brain and body as much as possible.
- **Interventions:**
  - No school
  - No activities that exacerbate symptoms, such as television, video games, computer use, texting or loud music
  - Note and avoid other "triggers" that worsen symptoms
  - No physical activity, which includes anything that increases the heart rate, such as (but not limited to) weightlifting, sport practices and games, gym class, running, stationary biking, push-ups, sit-ups, and so forth.

Phase 2: Half-day attendance with adjustments

- **Symptom Severity**: In this phase, the student's symptoms have decreased to manageable levels. Symptoms may be exacerbated by certain mental activities that are complex, difficult and/or have a long duration.
- **Treatment:** Balance rest with gradual re-introduction to school. Avoid tasks that produce, worsen or increase symptoms. Avoid symptom triggers.
- **Interventions:**
  - Part-day school attendance, with focus on the core subjects; prioritize what classes should be attended and how often
  - Symptoms reported by student addressed with specific academic adjustments
  - Eliminate busy work or items not essential to learning priority material
  - Emphasis on in-school learning; rest is necessary once out of school; homework reduced or eliminated
  - No physical activity

Phase 3: Full-day attendance with adjustments

- **Symptom Severity**: In this phase, the student's symptoms have decreased in both number and severity. Symptoms may still be exacerbated by certain activities, but short time spans with known symptom triggers do not have drastic effects on symptom levels.
- **Treatment:** As the student improves, gradually increase demands on the brain by increasing the amount of work, length of time spent on the work, and the type or

difficulty of work. Gradually re-introduce known symptom triggers for short time periods.

- **Interventions:**
  - Continue to prioritize assignments, tests and projects; limit student to one test per day
  - Continue to prioritize in-class learning material; minimize workload and promote best effort on important tasks
  - Gradually increase amount of homework
  - Reported symptoms addressed by specific academic and environmental adjustments; adjustments reduced or eliminated as symptoms wane and resolve (continue to use the Symptom Log, Appendix D, to inform modification of the Academic Adjustments provided, Appendix E)
  - No physical activity

Phase 4: Full-day attendance without adjustments

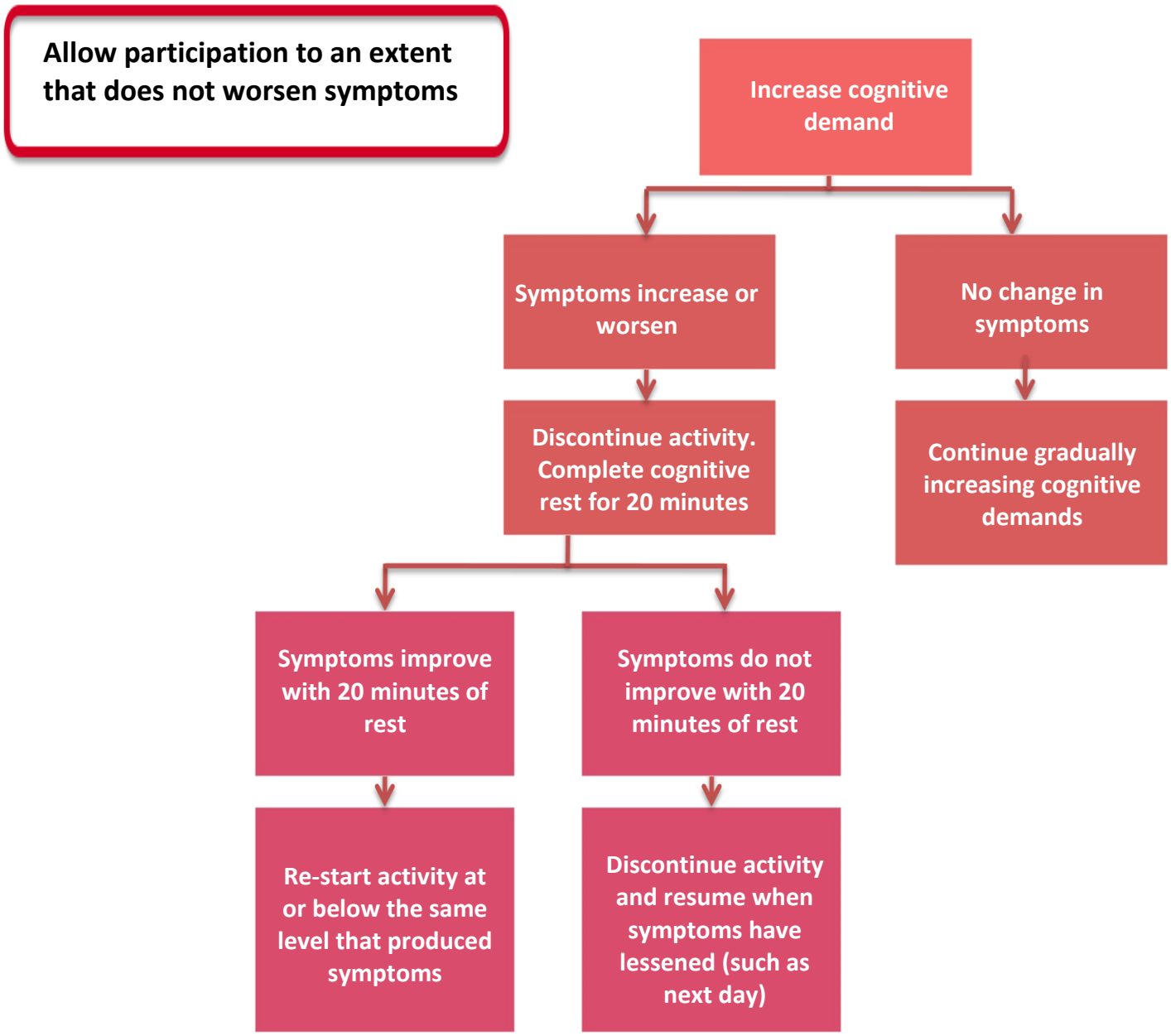
- **Symptom Severity**: In this phase, the student may not have any symptoms or may have mild symptoms that are often intermittent.
- **Treatment:** Adjustments are removed when student can function fully without them.
- **Interventions:**
  - Construct a plan to finish completing missed academic work and keep stress levels low.
  - No physical activity until released by a healthcare professional (such as physician or athletic trainer).

Phase 5: Full school and extracurricular involvement

- **Symptom Severity**: No symptoms are present.
- **Treatment:** No adjustments or accommodations are needed.
- **Interventions:** Before returning to gym class, weightlifting and/or sports, the student should complete the gradual return-to-play progression as indicated by the healthcare professional.

Adapted from: Nationwide Children's Hospital. *An Educator's Guide to Concussions in the Classroom*. Retrieved August 25, 2015

Decision-Making Chart



Adapted from Nationwide Children's Hospital (2012). *An Educator's Guide to Concussions in the Classroom* (2nd ed.).

Academic Adjustments Following Concussion

"Front-load" academic adjustments; they should be ample and generous upon return to school and gradually withdrawn as the student recovers. Some students may be reluctant to accept adjustments and instead push through symptoms to complete work because of the anxiety associated with work piling up (Halstead et al., 2013; Sady, Vaughan, & Gioia, 2011).

Consult with the student about his or her concussion, create appropriate adjustments that align with the student's symptoms, and create a plan for assignment completion. Determine how to modify work load (Heintz, 2012):

- ***Excused assignments*** *-not to be made up*
- ***Accountable assignments*** *-responsible for content, not process*
- ***Responsible assignments*** *-must be completed by student and will be graded*

Map adjustments onto symptoms: ***general, cognitive/thinking, fatigue, physical, and emotional.*** Use the form in Appendix E to document recommended strategies.

General Academic Adjustments:

- Adjust class schedule (alternate days, shortened day, abbreviated class, late start day).
- No PE classes until cleared by a healthcare professional. No physical play at recess.
- Allow students to audit class (i.e., participate without producing or grades).
- Avoid noisy and over-stimulating environments (i.e., band) if symptoms increase.
- Allow students to drop high level or elective classes without penalty if adjustments go on for a long period of time.
- Remove or limit testing and/or high-stakes projects.
- Alternate periods of mental exertion with periods of mental rest.

Cognitive/Thinking Academic Adjustments:

- Reduce class assignments and homework to critical tasks only. Exempt non-essential written class work or homework. Base grades on adjusted homework.
- Provide extended time to complete assignments/tests. Adjust due dates.
- Once key learning objective has been presented, reduce repetition to maximize cognitive stamina (e.g., assign 5 of 30 math problems).
- Allow student to demonstrate understanding orally instead of writing.
- Provide written instructions for work that is deemed essential.
- Provide class notes by teacher or peer. Allow use of computer, smart phone, tape recorder.
- Allow use of notes for test taking.

Fatigue/Physical Academic Adjustments:

- Allow time to visit school nurse/counselor for headaches and other symptoms.
- Allow strategic rest breaks (e.g., 5-10 minutes every 30-45 minutes) during the day.
- Allow hall passing time before or after crowds have cleared.
- Allow student to wear sunglasses indoors. Control for light sensitivity (e.g., draw blinds, sit away from window, hat with brim).
- Allow student to study or work in a quiet space away from visual and noise stimulation.
- Allow student to spend lunch/recess in a quiet space for rest and control for noise sensitivity.
- Provide a quiet environment to take tests.

Emotional Academic Adjustments:

- Develop a plan so student can discreetly leave class as needed for rest.
- Keep student engaged in extra-curricular activities. Allow student to attend but not fully participate in sports practice.
- Provide quiet place to allow for de-stimulation.
- Encourage student to explore alternative activities of non-physical nature.
- Develop an emotional support plan for the student (e.g., identify adult to talk with if feeling overwhelmed).

Tools for the Team

Following is information on tools and procedures that can support the concussion team's efforts at documenting concussion cases and monitoring progress:

Heads Up to Schools: Know Your Concussion ABCs

- A flexible set of materials to further support the team is available from the CDC: Heads Up to Schools: Know Your Concussion ABCs, http://www.cdc.gov/headsup/index.html

Sample Letters to Staff and Parents (Appendix A)

- Editable Microsoft Word versions of these letters are available on the ODH website
- Sample letters include:
  - A memo of general information on the district's implementation of a return to learn/concussion team model. This notice can be modified and distributed in newsletters, social media pages, and other building-level communication.
  - a form to inform parents of a child's possible head injury sustained at school, which also provides general concussion information.
  - a form to allow the release of medical information to the school from the student's physician.
  - a staff notification letter for confirmed concussion cases.

Concussion Signs and Symptoms Checklist (Appendix B)

- http://www.cdc.gov/concussion/pdf/TBI_schools_checklist_508-a.pdf
- From the CDC – Used to monitor observed signs (physical, cognitive, emotional)
- Lists **danger signs**, which indicate the student should be seen in the ER right away
- Check for signs or symptoms upon arrival, fifteen minutes later, at the end of 30 minutes, and before the student leaves. Send a copy with the parents to give to doctor.
- Useful if a child is injured at school or if they sustain a head injury outside of school (e.g., on a previous school day) and present with signs or symptoms at school

Concussion Team Leader's Case Tracking Form (Appendix C)

- An editable versions of this case tracking form is available on the ODH website

Concussion Symptom Log (Appendix D)

- Ongoing progress monitoring to help determine necessary adjustments
- Daily or weekly tracking on 0-6 scale, should come from multiple sources

Academic Adjustments (Appendix E)

- Should be based on the type and intensity of symptoms reported on Symptom Log

- May be class-specific. To clarify specific courses or tasks that present difficulty, the CTL may also **periodically interview the student**. Asking questions like "how is Spanish class?" can help determine if adjustments need to be used only in certain classes
- As symptoms improve, gradually increase ***either*** the:
    - Amount of work
    - Length of time spent on work
    - Type or difficulty of work

Sample District Policy (Appendix F)

- It is recommended that school districts adopt a policy statement regarding student concussions. This sample can be modified to meet the needs of your district.

Sample Concussion Response Protocol (Appendix G)

- Can be modified to meet different district needs and to reflect available personnel

If Symptoms Do Not Resolve

If managed appropriately, symptoms should resolve in a few weeks. If problems persist, academic accommodations and student support may be provided through a formal health plan, a 504 Plan, or—in very rare cases—an IEP.

In rare situations, a student may exaggerate or feign symptoms in order to escape work, continue receiving academic adjustments, or avoid resuming sports. In such cases, the concussion team should meet to collaboratively determine next steps. It is important to consistently apply activity restrictions. For example, a student who is unable to complete a quiz should not be driving a car. One who cannot use a computer as part of a lesson should not be watching movies.

In prolonged concussion cases, teachers may question whether students have mastered course material sufficiently to pass a class. Assigning grades in such situations can be difficult. In such cases, teachers are advised to reduce or remove nonessential material, focus on essential material, and determine the best way to assess knowledge on essential material for course completion. This can be done in consultation with the concussion team. A good guideline is to consider how they might typically help a student get caught up after a prolonged illness like mononucleosis or a personal crisis, such as a death in the immediate family. In some cases, students may need to retake courses or do credit recovery during the summer.

Return to Play

After a student has returned to school fully, they will follow return-to-play guidelines. Following is a brief summary of what this entails. More information can be found at: http://www.healthy.ohio.gov/concussion.aspx

Ohio's Return to Play Concussion law went into effect in April 2013. This law contains three tenets of model legislation:

- Education: Coaches, officials, parents, student athletes
- Removal from play if a concussion is reasonably suspected
- Clearance by a licensed health care professional for return to play

The health care professional should have expertise in concussion evaluation and care.

Return to Play is typically recommeded when the student is:

- Symptom-free both at rest and with exertion
- Symptom-free with no medication
- Back to baseline on academics and neurocognitive tests, performed

The Third International Conference on Concussion in Sport resulted in a Consensus Statement on Concussion in Sport (McCrory et al., 2008)
It is recommended that a student athlete proceed through six steps to return to play. The athlete can proceed to the next level if he or she is asymptomatic at the current level for at least 24 hours:

STEP 1: No activity, complete physical and cognitive rest
STEP 2: Light aerobic activity
STEP 3: Sport-specific activities and training
STEP 4: Noncontact drills
STEP 5: Full-contact practice training after medical clearance
STEP 6: Game Play

Next Steps

To begin implementing a return to learn/concussion team model in your school:

- Train core concussion team members using the online webinar for team members
- Designate a concussion team leader (CTL)
- Train teachers using the online webinar designed for teachers
- Create a culture within your district that encourages reporting of known and suspected concussions
- Provide information to all students, parents, and school staff about how concussions can affect learning and effective concussion management
    - This brief video is recommended: http://brain101.orcasinc.com/5000/
- Ensure that all concussion team members understand responsibilities and expectations and have written procedures that are aligned with concussion plan management.
- Encourage the formal adoption of district policy by your school board (see Appendix F for sample wording).
- Create a district-specific concussion response protocol (see Appendix G for sample).

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Appendix A

Sample Letters to Staff and Parents

Provide general information to staff and parents. This notice can be modified and distributed in newsletters, social media pages, and other building-level communication

Dear <<**insert school name**>> staff and parents:

Our school is committed to the health and well-being of our student community. We are implementing a Return to Learn/Concussion Team Model to help students who have sustained concussions safely return to school. Team members include <<**insert concussion team members**>>.

If you learn of a student who has a concussion, please contact <<**insert concussion team leader's name**>> immediately. The team can then develop a plan of academic adjustments that can help the student when he or she returns to school.

Any questions about these procedures can be directed to <<**insert concussion team leader's name**>> at <<**insert contact information**>>. Thank you for your support of our students.

This form informs parents of a possible head injury sustained at school, and provides general information to parents.

Dear Parent/Guardian:

You are receiving this form because your student may have experienced a head injury at school today. Though most severe head injuries can be identified at the time of the injury, signs and symptoms of a more severe head injury, or concussion, may not develop until as long as 48 hours after the injury.

It is important that a student who has experienced a head injury, even a minor head injury, be observed closely.

If your child is confused, has unusual behavior or responsiveness, loss of consciousness, or if there is concern about serious neck and spine injury, they should be referred at once for emergency care.

Possible signs and symptoms of concussion to watch for over the next 48 hours include:

- Drowsiness and cannot be awakened
- Weakness, numbness, or decreased coordination
- Headache that gets rapidly worse
- Loss of consciousness
- Difficulty breathing
- Repeated nausea or vomiting
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior

You can check on your child during the night; however, it is not necessary to keep them awake.

If your child is complaining of mild pain (head ache, sore at place of injury) you may give them the recommended dosage of acetaminophen (Tylenol). It is recommended that you consult a health care provider first.

If your child requires medical care due to this injury, please provide the school with a health care providers note stating your child may return to school.

Name: _____ Title: _____ Date: _____

This form allows the release of medical information to the school from the student's physician/doctor.

AUTHORIZATION FOR USE OR DISCLOSURE OF PROTECTED HEALTH INFORMATION

Your healthcare provider will require Parent/Guardian signature on this form to share Protected Medical Information with the school district in relation to the student. Please sign and give the form to your healthcare provider and/or to the school nurse.

Student: _____ DOB: _____ Student ID: _____

Grade:_____ School: _____ Medical Agency: _____

I, _____ (Parent/Guardian) authorize my child's health care provider(s) to release (name of child) _____'s medical records to the school, specifically, the following person, persons, or agencies (school district, school nurse, physical therapist):

_____ _____

_____ _____

_____ _____

The healthcare provider may disclose the following protected health information (check all that apply):

- ☐ Health Appraisals
- ☐ Immunizations
- ☐ Past/Current Medical Condition and Its Impact on Attendance, School Programming, and/or PT, OT, or ST needs
- ☐ Other _____

Please select one:

- ☐ This authorization is valid for the entire academic school year 20____ - 20_____.
- ☐ This authorization shall expire on _____/_____/_____ (MO/DD/YR)

I understand that I am not required to sign this authorization and can refuse to sign it.
I acknowledge that I have the right to revoke this authorization at any time by sending written notification to the Privacy Officer at my healthcare provider's office and to the District Administration Building.
I understand that my child's treatment is not dependent on my agreement to release or withhold information.

_____ _____ _____

Date Signature of Parent or Guardian, or of Patient (Over 18) Relationship to Patient

STAFF NOTIFICATION LETTER
For Confirmed Concussion Cases (Send after parents have signed Release of Information):

Dear << **staff name or role**>>,

This memo is to notify you that <<**student name**>> sustained a concussion on <<**date**>>. We are requesting that you assist with this student's concussion management and recovery. Some students recovering from a concussion may need a few days of complete rest before returning to school.

Each concussion is unique and can cause different symptoms. Some may appear immediately; some may develop over days or weeks. Most students who have sustained concussions will be better within 3-4 weeks, but some can take months to recover. Managing symptoms appropriately can help to shorten the duration of recovery. Common signs and symptoms of concussion include:

Signs (observed by others)	Symptoms (reported by the student)
▪ Appears dazed or confused ▪ Is confused about events ▪ Answers questions slowly ▪ Repeats questions ▪ Can't recall events prior to and/or after the hit, bump, or fall ▪ Loses consciousness (even briefly) ▪ Shows behavior or personality changes ▪ Forgets class schedule or assignments	**COGNITIVE (thinking)** ▪ Feeling slowed down ▪ Difficulty concentrating ▪ Difficulty remembering new information **PHYSICAL** ▪ Headache ▪ Fuzzy or blurry vision ▪ Nausea or vomiting (early on) ▪ Sensitivity to noise or light ▪ Balance problems ▪ Feeling tired/having no energy **EMOTIONAL/MOOD** ▪ Irritability ▪ Sadness ▪ More emotional ▪ Nervousness or anxiety **SLEEP** ▪ Sleeping more than usual ▪ Sleeping less than usual ▪ Trouble falling asleep

A student who has sustained a concussion needs to rest his or her brain following injury. This includes avoiding bright lights and loud noises. Students are usually advised to avoid dances, sporting events, TV, video games, and computer use. Cognitive activities such as reading and problem solving may need to be adjusted.

Attached is an ***Academic Adjustment Plan*** that indicates school-based adjustments selected by the concussion team for optimal healing. Please be flexible with this student and understand healing takes place at different rates. Please monitor this student and report any worsening of symptoms. Contact <<**name and contact info>>** if you have any questions.

Thank you.

<<**name and role**>>
Concussion Team Leader

Adapted from ORCAS Brain101: The Concussion Playbook

Appendix B

Concussion Signs and Symptoms

Checklist

Student's Name: _____ **Student's Grade:** _____ **Date/Time of Injury:** _____

Where and How Injury Occurred: *(Be sure to include cause and force of the hit or blow to the head.)* _____

_____

Description of Injury: *(Be sure to include information about any loss of consciousness and for how long, memory loss, or seizures following the injury, or previous concussions, if any. See the section on Danger Signs on the back of this form.)* _____

_____

_____

DIRECTIONS:

Use this checklist to monitor students who come to your office with a head injury. Students should be monitored for a minimum of 30 minutes. Check for signs or symptoms when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes.

Students who experience *one or more* of the signs or symptoms of concussion after a bump, blow, or jolt to the head should be referred to a health care professional with experience in evaluating for concussion. For those instances when a parent is coming to take the student to a health care professional, observe the student for any new or worsening symptoms right before the student leaves. Send a copy of this checklist with the student for the health care professional to review.

OBSERVED SIGNS	0 MINUTES	15 MINUTES	30 MINUTES	☐ MINUTES (Just prior to leaving)
Appears dazed or stunned				
Is confused about events				
Repeats questions				
Answers questions slowly				
Can't recall events *prior* to the hit, bump, or fall				
Can't recall events *after* the hit, bump, or fall				
Loses consciousness (even briefly)				
Shows behavior or personality changes				
Forgets class schedule or assignments				
PHYSICAL SYMPTOMS				
Headache or "pressure" in head				
Nausea or vomiting				
Balance problems or dizziness				
Fatigue or feeling tired				
Blurry or double vision				
Sensitivity to light				
Sensitivity to noise				
Numbness or tingling				
Does not "feel right"				
COGNITIVE SYMPTOMS				
Difficulty thinking clearly				
Difficulty concentrating				
Difficulty remembering				
Feeling more slowed down				
Feeling sluggish, hazy, foggy, or groggy				
EMOTIONAL SYMPTOMS				
Irritable				
Sad				
More emotional than usual				
Nervous				

→ More

To download this checklist in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta lista de síntomas en español, por favor visita: www.cdc.gov/Concussion.

Danger Signs:

Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if s/he has:

- ❒ One pupil (the black part in the middle of the eye) larger than the other
- ❒ Drowsiness or cannot be awakened
- ❒ A headache that gets worse and does not go away
- ❒ Weakness, numbness, or decreased coordination
- ❒ Repeated vomiting or nausea
- ❒ Slurred speech
- ❒ Convulsions or seizures
- ❒ Difficulty recognizing people or places
- ❒ Increasing confusion, restlessness, or agitation
- ❒ Unusual behavior
- ❒ Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Additional Information About This Checklist:

This checklist is also useful if a student appears to have sustained a head injury outside of school or on a previous school day. In such cases, be sure to ask the student about possible sleep symptoms. Drowsiness, sleeping more or less than usual, or difficulty falling asleep may indicate a concussion.

To maintain confidentiality and ensure privacy, this checklist is intended only for use by appropriate school professionals, health care professionals, and the student's parent(s) or guardian(s).

For a free tear-off pad with additional copies of this form, or for more information on concussion, visit: www.cdc.gov/Concussion.

Resolution of Injury:

__ Student returned to class
__ Student sent home
__ Student referred to health care professional with experience in evaluating for concussion

SIGNATURE OF SCHOOL PROFESSIONAL COMPLETING THIS FORM: _____

TITLE: _____

COMMENTS:

For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: **www.cdc.gov/Concussion**.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Appendix C

Concussion Team Leader's Case Tracking Form

Student Name	Grade	Person who notified	Date of referral	Subsequent meeting dates	Concussion details	Response Notes
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						

Concussion Symptom Log—Progress Monitoring

Rate on 0-6 intensity scale
0=not present, 1-2=mild, 3-4=moderate, 6=severe

	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
Symptoms	**Day of Injury**								
Cognitive/Thinking									
Difficulty thinking clearly									
Difficulty concentrating									
Difficulty remembering									
Feeling slowed down									
Feeling sluggish or hazy									
Physical/Fatigue									
Headache									
Nausea									
Vomiting									
Balance Problems									
Dizziness									
Fatigue									
Vison changes									
Sensitive to noise									
Sensitive to light									
Numbness or tingling									
Weakness in extremities									
Neck pain									
Emotional									
Irritability									
Sadness									
More emotional than usual									
Nervous									
Sleep									
Sleeping more than usual									
Sleeping less than usual									
Drowsiness									

Academic Adjustments: Concussions

Following concussion, students who receive academic adjustments without penalty are more successful and better able to reintegrate into school. ***Using the student's reported symptoms,*** *select appropriate adjustments from the list below and share with teachers.*

	Student Name_____ Staff Contact:_____	Start Date	End Date
	General		
	Adjust class schedule (alternate days, shortened day, abbreviated class, late start to the day).		
	No PE classes until cleared by a healthcare professional. No physical play at recess.		
	Avoid noisy and over-stimulating environments (i.e., band).		
	Allow student to drop high level or elective classes without penalty if adjustments go on for a long period of time.		
	Allow student to audit class (i.e., participate without producing or grades).		
	Remove or limit testing and/or high-stakes projects.		
	Alternate periods of mental exertion with periods of mental rest.		
	Cognitive/Thinking		
	Reduce class assignments and homework to critical tasks only. Exempt non-essential work. Base grades on adjusted work.		
	Provide extended time to complete assignments/tests. Adjust due dates.		
	Once key learning objective has been presented, reduce repetition to maximize cognitive stamina (i.e. assign fewer problems).		
	Allow student to demonstrate understanding orally instead of in writing.		
	Provide written instructions for work that is deemed essential.		
	Provide class notes by teacher or peer. Allow use of computer, smart phone or tape recorder.		
	Allow use of notes for test taking.		
	Fatigue/Physical		
	Allow time to visit school nurse, psychologist, or counselor for headaches or other symptoms.		
	Allow strategic rest breaks (e.g., 5-10 minutes every 30-45 minutes) during the day.		
	Allow hall passing time before or after crowds have cleared.		
	Allow student to wear sunglasses or hat indoors. Control for light sensitivity (draw blinds, sit away from window).		
	Allow student to study or work in a quiet space away from visual and noise stimulation.		
	Allow student to spend lunch/recess in quiet space for rest and control for noise sensitivity.		
	Provide a quiet environment to take tests.		
	Emotional		
	Develop plan so student can discreetly leave class as needed for rest.		
	Provide quiet place to allow for de-stimulation.		
	Keep student engaged in extra-curricular activities. Allow student to attend but not fully participate in sports.		
	Encourage student to explore alternative activities of non-physical nature.		
	Develop an emotional support plan for the student (e.g., identify adult to talk with if feeling overwhelmed).		

Adapted from: brain101.orcasinc.com and http://www.cdc.gov/concussion/headsup/youth.html.

Appendix F
SAMPLE DISTRICT POLICY
STUDENT CONCUSSION—RETURN TO LEARN

Ohio's Return-to-Play Concussion Law went into effect in April 2013. This law describes the education required of those involved with student athletics, processes to follow if a concussion is suspected in a student athlete, and requirements to clear a student athlete for return to play. However, the legislation does not specify procedures for safely returning students to a learning environment. Thus, Ohio school boards are encouraged to adopt a "Student Concussion—Return to School" policy to protect all students who have sustained a concussion. Following is sample language that might be included in such a policy.

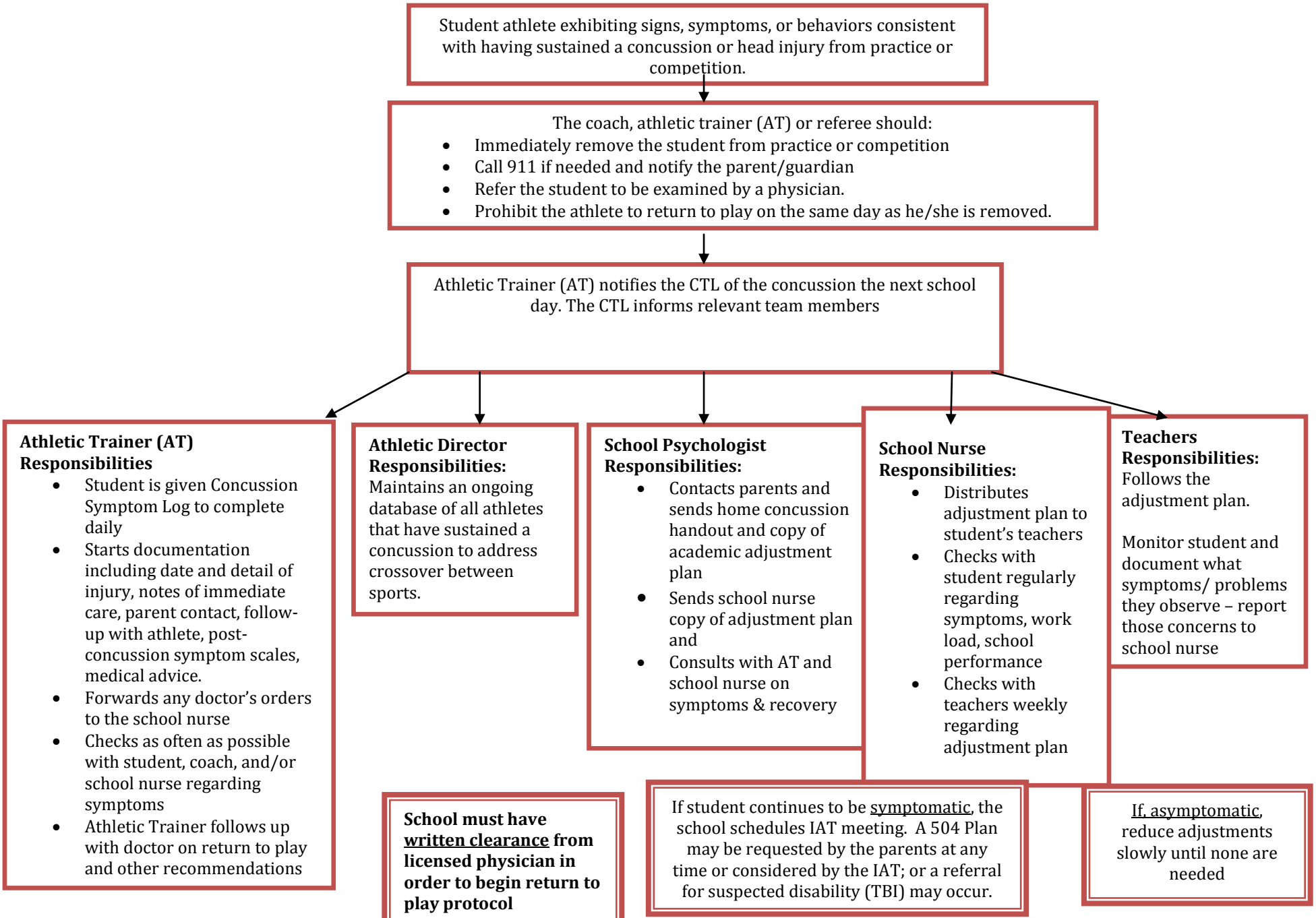
The Board recognizes that concussions and other head injuries may occur in students through sports, recreation, accidents, and altercations. Students may return to school while they are still experiencing concussion symptoms. Such students require temporary supports and adjustments in academic expectations and the school environment. The Board acknowledges that the adoption and implementation of a "return to learn" protocol can have a significant positive impact on the recovery of all students who have sustained a concussion. As such, each school in the district is expected to:

- Provide training and continuing education for teachers and all relevant school personnel on how to recognize signs and symptoms of concussion, as well as how to manage a concussion. For example, immediately following a concussion, students might appear dazed and confused, forgetful, off-balance, nauseous, and slow to respond.
- Alert school personnel to issues students may experience after a concussion. Some students have symptom for days, weeks, or even months. Students may experience:
    - Cognitive symptoms, which can cause difficulty learning, distractibility, and memory impairment
    - Physical symptoms, such as headaches, light/noise sensitivity, and lethargy
    - Emotional symptoms, including irritation, anxiety, and feeling overwhelmed
    - Sleep disturbances, such as drowsiness, insomnia, or difficulty falling asleep
- Appoint a concussion team, with a designated concussion team leader (CTL), to monitor the student's gradual return to full academics and to collaborate with the family, health care provider, and athletic staff (if applicable).
- Allow students who have been diagnosed with a concussion "cognitive rest" initially and the opportunity to progress through a gradual return to full cognitive and academic activities.
- Provide and monitor an individualized "return to learn" plan approved by the student's health care provider. Short-term academic and environmental adjustments in such a plan might include shortened days, modified curriculum, excusals from nonessential assignments, postponed testing, and decreased exposure to bright lights and loud noises.
- Secure a written release from the student's health care provider before allowing a return to full physical activities, including physical education class.
- Have on file for each student an emergency medical authorization form, completed annually, that indicates whether the student has a history of concussion. Repeat concussions can slow recovery or increase the likelihood of long-term problems.

Appendix G

Sample Concussion Response Protocol

PROTOCOL FOR CONCUSSION SUSTAINED DURING A SCHOOL SPONSORED ATHLETIC PRACTICE OR COMPETITION



Sample Concussion Response Protocol-Part 2

PROTOCOL FOR A CONCUSSION THAT IS **NOT** SUSTAINED DURING A SCHOOL SPONSORED ATHLETIC PRACTICE OR COMPETITION

Student sustains a head injury at school or on the bus, and is exhibiting signs, symptoms, or behaviors consistent with having sustained a concussion or head injury **OR** the student, parent/ guardian or physician report a concussion or head injury to school personnel that was sustained by a student outside of the school.

If occurs at school immediately follow First Aid Guidelines for Head Injury

- Call 911 if the student develops symptoms of concussion, loss consciousness, seizures
- Notify the school nurse
- Notify parent/guardian
- Refer the student to be examined by a physician if not transported by squad

The School Nurse will notify the Principal and CTL.
If the Student is a school athlete the CTL will notify the Athletic Trainer and/or the Athletic Director.

School Nurse Responsibilities:

- Obtains physician orders and collaborates with TBI-SP to develop adjustment plan
- Distributes adjustment plan to student's teachers
- Checks with student regularly regarding symptoms, work load, and school performance
- Checks with teachers weekly regarding adjustment plan
- Documents occurrence and progress

School Psychologist Responsibilities:

- Contacts parents and sends home concussion handout and copy of academic adjustment plan
- Sends School Nurse copy of adjustment plan
- Consults with School Nurse on symptoms & recovery

Teachers Responsibilities:
Follow the adjustment plan.

Monitor student and document what symptoms/ problems they observe – report those concerns to school nurse.

If student is an athlete the AT and AD Responsibilities

- Student is given Concussion Symptom Log to complete daily
- Communicates frequently with student, coach, and/or school nurse regarding symptoms
- Athletic Trainer follows up with doctor on return to play and other recommendations
- Enter student into concussion database

If student continues to be <u>symptomatic</u>, the school schedules IAT meeting. A 504 Plan may be requested by the parents at any time or considered by the IAT; or referral for suspected disability (TBI) may occur.

<u>If, asymptomatic</u>, reduce adjustments slowly until none are needed

School must have <u>written clearance</u> from licensed physician in order for an athlete to begin return to

Modified from Columbus City Schools Concussion Management Program

Ohio High School Athletic Association
4080 Roselea Place, Columbus, Ohio 43214
PH: 614-267-2502; FAX:614-267-1677
ohsaa.org

MEDICAL AUTHORIZATION TO RETURN TO PLAY WHEN A STUDENT HAS BEEN REMOVED DUE TO A SUSPECTED CONCUSSION

Ohio State Law as well as NFHS rules and OHSAA policy require a student who exhibits signs, symptoms or behaviors associated with concussion to be removed from a practice or contest and not permitted to reenter practice or competition on the same day as the removal. Thereafter, written medical authorization from a physician (M.D. or D.O.) or another qualified licensed medical provider, who works in consultation with, collaboration with or under the supervision of an M.D. or D.O. or who is working pursuant to the referral by an M.D. or D.O., AND is authorized by the Board or Education or other governing board, is required to grant clearance for the student to return to participation. This form shall serve as the authorization that the physician or licensed medical professional has examined the student, and has cleared the student to return to participation. The physician or licensed medical professional must complete this form and submit to a school administrator prior to the student's resumption of participation in practice and/or a contest. To reiterate, this student is not permitted to reenter practice or competition on the same day as the removal.

I, _____, M.D., D.O. or _____(other qualified licensed medical provider) have examined the following
(Print name of MD, DO or Other)
student, _____ from _____High School/7-8th grade school
(Name of Student),
who was removed from a _____(sport) contest at the _____level (V, JV, 9th, 7-8th) due to exhibition of signs/symptoms/behaviors consistent with a concussion. I have examined this student, and determined that the student is cleared to resume participation upon the completion of the directions provided below.

PLEASE INDICATE YOUR DIRECTIONS BELOW

___Return to play protocol for concussion as outlined in Zurich Consensus Statement 2012 or as attached.

___Return to play protocol for concussion required under direction of Licensed Athletic Trainer or other qualified Licensed medical provider as approved in above directive

___Return to play protocol for concussion not required, and the student may return to participation in practice and competition on this date_____

___Return to play clearance is limited to the following sport(s): _____

___Other: (explain):

VALID ONLY WITH ALL INFORMATION COMPLETED

Signature of Medical Professional _____
(MD, DO or other qualified Licensed Medical Provider as Approved in the Above Directive)

Date: _____

Contact Information: _____

(Print or Stamp) Address: _____

Phone: _____

Return to play is also subject to clarification of this document, as deemed necessary, by Licensed Athletic Trainer, other qualified Licensed medical providers authorized by Board of Education or other governing body, or school district administration. Return to play decisions are also subject to recognized principles of conditioning, skill development, mental preparedness, etc.

Parent(s)/Guardian and student are reminded that the initial signature document of awareness of signs and symptoms of concussion and need/requirement to report are still in effect. Parent(s)/Guardian and student have a responsibility to report any further signs or symptoms of a concussion or head injury to coaches, administrators and the student- athlete's doctor. Information regarding signs and symptoms are available from school district personnel or OHSAA website.

PRESENT THIS FORM TO THE SCHOOL ADMINISTRATOR

Note: The school must retain this form indefinitely as a part of the student's permanent record. Medical Providers should retain a copy for their own records.

SIGNS AND SYMPTOMS OF CONCUSSION

Concussions can appear in many different ways. Listed below are some of the signs and symptoms frequently associated with concussions. Most signs, symptoms and abnormalities after a concussion fall into the four categories listed below. A coach, parent or other person who knows the athlete well can often detect these problems by observing the athlete and/or by asking a few relevant questions of the athlete, official or a teammate who was on the field or court at the time of the concussion. Below are some suggested observations and questions a non-medical individual can use to help determine whether an athlete has suffered a concussion and how urgently he or she should be sent for appropriate medical care.

1. **PROBLEMS IN BRAIN FUNCTION:**
   a. Confused state – dazed look, vacant stare or confusion about what happened or is happening.
   b. Memory problems – can't remember assignment on play, opponent, score of game, or period of the game; can't remember how or with whom he or she traveled to the game, what he or she was wearing, what was eaten for breakfast, etc.
   c. Symptoms reported by athlete – Headache, nausea or vomiting; blurred or double vision; oversensitivity to sound, light or touch; ringing in ears; feeling foggy or groggy; dizziness.
   d. Lack of sustained attention – difficulty sustaining focus adequately to complete a task, a coherent thought or a conversation.

2. **SPEED OF BRAIN FUNCTION:** Slow response to questions, slow slurred speech, incoherent speech, slow body movements and slow reaction time.

3. **UNUSUAL BEHAVIORS:** Behaving in a combative, aggressive or very silly manner; atypical behavior for the individual; repeatedly asking the same question over and over; restless and irritable behavior with constant motion and attempts to return to play; reactions that seem out of proportion and inappropriate; and having trouble resting or "finding a comfortable position."

4. **PROBLEMS WITH BALANCE AND COORDINATION:** Dizziness, slow clumsy movements, inability to walk a straight line or balance on one foot with eyes closed.

IF NO MEDICAL PERSONNEL ARE ON HAND AND AN INJURED ATHLETE HAS ANY OF THE ABOVE SYMPTOMS, HE OR SHE SHOULD BE SENT FOR APPROPRIATE MEDICAL CARE.

CHECKING FOR CONCUSSION

The presence of any of the signs or symptoms that are listed in this brochure suggest a concussion has most likely occurred. In addition to observation and direct questioning for symptoms, medical professionals have a number of other instruments to evaluate attention, processing speed, memory, balance, reaction time, and ability to think and analyze information (called executive brain function). These are the brain functions that are most likely to be adversely affected by a concussion and most likely to persist during the post concussion period.

If an athlete seems "clear" he or she should be exercised enough to increase the heart rate and then evaluate if any symptoms return before allowing that athlete to practice or play.

Computerized tests that can evaluate brain function are now being used by some medical professionals at all levels of sports from youth to professional and elite teams. They provide an additional tool to assist physicians in determining when a concussed athlete appears to have healed enough to return to school and play. This is especially helpful when dealing with those athletes denying symptoms in order to play sooner.

For non-medical personnel, the Centers for Disease Control and Prevention (CDC) has also developed a tool kit ("Heads Up: Concussion in High School Sports"), which has been made available to all high schools, and has information for coaches, athletes and parents. The NFHS is proud to be a co-sponsor of this initiative.

PREVENTION

Although all concussions cannot be prevented, many can be minimized or avoided. Proper coaching techniques, good officiating of the existing rules, and use of properly fitted equipment can minimize the risk of head injury. Although the NFHS advocates the use of mouthguards in nearly all sports and mandates them in some, there is no convincing scientific data that their use will prevent concussions.

Prepared by NFHS Sports Medicine Advisory Committee. 2009

References:

NFHS. Concussions. 2008 NFHS Sports Medicine Handbook (Third Edition). 2008: 77-82.
NFHS. http://www.nfhs.org.

National Federation of State High School Associations
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Phone: 317-972-6900 | Fax: 317.822.5700
www.nfhs.org

National Federation of State High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

EVEN SEEMINGLY MINOR CONCUSSIONS CAN HAVE DEVASTATING RESULTS

INTRODUCTION

Concussions are a common problem in sports and have the potential for serious complications if not managed correctly. Even what appears to be a "minor ding or bell ringer" has the real risk of catastrophic results when an athlete is returned to action too soon. The medical literature and lay press are reporting instances of death from "second impact syndrome" when a second concussion occurs before the brain has recovered from the first one regardless of how mild both injuries may seem.

At many athletic contests across the country, trained and knowledgeable individuals are not available to make the decision to return concussed athletes to play. Frequently, there is undo pressure from various sources (parents, player and coach) to return a valuable athlete to action. In addition, often there is unwillingness by the athlete to report headaches and other findings because the individual knows it would prevent his or her return to play.

Outlined below are some guidelines that may be helpful for parents, coaches and others dealing with possible concussions. Please bear in mind that these are general guidelines and must not be used in place of the central role that physicians and athletic trainers must play in protecting the health and safety of student-athletes.

SIDELINE MANAGEMENT OF CONCUSSION

1. **Did a concussion take place?** Based on mechanism of injury, observation, history and unusual behavior and reactions of the athlete, even without loss of consciousness, assume a concussion has occurred if the head was hit and even the mildest of symptoms occur. *(See other side for signs and symptoms)*

2. **Does the athlete need immediate referral for emergency care?** If confusion, unusual behavior or responsiveness, deteriorating condition, loss of consciousness, or concern about neck and spine injury exist, the athlete should be referred at once for emergency care.

3. **If no emergency is apparent, how should the athlete be monitored?** Every 5- 10 minutes, mental status, attention, balance, behavior, speech and memory should be examined until stable over a few hours. If appropriate medical care is not available, an athlete even with mild symptoms should be sent for medical evaluation.

4. **No athlete suspected of having a concussion should return to the same practice or contest, even if symptoms clear in 15 minutes.**

MANAGEMENT OF CONCUSSIONS AND RETURN TO PLAY

(See "SIDELINE DECISION-MAKING" Below)

Increasing evidence is suggesting that initial signs and symptoms, including loss of consciousness and amnesia, may not be very predictive of the true severity of the injury and the prognosis or outcome. More importance is being assigned to the duration of such symptoms and this, along with data showing symptoms may worsen some time after the head injury, has shifted focus to continued monitoring of the athlete. This is one reason why these guidelines no longer include an option to return an athlete to play even if clear in 15 minutes and why there is no discussion about the "Grade" of the concussion.

Any athlete who is removed from play because of a concussion should have medical clearance from an appropriate health care professional before being allowed to return to play or practice. The Second International Conference on Concussion held in Prague recommends an athlete should not return to practice or competition in sport until he or she is asymptomatic including after exercise.

Recent information suggests that mental exertion, as well as physical exertion, should be avoided until concussion symptoms have cleared. Premature mental or physical exertion may lead to more severe and more prolonged post concussion period. Therefore, the athlete should not study, play video games, do computer work or phone texting until his or her symptoms are resolving. Once symptoms are clear, the student-athlete should try reading for short periods of time. When 1-2 hours of studying can be done without symptoms developing, the athlete may return to school for short periods gradually increasing until a full day of school is tolerated without return of symptoms.

Once the athlete is able to complete a full day of school work, without PE or other exertion, the athlete can begin the gradual return to play protocol as outlined below. Each step increases the intensity and duration of the physical exertion until all skills required by the specific sport can be accomplished without symptoms. These recommendations have been based on the awareness of the increased vulnerability of the brain to concussions occurring close together and of the cumulative effects of multiple concussions on long-term brain function. Research is now revealing some fairly objective and relatively easy-to-use tests which appear to identify subtle residual deficits that may not be obvious from the traditional evaluation. These identifiable abnormalities frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to play in relative safety. The significance of these deficits is still under study and the evaluation instruments represent a work in progress. They may be helpful to the professional determining return to play in conjunction with consideration of the severity and nature of the injury; the interval since the last head injury; the duration of symptoms before clearing; and the level of play.

SIDELINE DECISION-MAKING

1. No athlete should return to play (RTP) on the same day of concussion.
2. Any athlete removed from play because of a concussion must have medical clearance from an appropriate health care professional before he or she can resume practice or competition.
3. Close observation of athlete should continue for a few hours.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based on return of any signs or symptoms.

MEDICAL CLEARANCE RTP PROTOCOL

1. No exertional activity until asymptomatic.
2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc.
3. Initiate aerobic activity fundamental to specific sport such as skating or running, and may also begin progressive strength training activities.
4. Begin non-contact skill drills specific to sport such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.
6. If athlete remains asymptomatic, he or she may return to game/play.

A. ATHLETE MUST REMAIN ASYMPTOMATIC TO PROGRESS TO THE NEXT LEVEL.

B. IF SYMPTOMS RECUR, ATHLETE MUST RETURN TO PREVIOUS LEVEL.

C. MEDICAL CHECK SHOULD OCCUR BEFORE CONTACT.

RETURN TO PLAY POLICIES

Oklahoma

Rocky Mountain Hospital for Children
At Presbyterian/St. Luke's
Health ONE

How every family, school and medical professional can create a Community-Based Concussion Management Program

REAP℠ The Benefits of Good Concussion Management

Center for Concussion

REAP℠

Remove/Reduce
Educate
Adjust/Accommodate
Pace

Authored by Karen McAvoy, PsyD

ROCKY MOUNTAIN HOSPITAL *for* CHILDREN℠
At Presbyterian/St. Luke's
HealthONE®

In recent years growing public and medical concern has been focused on the issue of concussions. From our youngest students/athletes to professional team competitors, awareness of a concussion's influence on both short-term and long-term health has escalated in the past decade.

New clinical studies surrounding this growing concern have led to youth concussion clinics opening in most states. However, this proliferation of concussion clinics comes at a time when there is little clear medical consensus on a way to manage and treat concussions.

The REAP approach, developed for Rocky Mountain Hospital for Children's Center for Concussion, offers guidance on a coordinated team approach that will lessen the frustration that the student/athletes, their parents, schools, coaches, certified athletic trainers and the medical professional often experience as they attempt to coordinate care.

REAP has grown as a training resource over the past five years and it is continually updated with the most current research and guidance. In fact, in November of 2013, the American Academy of Pediatrics released a Clinical Report on Returning to Learning Following a Concussion (PEDIATRICS Volume 132, Number 5, November 2013) *"based upon expert opinion and adapted from a program in Colorado". Rocky Mountain Hospital for Children is proud to announce that the program referenced in the AAP Clinical Report is REAP!*

Reginald Washington, MD
FAAP, FAAC, FAHA
Chief Medical Officer
Rocky Mountain Hospital for Children - HealthONE

REAP is authored by: Karen McAvoy, PsyD

Second Edition October 2013

REAP,℠ which stands for **Remove/Reduce · Educate · Adjust/Accommodate · Pace,** is a community-based model for Concussion Management that was developed in Colorado. The early origins of REAP stem from the dedication of one typical high school and its surrounding community after the devastating loss of a freshman football player to "Second Impact Syndrome" in 2004. The author of REAP, Dr. Karen McAvoy, was the psychologist at the high school when the tragedy hit. As a School Psychologist, Dr. McAvoy quickly pulled together various team members at the school (Certified Athletic Trainer, School Nurse, Counselors, Teachers and Administrators) and team members outside the school (Students, Parents and Healthcare Professionals) to create a safety net for all students with concussion. Under Dr. McAvoy's direction from 2004 to 2009, the multi-disciplinary team approach evolved from one school community to one entire school district. Funded by an education grant from the Colorado Brain Injury Program in 2009, Dr. McAvoy sat down and wrote up the essential elements of good multi-disciplinary team concussion management and named it REAP.

With the opening of Rocky Mountain Hospital for Children in August of 2010, Dr. McAvoy was offered the opportunity to open and direct the Center for Concussion, where the multi-disciplinary team approach is the foundation of treatment and management for every student/athlete seen in the clinic.

Family Team	School Physical Team	School Academic Team	Medical Team

The benefits of good concussion management spelled out in REAP are known throughout communities in Colorado, nationally and internationally. REAP has been customized and personalized for various states and continues to be the "go-to" guide from the emergency department to school district to the office clinic waiting room.

Download a digital version of this publication at RockyMountainHospitalForChildren.com.

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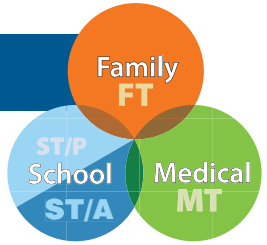
Endorsed by:

CHSAA Colorado High School Activities Association

The Brain Injury Alliance of Colorado

Colorado Brain Injury Program
Education • Services • Research

Community-Based, Multi-Disciplinary Concussion Management Team



How to use this Manual

Because it is important for each member of the Multi-Disciplinary Concussion Management Team to know and understand their part and the part of other members, this manual was written for all of the teams. As information is especially pertinent to a certain group, it is noted by a color.

>> Pay close attention to the sections in ORANGE

FT	Family Team	Student, Parents; may include Friends, Grandparents, Primary Caretakers, Siblings and others…	For more specific information, download parent fact sheets from the various **"Heads Up"** Toolkits on the CDC website: cdc.gov/concussion/headsup/pdf/Heads_Up_factsheet_english-a.pdf and cdc.gov/concussions/pdf/Fact_Sheet_ConcussTBI-a.pdf.

>> Pay close attention to the sections in LIGHT BLUE

ST/P	School Physical Team	Coaches, Certified Athletic Trainers (ATC), Physical Education Teachers, Playground Supervisors, School Nurses and others…	For more specific information, download the free **"Heads Up: Concussion in High School Sports or Concussion in Youth Sports"** from the CDC website: cdc.gov/Concussion/HeadsUp/high_school.html

>> Pay close attention to the sections in DARKER BLUE

ST/A	School Academic Team	Teachers, Counselors, School Psychologists, School Social Workers, Administrators, School Neuropsychologists and others…	For more specific information, download the free **"Heads Up to Schools: Know Your Concussion ABCs"** from the CDC website: cdc.gov/concussion/HeadsUp/Schools.html and cdc.gov/concussion/pdf/TBI_Returning_to_School-a.pdf

>> Pay close attention to the sections in GREEN

MT	Medical Team	Emergency Department, Primary Care Providers, Nurses, Concussion Specialists, Neurologists, Clinical Neuropsychologists and others…	For more specific information, download the free **"Heads Up: Brain Injury in your Practice"** from the CDC website: cdc.gov/concussion/HeadsUp/Physicians_tool_kit.html

Table of Contents

Common Concussion Myths...

TRUE or FALSE?

Loss of consciousness (LOC) is necessary for a concussion to be diagnosed.

False! CDC reports that an estimated 1.6 to 3.8 million sports- and recreation-related concussions occur in the United States each year.[1] Most concussions do not involve a loss of consciousness. While many students receive a concussion from sports-related activities, numerous other concussions occur from non-sports related activities — from falls, from motor vehicle accidents and bicycle and playground accidents.

TRUE or FALSE?

A concussion is just a "bump on the head."

False! Actually, a concussion is a traumatic brain injury (TBI). The symptoms of a concussion can range from mild to severe and may include: confusion, disorientation, memory loss, slowed reaction times, emotional reactions, headaches and dizziness. You can't predict how severe a concussion will be or how long the symptoms will last at the time of the injury.

TRUE or FALSE?

A parent should awaken a child who falls asleep after a head injury.

False! Current medical advice is that it is not dangerous to allow a child to sleep after a head injury, once they have been medically evaluated. The best treatment for a concussion is sleep and rest.

TRUE or FALSE?

A concussion is usually diagnosed by neuroimaging tests (ie. CT scan or MRI).

False! Concussions cannot be detected by neuroimaging tests: a concussion is a "functional" not "structural" injury. Concussions are typically diagnosed by careful examination of the signs and symptoms after the injury. Symptoms during a concussion are thought to be due to an ENERGY CRISIS in the brain cells. At the time of the concussion, the brain cells (neurons) stop working normally. Because of the injury there is not enough "fuel" (sugar/glucose) that is needed for the cells to work efficiently – for playing and for thinking. **While a CT scan or an MRI may be used after trauma to the head to look for bleeding or bruising in the brain, it will be normal with a concussion.** A negative scan does not mean that a concussion did not occur.

Did You Know...

>> **More than 80% of concussions resolve very successfully** if managed well within the first three weeks post-injury.[2] REAP sees the first three weeks post- injury as a "window of opportunity." Research shows that the average recovery time for a child/adolescent is about three weeks, slightly longer than the average recovery time for an adult.[3]

>> REAP works on the premise that a **concussion is best managed by a Multi-Disciplinary Team** that includes: the Student/Athlete, the Family, various members of the School Team and the Medical Team. The unique perspective from each of these various teams is essential!

>> **The first day of the concussion is considered Day 1.** The first day of recovery also starts on Day 1. REAP can help the Family, School and Medical Teams mobilize immediately to maximize recovery during the entire three week "window of opportunity."

Medical note
from Sue Kirelik, MD, Medical Director of the Center for Concussion

When it comes to concussion, the newest recommendations are that kids and teens should be treated much more conservatively than adults. Little is known about the long term risks of concussion that occur in childhood and adolescence, but there is concern that concussions can add up over time and cause permanent problems.

Message to Parents

To maximize your child's recovery from concussion, double up on the Rs. REDUCE and REST! Insist that your child rest, especially for the first few days following the concussion and throughout the three-week recovery period. Some symptoms of concussion can be so severe on the first day or two that your child may need to stay home from school. When your child returns to school, request that he/she be allowed to "sit out" of sports, recess and physical education classes immediately after the concussion. Work with your Multi-Disciplinary Concussion Management Team to determine when your child is ready to return to physical activity, recess and/or PE classes (see PACE).

Don't let your child convince you he/she will rest "later" (after the prom, after finals, etc.). Rest must happen immediately! The school team will help your child reduce their academic load (see Adjust/Accommodate). However, it is your job to help to reduce sensory load at home. Advise your child/teen to:

- avoid loud group functions (games, dances)
- limit video games, text messaging, social media and computer screen time
- limit reading and homework

A concussion will almost universally slow reaction time; therefore, driving should not be allowed pending medical clearance.

Plenty of sleep and quiet, restful activities after the concussion maximizes your child's chances for a great recovery!

When should your child go back to school?
See page 8.

Supplemental information and downloadable forms for parents can be found at RockyMountainHospitalForChildren.com.

EVERY Member of Every Team is Important!

Every team has an essential part to play at certain stages of the recovery

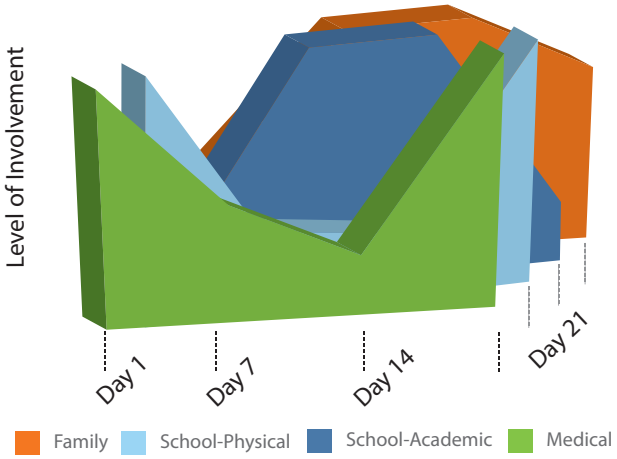
First the School Physical Team (coach, ATC, playground supervisor) and/or the Family Team (parent) have a critical role in the beginning of the concussion as they may be the first to RECOGNIZE and IDENTIFY the concussion and REMOVE the student/athlete from play.

Second The Medical Team then has an essential role in DIAGNOSING the concussion and RULING-OUT a more serious medical condition.

Third for the next 1 to 3 weeks the Family Team and the School Academic Team will provide the majority of the MANAGEMENT by REDUCING social/home and school stimulation.

Fourth when all FOUR teams decide that the student/athlete is 100% back to pre-concussion functioning, the Medical Team can approve the Graduated Return to Play (RTP) steps. See the PACE page.

Finally when the student/athlete successfully completes the RTP steps, the Medical Team can determine final "clearance."



The FOUR teams pass the baton from one to the other (and back again), all the while communicating, collaborating and adjusting the treatment/management.

Communication and Collaboration = Teamwork!

Multi-Disciplinary Teamwork = the safest way to manage a concussion!

A "Multi-Disciplinary Team" Team members who provide multiple perspectives of the student/athlete AND Team members who provide multiple sources of data

Who will be on the Family Team (FT)? Who from the family will watch, monitor and track the emotional and sleep/energy symptoms of the concussion and how will the Family Team communicate with the School and Medical Teams?

Who will be on the School Team — Physical (ST-P)? Who at the school will watch, monitor and track the physical symptoms of the concussion? Who is the ST-P Point Person?

Who will be on the School Team — Academic (ST-A)? Who at the school will watch, monitor and track the academic and emotional effects of the concussion? Who is the ST-A Point Person?

Who will be on the Medical Team (MT)? How will the MT get information from all of the other teams and who with the MT will be responsible for coordinating data and updates from the other teams?

>> REAP suggests the following timeframe:

TEAM		Week 1	Week 2	Week 3
FT	**Family Team** Help child understand he/she must be a "honest partner" in the rating of symptoms	• Impose rest. • Assess symptoms daily — especially monitor sleep/energy and emotional symptoms.	• Continue to assess symptoms (at least 3X week or more as needed), monitor if symptoms are improving. • Continue to assess symptoms and increase/decrease stimulation at home accordingly.	• Continue with all assessments (at least 2X week or more as needed). • Continue to assess symptoms and increase/decrease stimulation at home accordingly.
ST/P	**School Team Physical** Coach/ATC/School Nurse *(Assign 1 point person to oversee/ manage physical symptoms)*	• REMOVE from all play/physical activities! • Assess physical symptoms daily, use objective rating scale. • ATC: assess postural-stability (see NATA reference in RESOURCES). • School Nurse: monitor visits to school clinic. If symptoms at school are significant, contact parents and send home from school.	• Continue to assess symptoms (at least 3X week or more as needed). • ATC: postural-stability assessment.	• Continue with all assessments (at least 2X week or more as needed). • ATC: postural-stability assessment.
ST/A	**School Team Academic** Educators, School Psychologist, Counselor, Social Worker *(Assign1 point person to oversee/ manage cognitive/emotional symptoms)*	• REDUCE (do not eliminate) all cognitive demands. • Meet with student periodically to create academic adjustments for cognitive/ emotional reduction no later than Day 2/3 and then assess again by Day 7. • Educate all teachers on the symptoms of concussion. • See ADJUST/ACCOMMODATE section.	• Continue to assess symptoms (at least 3X week or more as needed) and slowly increase/decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed.	• Continue with all assessments (at least 2X week or more as needed) and increase/ decrease cognitive and academic demands accordingly. • Continue academic adjustments as needed. • Assess if longer term academic accommodations are needed (May need to consider a 504 Plan beyond 3+ weeks).
MT	**Medical Team**	• Assess and diagnose concussion. • Assess for head injury complications, which may require additional evaluation and management. • Recommend return to school with academic adjustments once symptoms are improving and tolerable, typically within 48 to 72 hours. • Educate student/athlete and family on the typical course of concussion and the need for rest. • Monitor that symptoms are improving throughout Week 1 — not worsening in the first 48 to 72 hours.	• Continue to consult with school and home teams. • Follow-up medical check including:comprehensive history, neurologic exam, detailed assessment of mental status, cognitive function, gait and balance.	• Continue to consult with school and home teams. • Weeks 3+, consider referral to a Specialty Concussion Clinic if still symptomatic. **It is best practice that a medical professional be involved in the management of each and every concussion, not just those covered by legislation.**

**Family should sign a Release of Information so that School Team and Medical Team can communicate with each other as soon as possible.*

>> **Don't be alarmed by the symptoms - symptoms are the hallmark of concussion.** The goal is to watch for a slow and steady improvement in ALL symptoms over time. It is typical for symptoms to be present for up to three weeks. If symptoms persist into Week 4, see SPECIAL CONSIDERATIONS.

>> Once a concussion has been diagnosed:

Jake Snakenberg

April 19, 1990 - September 19, 2004

In the Fall of 2004, Jake Snakenberg was a freshman football player at Grandview High School. He likely sustained a concussion in a game the week prior, however, he did not fully understand that he had experienced a concussion and he did not report his symptoms to anyone. One week later, Jake took a typical hit in a game, collapsed on the field and never regained consciousness. Jake passed away from "Second Impact Syndrome" on September 19, 2004.

STEP ONE: REMOVE student/athlete from all physical activities. REDUCE school demands and home/social stimulation.

The biggest concern with concussions in children/teens is the risk of injuring the brain again before recovery. The concussed brain is in a vulnerable state and even a minor impact can result in a much more severe injury with risk of permanent brain damage or rarely, even death. "Second Impact Syndrome" or "SIS" is thought to occur when an already injured brain takes another hit resulting in possible massive swelling, brain damage and/or death[4]. Therefore, once a concussion has been identified, it is critical to REMOVE a student/athlete from ALL physical activity including PE classes, dance, active recess, recreational and club sports until medically cleared.

Secondly, **while the brain is still recovering,** all school demands and home/social stimulation should be REDUCED. Reducing demands on the brain will promote REST and will help recovery.

FT	Family Team	**REMOVE** student/athlete from all physical activity immediately including play at home (ie. playground, bikes, skateboards), recreational, and/or club sports. **REDUCE** home/social stimulation including texting, social media, video games, TV, driving and going to loud places (the mall, dances, games). Encourage **REST**.
ST/P	School Physical Team	**REMOVE** student/athlete from all physical activity immediately. Support **REDUCTION** of school demands and home/social stimulation. Provide encouragement to **REST** and take the needed time to heal.
ST/A	School Aca-demic Team	**REMOVE** student/athlete from all physical activity at school including PE, recess, dance class. **REDUCE** school demands (see ADJUST/ACCOMMODATE for Educators on pages 9-10). Encourage "brain **REST**" breaks at school.
MT	Medical Team	**REMOVE** student/athlete from all physical activity immediately. **RULE-OUT** more serious medical issues including severe traumatic brain injury. Consider risk factors — evaluate for concussion complications. Support **REDUCTION** of school demands and home/social stimulation. Encourage **REST**.

STEP TWO: EDUCATE all teams on the story the symptoms are telling.
It might be two steps forward...one step back.

After a concussion, the brain cells are not working well. The good news is that with most concussions, the brain cells will recover in 1 to 3 weeks. When you push the brain cells to do more than they can tolerate (before they are healed) symptoms will get worse. When symptoms get worse, the brain cells are telling you that you've done too much. As you recover, you will be able to do more each day with fewer symptoms. If trying to read an algebra book or going to the mall flares a symptom initially, the brain is simply telling you that you have pushed too hard today and you need to back it down… try again in a few days. Thankfully, recovery from a concussion is quite predictable… most symptoms will decrease over 1 to 3 weeks and the ability to add back in home/social and school activities will increase over 1 to 3 weeks. Therefore, learn to "read" the symptoms. They are actually telling you the rate of recovery from the concussion.

NOTE: Home/social stimulation and school tasks can be added back in by the parent/teacher as tolerated. Physical activities, however, cannot be added back in without medical approval (see PACE).

PHYSICAL
How a Person Feels Physically

Headache/Pressure	Nausea
Blurred vision	Vomiting
Dizziness	Numbness/Tingling
Poor balance	Sensitivity to light
Ringing in ears	Sensitivity to noise
Seeing "stars"	Disorientation
Vacant stare/Glassy eyed	Neck Pain

COGNITIVE
How a Person Thinks

Feel in a "fog"
Feel "slowed down"
Difficulty remembering
Difficulty concentrating/easily distracted
Slowed speech
Easily confused

EMOTIONAL
How a Person Feels Emotionally

Inappropriate emotions	Irritability
Personality change	Sadness
Nervousness/Anxiety	Lack of motivation
Feeling more "emotional"	

SLEEP/ENERGY
How a Person Experiences Their Energy Level and/or Sleep Patterns

Fatigue	Drowsiness
Excess sleep	Sleeping less than usual
Trouble falling asleep	

Do not worry that your child has symptoms for 1 to 3 weeks; it is typical and natural to notice symptoms for up to 3 weeks. You just want to make sure you are seeing slow and steady resolution of symptoms every day. To monitor your child's progress with symptoms, chart symptoms periodically (see TIMEFRAME on page 5) and use the Symptom Checklist (see APPENDIX). In a small percentage of cases, symptoms from a concussion can last from weeks to months. (See SPECIAL CONSIDERATIONS on page 13.)

Medical Box

"It is not appropriate for a child or adolescent athlete with concussion to Return-to-Play (RTP) on the same day as the injury, regardless of the athletic performance."[5]

Consensus Statement on Concussion in Sport: the 4th International Conference on Concussion in Sport, Zurich 2012.

IMPORTANT!

All symptoms of concussion are important; however, monitoring of physical symptoms, within the first 48 to 72 hours, is critical! If physical symptoms worsen, especially headache, confusion, disorientation, vomiting, difficulty awakening, it may be a sign that a more serious medical condition is developing in the brain.

SEEK IMMEDIATE MEDICAL ATTENTION!

ADJUST/ ACCOMMODATE

STEP THREE: ADJUST/ACCOMMODATE for PARENTS.

AFTER YOUR CHILD HAS RECEIVED THE DIAGNOSIS OF CONCUSSION by a healthcare professional, their symptoms will determine when they should return to school. As the parent, you will likely be the one to decide when your child goes back to school because you are the one who sees your child every morning before school. Use the chart below to help decide when it is right to send your child back to school:

STAY HOME- BED REST

If your child's symptoms are so severe that he/she cannot concentrate for even 10 minutes, he/she should be kept home on total bed rest - no texting, no driving, no reading, no video games, no homework, limited TV. It is unusual for this state to last beyond a few days. Consult a physician if this state lasts more than 2 days.

MAXIMUM REST = MAXIMUM RECOVERY

STAY HOME – LIGHT ACTIVITY

If your child's symptoms are improving but he/she can still only concentrate for up to 20 minutes, he/she should be kept home — but may not need total bed rest. Your child can start light mental activity (e.g. sitting up, watching TV, light reading), as long as symptoms do not worsen. If they do, cut back the activity and build in more REST.

NO physical activity allowed!

TRANSITION BACK TO SCHOOL

When your child is beginning to tolerate 30 to 45 minutes of light mental activity, you can consider returning them to school. **As they return to school:**

- Parents should communicate with the school (school nurse, teacher, school mental health and/or counselor) when bringing the student into school for the first time after the concussion.
- Parents and the school should decide together the level of academic adjustment needed at school depending upon:
  - ✔ The severity of symptoms present
  - ✔ The type of symptoms present
  - ✔ The times of day when the student feels better or worse
- When returning to school, the child MUST sit out of physical activity – gym/PE classes, highly physically active classes (dance, weight training, athletic training) and physically active recess until medically cleared.
- Consider removing child from band or music if symptoms are provoked by sound.

>> GOING BACK TO SCHOOL

Ciera was 15 years old when she suffered a concussion while playing basketball. Her symptoms of passing out, constant headaches and fatigue plagued her for the remainder of her freshman year. A few accommodations helped Ciera successfully complete the school year.

"It really helped me when my teachers had class notes already printed out. That way I could just highlight what the teacher was emphasizing and focus on the concept rather than trying to take notes. Since having a brain injury, I don't really see words on the board, I just see letters. Therefore, having the notes beforehand takes some of the frustration off of me and I am able to concentrate and retain what is being taught in class. Being able to rest in the middle of the day is also very important for me. I become very fatigued after a morning of my rigorous classes, so my counselors have helped me adjust my schedule which allows me some down time so I can keep going through my day. Lastly, taking tests in a different place such as the conference room or teacher's office has helped a great deal." CIERA LUND

Medical Box

"Monday Morning Concussion" — Symptoms of a concussion may not develop immediately after the injury. In fact, symptoms may appear hours or even days later. One common scenario is when a student/athlete suffers a head injury on a Friday or Saturday, perhaps during a sporting event. The student/athlete may have a quiet weekend with few or no symptoms. It is not until they return to school on Monday, when the "thinking demands" from schoolwork increase, does the student/athlete begin to experience symptoms. It is important to recognize that these symptoms are related to the concussion. Students, parents and educators must learn to watch for delayed symptoms. In addition, they must pay attention to the activities that worsen those symptoms after they appear.

-Sue Kirelik, MD, Medical Director of the Center for Concussion

STEP THREE: ADJUST/ ACCOMMODATE for EDUCATORS.

School Team Educators

Alternate challenging classes with lighter classes (e.g. alternate a "core" class with an elective or "off" period). If this is not possible, be creative with flexing mental work followed by "brain rest breaks" in the classroom (head on desk, eyes closed for 5-10 minutes).

Medical Box

The newest research shows that neuropsychological testing has significant clinical value in concussion management. The addition of neuropsychological tests is an emerging best practice. However, limited resources and training are a reality for school districts. Whether or not a school district chooses to include any type of neurocognitive testing, REAP is still the foundation of the Concussion Management program. Data gathered from serial post-concussion testing (by Day 2/3, by Day 7, by Day 14 and by Day 21, until asymptomatic) can only serve to provide additional information. However, no test score should ever be used in isolation. Professionals must adhere to all ethical guidelines of test administration and interpretation.

Most Common "Thinking" Cognitive Problems Post-Concussion

And suggested adjustments/accommodations

Areas of concern	Suggested Accommodations for Return-to-Learn (RTL)
Fatigue, specifically Mental Fatigue	> Schedule strategic rest periods. Do not wait until the student's over-tiredness results in an emotional "meltdown." > Adjust the schedule to incorporate a 15-20 minute rest period mid-morning and mid-afternoon. > It is best practice for the student to be removed from recess/sports. Resting during recess or PE class is strongly advised. > Do not consider "quiet reading" as rest for all students. > Consider letting the student have sunglasses, headphones, preferential seating, quiet work space, "brain rest breaks," passing in quiet halls, etc. as needed.
Difficulty concentrating	> Reduce the cognitive load — it is a fact that smaller amounts of learning will take place during the recovery. > Since learning during recovery is compromised, the academic team must decide: What is the most important concept for the student to learn during this recovery? > Be careful not to tax the student cognitively by demanding that all learning continue at the rate prior to the concussion.
Slowed processing speed	> Provide extra time for tests and projects and/or shorten tasks. > Assess whether the student has large tests or projects due during the 3-week recovery period and remove or adjust due dates. > Provide a peer notetaker or copies of teacher's notes during recovery. > Grade work completed — do not penalize for work not done.
Difficulty with working memory	> Initially exempt the student from routine work/tests. > Since memory during recovery is limited, the academic team must decide: What is the most important concept(s) for the student to know? > Work toward comprehension of a smaller amount of material versus rote memorization.
Difficulty converting new learning into memory	> Allow student to "audit" the material during this time. > Remove "busy" work that is not essential for comprehension. Making the student accountable for all of the work missed during the recovery period (3 weeks) places undue cognitive and emotional strain on him/her and may hamper recovery. > Ease student back into full academic/cognitive load.
Emotional symptoms	Be mindful of emotional symptoms throughout! Students are often scared, overloaded, frustrated, irritable, angry and depressed as a result of concussion. They respond well to support and reassurance that what they are feeling is often the typical course of recovery. Watch for secondary symptoms of depression — usually from social isolation. Watch for secondary symptoms of anxiety — usually from concerns over make-up work or slipping grades.

STEP THREE: ADJUST/ACCOMMODATE for EDUCATORS continued.

Typically, student's symptoms only require 2 to 3 days of absence from school. If more than 3 days are missed, call a meeting with parents and seek a medical explanation.

Teachers, please consider categorizing work into:

Work REMOVED	Consider removing at least 25% of the workload.
NEGOTIABLE	Consider either **"adjusting"** workload (i.e. collage instead of written paper) **OR "delaying"** workload...however, be selective about the workload you postpone.
Work REQUIRED	Consider requiring no more than 25% of the workload.

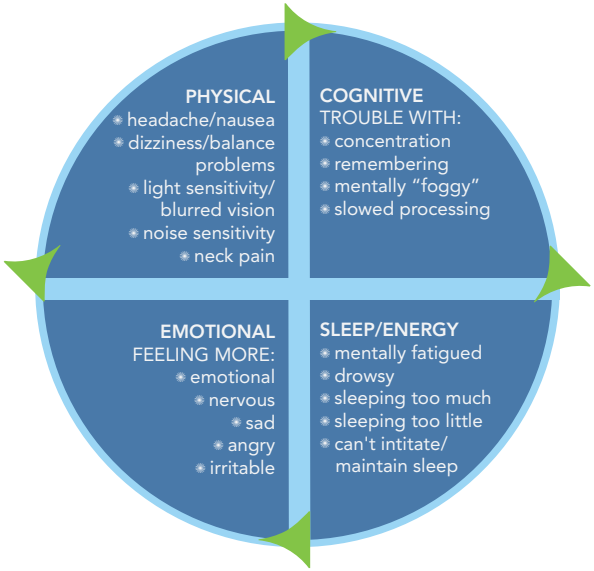
Adapted from William Heinz, M.D.

Academic adjustments fall within the pervue of the classroom/school. They are NOT determined by a healthcare professional. The teacher has the right to adjust up or down academic supports as needed, depending upon how the student is doing daily. Medical "release" from academic adjustments is not necessary.

PHYSICAL:
- "Strategic Rest"scheduled 15 to 20 minute breaks in clinic/quiet space (mid-morning; mid-afternoon and/or as needed)
- Sunglasses (inside and outside)
- Quiet room/environment, quiet lunch, quiet recess
- More frequent breaks in classroom and/or in clinic
- Allow quiet passing in halls
- REMOVE from PE, physical recess, & dance classes without penalty
- Sit out of music, orchestra and computer classes if symptoms are provoked

EMOTIONAL:
- Allow student to have "signal" to leave room
- Help staff understand that mental fatigue can manifest in "emotional meltdowns"
- Allow student to remove him/herself to de-escalate
- Allow student to visit with supportive adult (counselor, nurse, advisor)
- Watch for secondary symptoms of depression and anxiety usually due to social isolation and concern over "make-up work" and slipping grades. These extra emotional factors can delay recovery

Symptom Wheel
Suggested Academic Adjustments



COGNITIVE:
- REDUCE workload in the classroom/homework
- REMOVE non-essential work
- REDUCE repetition of work (ie. only do even problems, go for quality not quantity)
- Adjust "due" dates; allow for extra time
- Allow student to "audit" classwork
- Exempt/postpone large test/projects; alternative testing (quiet testing, one-on-one testing, oral testing)
- Allow demonstration of learning in alternative fashion
- Provide written instructions
- Allow for "buddy notes" or teacher notes, study guides, word banks
- Allow for technology (tape recorder, smart pen) if tolerated

SLEEP/ENERGY:
- Allow for rest breaks –in classroom or clinic (ie."brain rest breaks = head on desk; eyes closed for 5 to 10 minutes)
- Allow student to start school later in the day
- Allow student to leave school early
- Alternate "mental challenge" with "mental rest"

Read "Return to Learning: Going Back to School Following a Concussion" at nasponline.org/publications/cq/40/6/return-to-learning.aspx

Interventions:

Keep in mind, brain cells will heal themselves a little bit each day. Students should be able to accomplish more and more at school each day with fewer and fewer symptoms. Therefore, as the teacher sees recovery, he/she should require more work from the student. By the same token, if a teacher sees an exacerbation of symptoms, he/she should back down work for a short time and re-start it as tolerated.

Data collection:

How the student performs in the classroom is essential data needed by the healthcare professional at the time of clearance. Schools should have a process in place by which a teacher can share observations, thoughts, concerns back to the parents and healthcare professional throughout the recovery. Healthcare professionals should REQUIRE input from teachers on cognitive recovery before approving the Graduated Return-to-Play steps. (See Teacher Feedback Form in APPENDIX.) Parents should sign a Release of Information at the school and/or at the healthcare professionals office for seamless communication between school teams and medical team.

Supplemental materials and downloadable forms for teachers may be found at RockyMountainHospitalForChildren.com.

How do I get back to my sport?
A.K.A. How do I get "cleared" from this concussion

While 80 to 90% of concussions will be resolved in 3 to 4 weeks, a healthcare professional, whether in the Emergency Department or in a clinic, cannot predict the length or the course of recovery from a concussion. In fact, a healthcare professional should never tell a family that a concussion will resolve in X number of days because every concussion is different and each recovery time period is unique. The best way to assess when a student/athlete is ready to start the step-wise process of "Returning-to-Play" is to ask these questions:

>> Is the student/athlete 100% symptom-free at home?

- ❍ Use the Symptom Checklist every few days. All symptoms should be at "0" on the checklist or at least back to the perceived "baseline" symptom level.
- ❍ Look at what the student/athlete is doing. At home they should be acting the way they did before the concussion, doing chores, interacting normally with friends and family.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of home/social, mall or restaurants.

>> Is the student 100% symptom-free at school?

- ❍ Your student/athlete should be handling school work to the level they did before the concussion.
- ❍ Use the Teacher Feedback Form (APPENDIX) to see what teachers are noticing.
- ❍ Watch your child/teen doing homework; they should be able to complete homework as efficiently as before the concussion.
- ❍ In-school test scores should be back to where they were pre-concussion.
- ❍ School workload should be back to where it was pre-concussion.
- ❍ Symptoms should not return when they are exposed to the loud, busy environment of school.

>> If the school or healthcare professional has used neurocognitive testing, are scores back to baseline or at least reflect normative average and/or baseline functioning?

>> If a Certified Athletic Trainer is involved with the concussion, does the ATC feel that the student/athlete is 100% symptom-free?

- ❍ Ask ATC for feedback and/or serial administrations of the Symptom Checklist.

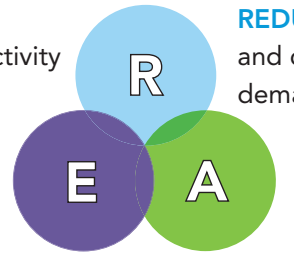
>> Is your child off all medications used to treat the concussion?

- ❍ This includes over the counter medications such as ibuprofen, naproxen and acetaminophen which may have been used to treat headache or pain.

If the answer to any of the questions is "NO," stay the course with management and continue to repeat:

REMOVE physical activity

REDUCE home and cognitive demands



ADJUST/ ACCOMMODATE home/social and school activities

EDUCATE: Let the symptoms direct the interventions

… for however long it takes for the brain cells to heal!

The true test of recovery is to notice a steady decrease in symptoms while noticing a steady increase in the ability to handle more rigorous home/social and school demands.

PARENTS and TEACHERS try to add in more home/social and school activities (just NOT physical activities) and test out those brain cells!

Once the answers to the questions above are all "YES," turn the page to the PACE page to see what to do next!

STEP FOUR: PACE

FAMILY TEAM Is the student/athlete 100% back to pre-concussion functioning?

SCHOOL ACADEMIC TEAM Is the student/athlete 100% back to pre-concussion academic functioning

WHEN ALL FOUR TEAMS AGREE

that the student/athlete is 100% recovered, the MEDICAL TEAM can then approve the starting of the Graduated RTP steps. The introduction of physical activity (in the steps outlined in order below) is the last test of the brain cells to make sure they are healed and that they do not "flare" symptoms. This is the final and formal step toward "clearance" and the safest way to guard against a more serious injury.

MEDICAL TEAM approves the start of the RTP steps

SCHOOL PHYSICAL TEAM Often the ATC at the school takes the athlete through the RTP steps.

If there is no ATC available, the MEDICAL TEAM should teach the FAMILY TEAM to administer and supervise the RTP steps.

A Graduated Return-to-Play (RTP) Recommended by The 2012 Zurich Consensus Statement on Concussion in Sport*

STAGE	ACTIVITY	FUNCTIONAL EXERCISE AT EACH STAGE OF REHABILITATION	OBJECTIVE OF STAGE
1	**No activity**	Symptom limited physicial and cognitive rest.	Recovery
	When 100% symptom free for 24 hours proceed to Stage 2. (Recommend longer symptom-free periods at each stage for younger student/athletes) ▼		
2	**Light aerobic exercise**	Walking, swimming or stationary cycling keeping intensity <70% maximum permitted heart rate. No resistance training.	Increase heart rate
	If symptoms re-emerge with this level of exertion, then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion, then proceed to the next stage.* ▼		
3	**Sport-specific exercise**	Skating drills in ice hockey, running drills in soccer. No head-impact activities.	Add movement
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
4	**Non-contact training drills**	Progression to more complex training drills, e.g., passing drills in football and ice hockey May start progressive resistance training.	Exercise, coordination and cognitive load
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
5	**Full-contact practice**	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff
	If symptoms re-emerge with this level of exertion then return to the previous stage. *If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.* ▼		
6	**Return to play**	Normal game play.	No restrictions

*bjsm.bmj.com/content/47/5/250.full

The healthcare professional should give the responsibility of the graduated RTP steps over only to a trained professional such as an ATC, PT or should teach the parents. A coach, school nurse or PE teacher does NOT need to be responsible for taking concussed student/athletes through these steps.

Research Note: Earlier introduction of physical activity is being researched and may become best practice. However, at this time, any early introduction of physical exertion should only be conducted in a supervised and safe environment by trained professionals.

PACE

Special Considerations

>> As we know, 80 to 90% of concussions will resolve within 3 to 4 weeks.

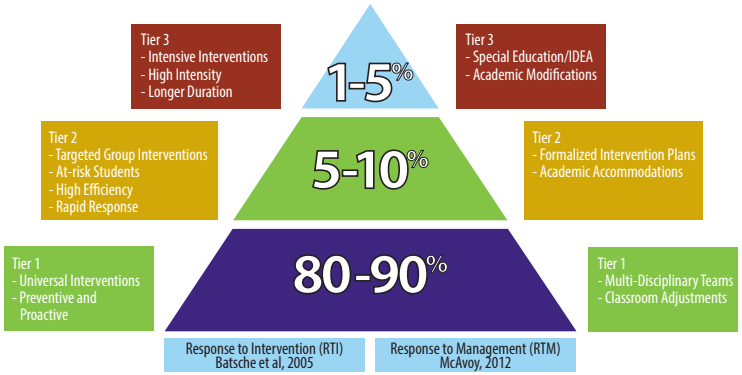
However, there remains the 10 to 20% of student/athletes who have on-going physical, cognitive, emotional or sleep/energy symptoms well beyond the 3 to 4 week mark. In those cases, the parent and medical professionals are advised to look to the school system for existing supports. The 2004 Re-authorization of IDEA (Individuals with Disability Education Act) introduced an educational initiative called "Response to Intervention (RTI)." RTI contends that good teaching and reasonable academic "adjustments" in the general education classroom can help to support 80 to 90% of students with mild/temporary learning or behavioral issues. The same concept holds true for concussions. We have called this "Response to Management (RTM)."

>> In RTI and RTM, we maximize the student/athlete's recovery by focusing on good academic "adjustments" in the general education classroom.

The 10 to 20% of students who struggle beyond the general education classroom may need a small amount of "targeted intervention" called academic "accommodation." Academic "accommodations" may be provided via a Health Plan, a Learning Plan, a 504 Plan[6] or an RTI Plan. It is still hoped that the accommodations for learning, behavior or concussions are temporary and amenable to intervention but may take months (instead of weeks) for progress to show. Lastly, with RTI and RTM, in the rare event that a permanent "disability" is responsible for the educational struggle, the student may be assessed and staffed into special education services (IDEA) and provided an IEP (Individualized Education Plan). This would constitute an extremely small number of students with a concussion.

The multi-disciplinary teams need to continue to work together with the student/athlete with protracted recovery. Parents and medical professionals need to seek medical explanation and treatment for slowed recovery; educators need to continue to provide the appropriate supports and the school physical team needs to continue to keep the student/athlete out of physical play.

Concussion Management Guidelines [8]



Adjustments/Accommodations/ Modifications

DAYS TO WEEKS: Academic Adjustments
Informal, flexible day-to-day adjustments in the general education classroom for the first 3 to 4 weeks of a concussion. Can be lifted easily when no longer needed.

WEEKS TO MONTHS: Academic Accommodations
Slightly longer accommodations to the environment/ learning to account for a longer than 4+ week recovery. Helps with grading, helps justify school supports for a longer time.

MONTHS TO YEARS: Academic Modifications
Actual changes to the curriculum/placement/instruction

Medical Box

Students who have Attention Deficits, Learning Disabilities, a history of migraine headaches, sleep disorders, depression or other mental health disorders may have more difficulty recovering from a concussion.

Students who have had multiple concussions, a recent prior concussion or who are getting symptomatic after less impact may be at risk for long-term complications. Research supports the fact that a person who sustains one concussion is at higher risk for sustaining a future concussion.[7]

Retirement from sport: If the burden of one concussion or each successive concussion is significant, the family, school and medical teams should discuss retirement from sport.

Resources

Centers for Disease Control (CDC)	CDC.gov	1-800-CDC-INFO
Colorado Brain Injury Program	tbicolorado.org	303-866-4779
CO Child/Adolescent Brain Injury	COkidswithbraininjury.com	
Brain Injury Alliance of Colorado (BIAC)	biacolorado.org	303-355-9969
Brain Injury Association of America (BIAA)	biausa.org	1-800-444-6443
Colorado High School Activities Association (CHSAA)	chsaa.org	303-344-5050
Colorado Department of Education (CDE)	cde.state.co.us	303-866-2879
National Association of Athletic Trainers (NATA)	nata.org journalofathletictraining.org	
National Federation of State High School Associations	nfhs.org	317-972-6900
Coaches Training: (free, online coach-training sessions)	National Federation of State High School Associations	nfhslearn.org

>> Please Note:

This publication is not a substitute for seeking medical care.

REAP is available for customization in your state.

>> All questions or comments and requests for inservices/trainings can be directed to:

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- Ciera Lund and the Lund family

This manual is available in Spanish upon request.

This program is part of HealthONE's Rocky Mountain Hospital for Children.

Symptom Checklist

Name: _____ Assessment Date: _____

Date of Injury: _____ Time of Injury 2-3 Hrs 24 Hrs 48 Hrs 72 Hrs Daily Weekly

SYMPTOMS		SEVERITY RATING						
Pathways	Symptoms		Mild	Mild	Moderate	Moderate	Severe	Severe
A	I feel like I'm going to faint	0	1	2	3	4	5	6
V	I'm having trouble balancing	0	1	2	3	4	5	6
	I feel dizzy	0	1	2	3	4	5	6
	It feels like the room is spinning	0	1	2	3	4	5	6
O	Things look blurry	0	1	2	3	4	5	6
	I see double	0	1	2	3	4	5	6
H	I have headaches	0	1	2	3	4	5	6
	I feel sick to my stomach (nauseated)	0	1	2	3	4	5	6
	Noise/sound bothers me	0	1	2	3	4	5	6
	The light bothers my eyes	0	1	2	3	4	5	6
C	I have pressure in my head	0	1	2	3	4	5	6
	I feel numbness and tingling	0	1	2	3	4	5	6
N	I have neck pain	0	1	2	3	4	5	6
S/E	I have trouble falling asleep	0	1	2	3	4	5	6
	I feel like sleeping too much	0	1	2	3	4	5	6
	I feel like I am not getting enough sleep	0	1	2	3	4	5	6
	I have low energy (fatigue)	0	1	2	3	4	5	6
	I feel tired a lot (drowsiness)	0	1	2	3	4	5	6
Cog	I have trouble paying attention	0	1	2	3	4	5	6
	I am easily distracted	0	1	2	3	4	5	6
	I have trouble concentrating	0	1	2	3	4	5	6
	I have trouble remembering things	0	1	2	3	4	5	6
	I have trouble following directions	0	1	2	3	4	5	6
	I feel like my thinking is "foggy"	0	1	2	3	4	5	6
	I feel like I am moving at a slower speed	0	1	2	3	4	5	6
	I don't feel "right"	0	1	2	3	4	5	6
	I feel confused	0	1	2	3	4	5	6
	I have trouble learning new things	0	1	2	3	4	5	6
E	I feel more emotional	0	1	2	3	4	5	6
	I feel sad	0	1	2	3	4	5	6
	I feel nervous	0	1	2	3	4	5	6
	I feel irritable or grouchy	0	1	2	3	4	5	6

Other: _____

Pathways of concern: A=Autonomic V=Vestibular O=Oculomotor H=Headache (Migraine &Non-Migraine) C=Cervicogenic N=Neck Strain S/E=Sleep/Energy Cog=Cognitive E=Emotional

APPENDIX

Teacher Feedback Form

Date _____

>> Student's Name _____

Date of Concussion _____

Student: you have been diagnosed with a concussion. It is **your responsibility to gather data from your teachers** before you return to the doctor for a follow-up visit. A day or two before your next appointment, go around to all of your teachers (especially the CORE classes) and ask them to fill in the boxes below based upon how you are **currently functioning** in their class(es).

Teachers: Thank you for your help with this student. Your feedback is very valuable. We do not want to release this student back to physical activity if you are still seeing physical, cognitive, and emotional or sleep/energy symptoms in your classroom(s). If you have any concerns, please state them below.

1. Your name 2. Class taught	Is the student still receiving any academic adjustments in your class? If so, what?	Have you noticed, or has the student reported, any concussion symptoms lately? (e.g. complaints of headaches, dizziness, difficulty concentrating, remembering; more irritable, fatigued than usual etc.?) If yes, please explain.	Do you believe this student is performing at their pre-concussion learning level?
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:
			❑ Yes ❑ No Date: Signature:

SENATE BILL 11-040

(1)(a) Each public and private middle school, junior high school, and high school shall require each coach of a youth athletic activity that involves interscholastic play to complete an annual concussion recognition education course.

(a) Each private club or public recreation facility and each athletic league that sponsors youth athletic activities where the majority of the participants are eleven years of age or older and under nineteen years of age shall require each volunteer coach for a youth athletic activity and each coach with whom the club, facility, or league directly contracts with, formally engages, or employs who coaches a youth athletic activity to complete an annual concussion recognition education course.

(2)(a) The concussion recognition education course required by subsection (1) of this section shall include the following:

(I) Information on how to recognize the signs and symptoms of a concussion.

(II) The necessity of obtaining proper medical attention for a person suspected of having a concussion.

(III) Information on the nature and risk of concussions, including the danger of continuing to play after sustaining a concussion and the proper method of allowing a youth athlete who has sustained a concussion to return to athletic activity.

REMOVAL FROM PLAY FOR A "SUSPECTED" CONCUSSION

If a coach who is required to complete concussion recognition education pursuant to subsection (1) of this section suspects that a youth athlete has sustained a concussion following an observed or suspected blow to the head or body in a game, competition, or practice, the coach shall immediately remove the athlete from the game, competition, or practice. The signs and symptoms cannot be readily explained by a condition other than concussion.

RETURN TO PLAY

(4)(a) If a youth athlete is removed from play pursuant to subsection (3) of this section and the signs and symptoms cannot be readily explained by a condition other than concussion, the school coach or private or public recreational facility's designated personnel shall notify the athlete's parent or legal guardian and shall not permit the youth athlete to return to play or participate in any supervised team activities involving physical exertion, including games, competitions, or practices, until he or she is evaluated by a health care provider and receives written clearance to return to play from the health care provider. The health care provider evaluating a youth athlete suspected of having a concussion or brain injury may be a volunteer. "Health Care Provider" means:
• a Doctor of Medicine • Doctor of Osteopathic Medicine • Licensed Nurse Practitioner • Licensed Physician Assistant • Licensed Doctor of Psychology with training in neuropsychology or concussion evaluation and management.

(b) Notwithstanding the provisions of paragraph (a) of this subsection (4), a doctor of chiropractic with training and specialization in concussion evaluation and management may evaluate and provide clearance to return to play for an athlete who is part of the united states Olympic training program.

After a concussed athlete has been evaluated and received clearance to return to play from a health care provider, an organization or association of which a school or school district is a member, a private or public school, a private club, a public recreation facility, or an athletic league may allow a registered athletic trainer with specific knowledge of the athlete's condition to manage the athlete's graduated return to play.

THIS IS COLORADO LAW

Rocky Mountain Hospital for Children℠
At Presbyterian/St. Luke's
Health ONE®

RockyMountainHospitalForChildren.com

Center for Concussion

At Centennial Medical Plaza
14000 East Arapahoe Road, Building C, Suite 300
Centennial, CO 80112
720.979.0840

At Red Rocks Medical Center
400 Indiana Street, Suite 350
Golden, CO 80401
303.861.2663

Jake Snakenberg Fund

Dedicated to the Memory
of Jake Snakenberg
April 19, 1990 -
September 19, 2004

In the fall of 2004, Jake Snakenberg passed away from "Second Impact Syndrome." As a result of Jake's death, with the support of Jake's family and a team of dedicated health professionals, REAP and the Center for Concussion exist today.

The Jake Snakenberg Fund is a program of Rocky Mountain Children's Health Foundation, whose mission is to *enhance the quality of life for pediatric patients in the Rocky Mountain region.*

To ensure the ongoing efforts to educate coaches and parents on concussion recognition, please consider a gift to the Jake Snakenberg Fund.

Online: www.rmchildren.org/donation

Mail to:
Rocky Mountain Children's Health Foundation
2055 High Street Suite 240, Denver, CO 80205

Contact: Luanne Williams, Executive Director
303.839.6873

Visit us at: www.rmchildren.org
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Rocky Mountain Children's Health Foundation

Printing of this brochure was paid for by the Jake Snakenberg Fund of the Rocky Mountain Children's Health Foundation.

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At Presbyterian/St. Luke's Medical Center
The Medical Center of Aurora
North Suburban Medical Center
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Swedish Medical Center

HealthONE

RETURN TO PLAY POLICIES

Oregon

Oregon School Activities Association
25200 SW Parkway Avenue, Suite 1
Wilsonville, OR 97070

503.682.6722 FAX 503.682.0960 http://www.osaa.org

CONCUSSION – RETURN TO PARTICIPATION MEDICAL RELEASE

Student Name: _____ **Date of Birth**: ___/___/___ **School/Grade**: _____

Date of Injury: ____ / ____ / ____ **Sport/ Injury Details**: _____

At this time, the student is:
- ☐ symptom-free at rest
- ☐ symptom-free at exertion
- ☐ scoring within a normal range on ImPACT
- ☐ NOT symptom-free at rest
- ☐ NOT symptom-free at exertion
- ☐ NOT scoring within a normal range on ImPACT

When ImPACT is utilized, please either attach or allow access to baseline and post concussive scores with percentiles.

Comments: _____

Completed by (Printed name): _____ Signature: _____ Date: _____

☐ Registered Athletic Trainer ☐ Coach ☐ Athletic Director ☐ Other: _____

Graduated, Step-wise Return-to-Participation Progression

1. **No activity**: Complete rest, both physical and cognitive. This may include staying home from school or limiting school hours and/or homework as activities requiring concentration and attention may worsen symptoms and delay recovery.
2. **Light aerobic exercise**: Walking or stationary bike at low intensity; no weight lifting or resistance training.

Before progressing to the next stage the student must be healthy enough to return to school full time

3. **Sport-specific exercise**: Sprinting, dribbling basketball or soccer; no helmet or equipment, no head impact activities.
4. **Non-contact training**: More complex drills in full equipment. Weight training or resistance training may begin.
5. **Full contact practice**: Participate in normal training activities.
6. **Unrestricted Return-to-Participation/full competition**. **(Earliest Date of Return-to-Participation**: _____)

The student should spend a minimum of one day at each step. If symptoms re-occur, the student must stop the activity and contact their trainer or other health care professional. Depending upon the specific type and severity of the symptoms, the student may be told to rest for 24 hours and then resume activity one-step below where he or she was when the symptoms occurred. ***Graduated return applies to all activities including sports and PE classes.***

This section to be completed by Physician/Health Care Professional:

☐ Student **may NOT return** to any sport activity until medically cleared.

☐ Student should **remain home from school** to rest and recover with a projected return date _____

☐ Please **allow classroom accommodations,** such as extra time on tests, a quiet room to take tests, and a reduced workload when possible.

Additional Recommendations: _____

☐ Student **may begin graduated return at stage circled above.** If symptom free at rest and with graded exertion, can return to participation on date above.

☐ Student is now **cleared for full contact practice/participation**: symptom free at rest and exertion and has completed a graduated Return-to-Participation protocol.

Physician/Health Care Professional Signature: _____ **Date**: _____

Physician/Health Care Professional Name/Title: _____ **Phone**: _____

Per OAR 581-022-0421 "Health Care Professional" means a Physician (MD), Physician's Assistant (PA), Doctor of Osteopathic (DO) licensed by the Oregon State Board of Medicine, nurse practitioner licensed by the Oregon State Board of Nursing, or Psychologist licensed by the Oregon Board of Psychologist Examiners.

Oregon School Activities Association
25200 SW Parkway Avenue, Suite 1
Wilsonville, OR 97070

503.682.6722 FAX 503.682.0960 http://www.osaa.org

The Oregon School Activities Associations' (OSAA) Sports Medicine Advisory Committee has developed a physician release form for students to return to participation following a concussion. The committee reviewed extensively the literature available on concussions in sport. No definitive data exists that allow us to absolutely predict when a student with a concussion can safely return to participation. We have found significant differences that exist among physicians relating to when they will permit a student to return to participation after having a concussion.

Neither the OSAA nor the Sports Medicine Advisory Committee presumes to dictate to professionals how to practice medicine. Neither is the information on this form meant to establish a standard of care. The committee does feel, however, that the guidelines included on the form represent a summary consensus of the literature. The committee also feels that the components of the form are very relevant to addressing the concerns of coaches, parents, students, and physicians that lead to the research into this subject and to the development of this form.

GOALS FOR ESTABLISHING A WIDELY USED FORM:

1. Protect students from further harm. Young students appear to be particularly vulnerable to the effects of concussion. They are more likely than older students to experience problems after concussion and often take longer to recover. Teenagers also appear to be more prone to a second injury to the brain that occurs while the brain is still healing from an initial concussion. This second impact can result in long-term impairment or even death. The importance of proper recognition and management of concussed young students cannot be over-emphasized.
2. Allow students to participate as soon as it is reasonably safe for them to do so.
3. Establish guidelines to help minimize major differences in management among physicians who are signing "return to competition forms". Consistent use of these guidelines should minimize students from returning to participation too soon and protect them from inequalities as to who can or cannot participate.
4. Provide a basis to support physician decisions on when a student can or cannot participate. This should help the physician who may face incredible pressure from many fronts to return a student to competition ASAP. This can involve "Joe Blow who rides the bench" or the next state champion with a scholarship pending.

IMPORTANT COMPONENTS FOR AN EFFECTIVE FORM:

1. Inclusion of the latest consensus statements so physicians will understand that students must be symptom free at rest and exertion and complete a graduated return to participation. Returning students at an arbitrary date is not an option.
2. Inclusion of the date and nature of injury as well as earliest date to return to participation to minimize the need for a family to incur the expense of additional office visits to return for clearance after completing a graduated return to participation.
3. Inclusion of consensus statements and return to participation progression before returning the student to participation as discussed above. This should enhance the likelihood that all students are managed safely and fairly.
4. Inclusion of all of the components discussed has the potential to remove liability from a school making a medical decision. If a return to participation is questioned, the school's role could appropriately be only to see if the student can provide a fully completed medical release form allowing the student to return to participation.

Note to Physicians/Health Care Professionals: Please familiarize yourself with the "Summary and Agreement Statements of International Conferences on Concussion in Sport", from Vienna in 2001, Prague in 2004, and Zurich in 2008. These documents summarize the most current research and treatment techniques in head injuries. The most noteworthy items to come from these conferences are the discontinuation of initial symptom based grading scales and the addition of standardized return to participation guidelines.

Note: ImPACT stands for **Im**mediate **P**ost-Concussion **A**ssessment and **C**ognitive **T**est. It is sophisticated software developed to help sports-medicine clinicians evaluate recovery following concussion. ImPACT evaluates multiple aspects of neurocognitive functioning including memory, brain processing speed, reaction time, and post-concussive symptoms. For information on implementing a baseline-testing program, contact the Oregon Concussion Awareness & Management Program (OCAMP) at ***http://cbirt.org/ocamp***.

Note: In 1990, the AMA recognized the certified athletic trainer as an allied health care professional. In 1998, a resolution passed urging all schools to provide the services of a certified athletic trainer for student-athletes (AMA Resolution 431, A-97). For more information on athletic trainers, contact Oregon Athletic Trainers' Society via their website: ***http://oatswebsite.org***.

This form may be reproduced, if desired. In addition, the OSAA Sports Medicine Advisory Committee would welcome comments for inclusion in future versions, as this will continue to be a work in progress.

OCAMP

Oregon Concussion Awareness and Management Program

Max's Law: Concussion Management Implementation Guide

for School Administrators

RECOGNIZE :: REMOVE :: REFER :: RETURN

PACE Property and Casualty Coverage for Education

OREGON DEPARTMENT OF EDUCATION

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OSAA Oregon School Activities Association Since 1918

OREGON SCHOOL BOARDS ASSOCIATION

In the fall of 2001, high-school quarterback Max Conradt, 17, sustained a concussion during a game. With no medical confirmation that his first concussion had cleared, Max started in the next game. He collapsed at halftime due to massive bleeding in his brain even though no remarkable hits were observed. Three critical brain surgeries saved his life, but he continued in a coma for three months. Once he became physically stable, Max began a long period of rehabilitation in several institutions. He now lives in a group home for individuals with brain injuries in Salem. The Max's Law Implementation Guide is dedicated to Max Conradt—and to all Oregon students who play sports.

Max Conradt and Governor Kulongowski at the signing of Max's Law.

Oregon Concussion Awareness and Management Program members:

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Angie Webster, RN, MPH, Coos Bay School District
Tom Welter, Executive Director, Oregon School Activities Association

Please direct all questions and requests for more information to:

cbirt
Center on Brain Injury Research and Training
541-346-0593 or 877-872-7246
tbiteam@wou.edu
www.cbirt.org

MAX'S LAW: Executive Summary

Max's law (OAR 581-022-0421) requires Oregon school districts to implement new concussion management guidelines for student athletes in 2010–2011. This packet provides school administrators with information and resources about concussion. Successful concussion management policies follow the Recognize, Remove, Refer, Return protocol.

RECOGNIZE

All coaches must receive annual training in recognizing the symptoms of concussion.

REMOVE

Students suspected of having a concussion must be removed from play.

REFER

Students suspected of sustaining a concussion must be evaluated by a properly trained medical professional.

RETURN

A student may return to play when all symptoms have resolved, at least one day has elapsed since the injury, and a medical release has been obtained.

BEST PRACTICE

Beyond the minimum legal requirements, best practice suggests:

1. Train all school staff, student athletes, and their parents in concussion management. Extending training beyond the coaching staff can ensure prudent return-to-play/academics decisions and cooperation from all stakeholders.
2. Develop a clear district-wide policy. Explicit policy guidelines can protect coaches, students, and administrators from backlash for unpopular decisions regarding removal from play.
3. Return the student to full activity using an individualized graduated plan to guard against symptom exacerbation or second injury.

Straight talk about concussion: It's a brain injury. It's serious.

What is concussion?

Only recently have we begun to understand what occurs to the brain during a concussion. In the past, people used the analogy that a concussion was a "bruise to the brain." It is actually a very complex physiologic event. Common sports injuries such as torn ligaments and broken bones are structural injuries that can be seen on x-rays or felt during an examination. A concussion, however, affects how the brain works. It's a problem of function, not structure. That is why brain CT scans and MRI results are normal with most concussions. A concussion is not an injury that can be seen.

New research shows that any concussion, including a "ding" or "bell-ringer," is a traumatic brain injury (TBI) that needs to be taken seriously.

Even what appears to be a mild jolt or blow to the head or body may cause the brain to shift or rotate suddenly within the skull. This sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. These chemical changes result in physical, emotional, and cognitive symptoms (see the symptom checklist for common signs/symptoms of concussion). Once these changes occur, the brain is vulnerable to further injury and sensitive to any increased stress until it fully recovers. Studies suggest that it usually takes brain cells about three weeks to regain normal function, but it may take even longer.

Although most common in sports such as football, soccer, and basketball, concussion or mild TBI can occur in any sport or physical activity (for example, in a physical education class). Importantly, loss of consciousness is not required to have a concussion; in fact, ***less than 10 percent of athletes with concussion are "knocked out."***

Young athletes appear to be particularly vulnerable to the effects of concussion. They are more likely than older athletes to experience problems after concussion and often take longer to recover. Teenagers also appear to be more prone to a second injury to the brain that occurs while the brain is still healing from an initial concussion. This second impact can result in long-term impairment **or even** death. The importance of proper recognition and management of concussed young athletes cannot be over-emphasized.

It is most effective to have a school-based team coordinate implementation of a school's concussion management policy. Ideally, a school's Concussion Management Team would include all stakeholders involved in the medical, athletic, and academic aspects of the concussion management process: a school administrator, athletic director, certified athletic trainer, school nurse, school psychologist, counselor, teachers, and coach.

Max's Law = The goal of effective concussion management is to protect athletes and return them safely to academics and athletics. A successful concussion management policy includes the following components:

RECOGNIZE :: REMOVE :: REFER :: RETURN

Each school district shall ensure that all coaches receive annual training to learn how to recognize the symptoms of concussion and how to seek proper medical treatment for a person suspected of having a concussion [OAR #581-022-0421–2d & 3 a-c]

RECOGNIZE

Make sure all stakeholders know symptoms.

Train coaches

Make sure that all coaches in your district/school complete the annual training provided by Oregon State Activities Association (OSAA) prior to their sport season. Document all training and keep the documentation on file.
Coaches can access free training and receive a certificate at the OSAA website:
http://www.osaa.org/healthandsafety/concussion.asp

Train athletes and their parents

Although not required by the law, best practice suggests that athletes and their parents should also know the symptoms of concussion, the importance of reporting a concussion when it is suspected, and what to do to aid recovery and return safely to athletics and academics.

Resources for parents and youth are listed in the ***Information for Parents and Students*** section of this binder.

Train school staff

Although Oregon law does not mandate training school staff who are not coaches, best practice suggests that all school staff should be knowledgable about the signs and symptoms of concussion. A concussion is a traumatic brain injury that affects a student's ability to learn while symptoms are present and may require individualized learning accommodations.

Resources for educators on concussion and educational accommodations are listed in the ***Information for Educators*** section of this binder.

SIGNS OBSERVED

- Appears dazed or stunned
- Is confused about assignment
- Forgets plays
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

SYMPTOMS REPORTED

- Headache
- Nausea
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish
- Feeling foggy or groggy
- Concentration or memory problems
- Confusion

A coach may not allow a member of a school athletic team to participate in any athletic event or training on the same day that the member (of the team): Exhibits signs, symptoms, or behaviors consistent with a concussion following an observed or suspected blow to the head or body; or has been diagnosed with concussion. [OAR #581-022-0421–2fA&B]

REMOVE

Sound policy will support decisions.

Develop and put into place a sound concussion management policy for your school and/or district.

Proper concussion recognition and management may lead to difficult and unpopular decisions. Parents and coaches may strongly disagree with some decisions and there may even by varying opinions by healthcare professionals regarding whether an athlete should be playing. To limit conflict and avoid further disagreements, proper concussion recognition and management needs to be backed up by sound policy and administrative support. At a minimum, clear guidelines should be specified for: (1) coach training, (2) recognition and removal protocol, (3) medical referral protocol, (4) documentation of the concussion incidence and follow-up, and (5) protocol for return-to-athletics and return-to-academics.

The ***Concussion Management Policy & Procedures*** section includes a sample concussion management policy you can use to craft a concussion management policy statement.

RECOGNIZE :: REMOVE :: REFER :: RETURN

"Proper medical treatment" means treatment provided by a licensed health care professional which is within their scope of practice.

"Health Care Professional" means a physician (MD), physician's assistant (PA),doctor of osteopathy (DO) licensed by the Oregon State Board of Medicine; or nurse practitioner licensed by the Oregon State Board of Nursing. [OAR #581-022-0421–1d&e]

REFER

For medical clearance, the student must be seen by an appropriately trained health care professional.

Parents may take the student to a health care professional of their choice in the approved disciplines to complete the medical clearance form.

This will typically be the student's primary care provider. Approved professionals include: physician (MD), physician's assistant (PA), doctor of osteopathic medicine (DO) licensed by the Oregon State Board of Medicine; or nurse practitioner licensed by the Oregon State Board of Nursing.

It is important that your concussion policy designate a Concussion Team Leader who can communicate with the community health care provider. Potential individuals to fulfill this role are a school psychologist, counselor, school nurse, or athletic trainer. The Concussion Team Leader can maintain a link with the health care provider and obtain information from the student-athlete, family, and teachers. This information will be used to help determine when the athlete is ready to begin the graduated return to activity process.

RECOGNIZE :: REMOVE :: REFER :: RETURN

A coach may allow a member of a school athletic team who is prohibited from participating in an athletic event or training no sooner than the day after the member experienced a blow to the head or body and only after the member receives a medical release from a health care professional and no longer exhibits signs, symptoms, or behaviors consistent with concussion.
[OAR #581-022-0421–2gA&B]

RETURN

Return to school. Return to play.

Making the determination that an athlete is ready to begin implementing the graduated return to activity protocol is a medical decision. However, the school's Concussion Management Team plays a critical role in deciding to return a student to activity—both academics and athletics.

Communication among all members of the team is crucial. The school-based members of the Concussion Management Team will never clear an athlete to begin implementing the graduated return to activity protocol without the approval of the athlete's health care provider. However, the Concussion Management Team has the authority to prevent a student from beginning activity if signs, symptoms, or behaviors of the concussion are still apparent in the academic setting or during physical activity.

Once the student is ready to return to school, providing academic accommodations (e.g., extended time for tests, reduction of make-up work, rest breaks) can prevent exacerbation of symptoms and lead to a quicker and more successful recovery.

Information about educational accommodations/supports following concussion are listed in the ***Information for Educators*** section.

RESOURCES

Although most student athletes recover from concussion within three weeks, a small percentage may have more significant injuries and will need on-going academic support. For more information about sports concussion, traumatic brain injury, and educational accommodations/supports, contact:

cbirt
Center on Brain Injury Research and Training
The Teaching Research Institute, Western Oregon University
tbiteam@wou.edu
541-346-0593 or toll free 877-872-7246

For information about medical providers and where to get medical training, contact:

Michael C. Koester, MD, ATC
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michael.koester@slocumcenter.com

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MAX'S LAW

75th OREGON LEGISLATIVE ASSEMBLY--2009 Regular Session
Enrolled
Senate Bill 348
Sponsored by Senator MORRISETTE (at the request of Brain Injury Association of Oregon)
CHAPTER .....
AN ACT

Relating to safety of school sports; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. (1) As used in this section, "coach" means a person who instructs or trains members on a school athletic team, as identified by criteria established by the State Board of Education by rule.

(2)(a) Each school district shall ensure that coaches receive annual training to learn how to recognize the symptoms of a concussion and how to seek proper medical treatment for a person suspected of having a concussion.

(b) The board shall establish by rule:

(A) The requirements of the training described in paragraph (a) of this subsection, which shall be provided by using community resources to the extent practicable; and

(B) Timelines to ensure that, to the extent practicable, every coach receives the training described in paragraph (a) of this subsection before the beginning of the season for the school athletic team.

(3)(a) A coach may not allow a member of a school athletic team to participate in any athletic event or training on the same day that the member:

(A) Exhibits signs, symptoms or behaviors consistent with a concussion following an observed or suspected blow to the head or body; or

(B) Has been diagnosed with a concussion.

(b) A coach may allow a member of a school athletic team who is prohibited from participating in an athletic event or training, as described in paragraph (a) of this subsection, to participate in an athletic event or training no sooner than the day after the member experienced a blow to the head or body and only after the member:

(A) No longer exhibits signs, symptoms or behaviors consistent with a concussion; and

(B) Receives a medical release form from a health care professional.

SECTION 2. Section 1 of this 2009 Act first applies to the 2010-2011 school year.

SECTION 3. This 2009 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2009 Act takes effect July 1, 2009.

Passed by Senate April 21, 2009
Passed by House May 29, 2009
Received by Governor:
Approved:
.....M.,....., 2009
Governor
Filed in Office of Secretary of State:
.....M.,....., 2009
Secretary of State

Oregon Administrative Rule 581-022-0421

The Oregon Administrative Rules contain OARs filed through July 15, 2010

OREGON DEPARTMENT OF EDUCATION
DIVISION 22
STANDARDS FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOLS

581-022-0421
Safety of School Sports—Concussions

(1) As used in this rule:

(a) "Annual training" means once in a twelve month period.

(b) "Coach" means a person who instructs or trains members on a school athletic team and may be:

(A) A school district employee;

(B) A person who volunteers for a school district

(C) A person who is performing services on behalf of a school district pursuant to a contract.

(c) "Concussion" means exhibiting signs, symptoms or behaviors consistent with a concussion following an observed or suspected blow to the head or body.

(d) "Health Care Professional" means a Physician (MD), Physician's Assistant (PA), Doctor of Osteopathic (DO) licensed by the Oregon State Board of Medicine; or nurse practitioner licensed by the Oregon State Board of Nursing.

(e) "Proper medical treatment" means treatment provided by a licensed health care professional which is within their scope of practice.

(f) "Return to participation" means a student can rejoin the athletic event or training.

(g) "Training timeline" means every coach receives the training prior to the beginning of the season for the school athletic team they are specifically coaching.

(h) "Same day" means the same calendar day on which the injury occurs.

(2) Each school district shall:

(a) Develop a list of coaches.

(b) Identify which community (may include state or national) resources the district will use to provide the training as required in section (3) of this rule.

(c) Develop training timelines for coaches of all school athletic teams.

(d) Ensure coaches receive training once every twelve months.

(e) Develop a tracking system to document that all coaches meet the training requirements of this rule.

(f) Ensure no coach allows a member of a school athletic team to participate in any athletic event or training on the same calendar day that the member:

(A) Exhibits signs, symptoms or behaviors consistent with a concussion following an observed or suspected blow to the head or body; or

(B) Has been diagnosed with a concussion.

(g) Ensure no coach will allow a student who is prohibited from participating in an athletic event or training, as described in section (2)(f), to return to participate in an athletic event or training no sooner than the day after the student experienced a blow to the head or body. The student may not return to participate in an athletic event or training until the following two conditions have been met:

(A) The student no longer exhibits signs, symptoms or behaviors consistent with a concussion; and

(B) The student receives a medical release form from a health care professional.

(3) The training required of coaches under this rules shall include the following:

(a) Training in how to recognize the signs and symptoms of a concussion;

(b) Training in strategies to reduce the risk of concussions;

(c) Training in how to seek proper medical treatment for a person suspected of having a concussion; and

(d) Training in determination of when the athlete may safely return to the event or training.

Stat. Auth: ORS 336.485

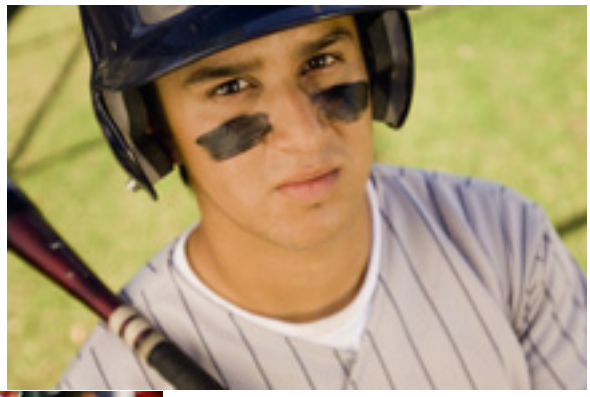
Stat. Implemented: ORS 336.485

Hist.: ODE 13-2010, f. & cert. ef. 6-30-10

Effective Concussion Management Policy

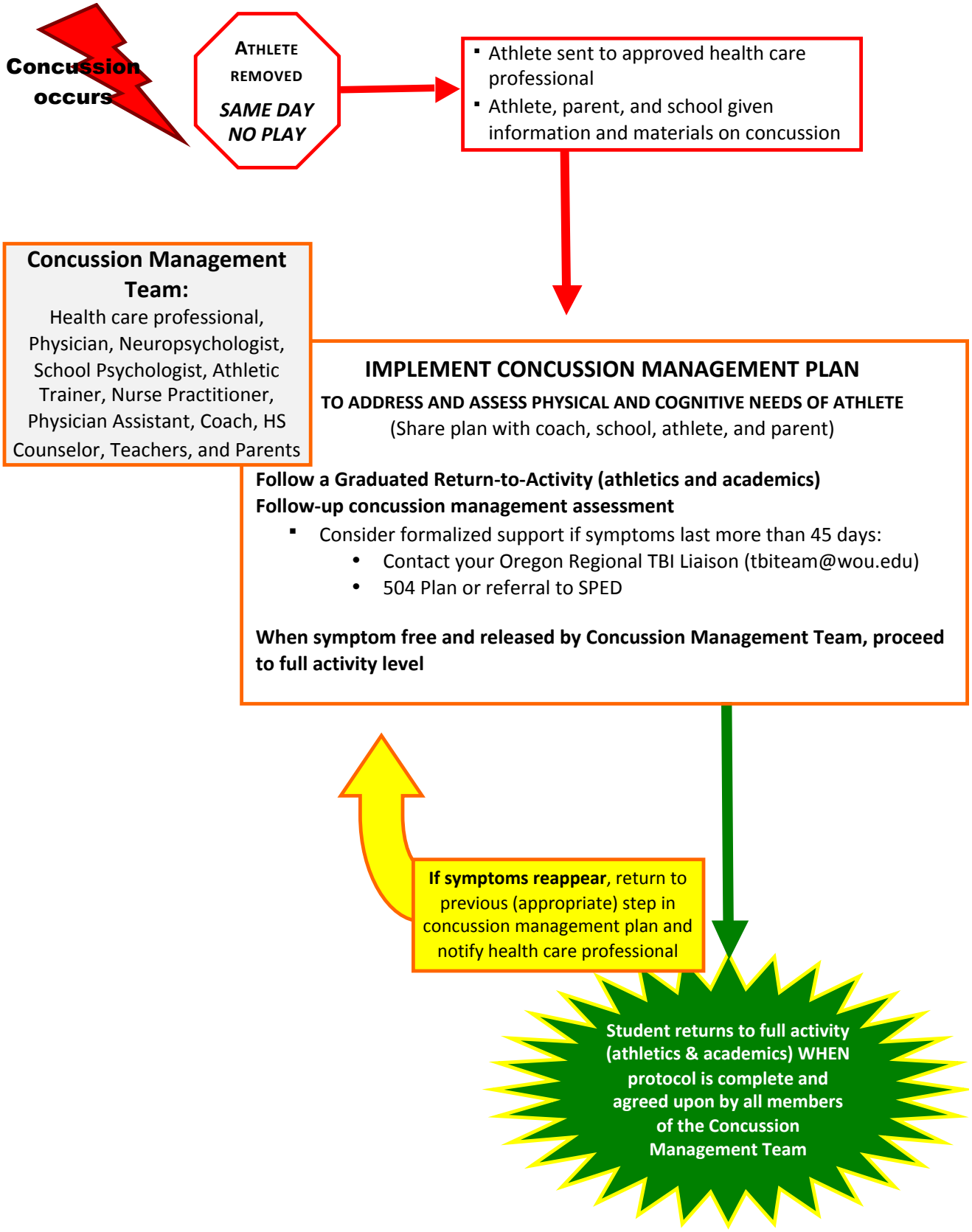
BEST PRACTICE:

An effective policy to address concussion: (a) incorporates new knowledge about concussion as a mild traumatic brain injury (TBI), (b) requires training for all coaches, athletes, parents of athletes, and school staff about concussion management, (c) requires a signed medical release before clearance to play, (d) requires that student be symptom free before final clearance to participate, and (e) requires recommended protocols for return to activity and return to academics. Use Oregon Administrative Rule no. 581-022-0421 and the sample policy in this manual to formulate a policy that works for your school or school district.



Sample Concussion Management Protocol

Developed by OCAMP advisory group June 2010



The School Concussion Management Team—Stakeholders

The School Concussion Management Team (CMT) should be formed to create and implement a concussion management plan with sound procedures that support a concussed student. Here are some suggestions for membership:

Administrator

Administrative support is needed to change the culture around sports concussion, put systems in place to manage concussions effectively, and provide the programs necessary to return students to full activity (athletics and academics) safely.

Athletic Director (AD)

The Athletic Director's leadership is a crucial component of good concussion management. An AD can support coach/athlete/parent training, promote a culture of awareness, ensure the teaching of safe techniques, ensure proper and well maintained equipment, monitor appropriate incident protocols, promote good officiating, and encourage effective tracking of injuries.

Certified Athletic Trainer (ATC)

Certified athletic trainers (ATCs) are medical experts in preventing, recognizing, managing and rehabilitating injuries that result from physical activity. The ATC works under the direction of a licensed physician and in cooperation with other health care professionals, athletic administrators, coaches, and parents.

Coaches

Coaches play a key role in concussion management. They are responsible for pulling an athlete from competition or practice immediately after a concussion. Securing buy-in from the coaching staff is crucial to the success of the return to play protocol. Having a coach serve as the liaison between the CMT and the other coaching staff can help ensure that everyone is on board.

School Counselor

The school counselor is the ideal point-person to inform teachers of needed learning accommodations while the student is symptomatic. They can provide information needed for making decisions about return to activity or for referring the student to more formalized supports such as 504 plans or IEPs.

School Psychologist or Neuropsychologist

Some schools are fortunate enough to have psychologists on staff. School psychologists can help with assessment and test results interpretation. Neuropsychologists have training to interpret more in-depth neurocognitive test results. If not a part of your staff, consider inviting a community resource to your team.

School Nurse

The school nurse works in conjunction with the athletic trainer, school faculty, counselors, and administrators, as well as the student-athlete's physician and family, to provide the best healing environment possible. In the case of a concussion, school nurses need to be able to recognize signs and symptoms, be aware of risks associated with recurrent injury, and make recommendations to student-athletes, parents, and school officials on proper care and recovery.

Teacher

Teachers are critical to student success post-concussion. Teachers need to have a strong understanding of the potential cognitive, behavioral, emotional, and physical symptoms of a concussion. A CMT representative from the teaching staff can work with the student's teachers to ensure appropriate classroom accommodations.

Parent

Consider inviting a parent leader to your team who could be influential with your booster club or athlete parent group.

Student/Athlete

Empowering students to self-assess symptoms and report may be a challenge. Consider inviting an influential student-athlete to your team. Help create an atmosphere of acceptance for concussion, and encourage athletes to report a fellow athlete's symptoms.

Team Medical Provider

In many schools, the team medical provider is a volunteer from the community who offers services to the school at no or minimal charge. It's important that the provider your school works with is appropriately trained in the current knowledge about concussion and the recommended assessment tools. Schools may wish to designate their team medical provider as having the final say for return to play.

Hospital Medical Provider

An effective concussion management plan results from a community-wide effort. It is important that schools and hospital emergency departments build relationships that allow sharing of important information about concussions. Local hospitals may be a source to help schools with funding for computerized neurocognitive baseline assessment programs, such as ImPACT.

Community Medical Provider

Pediatricians, family practitioners, and other community health care providers need to be included in the conversation about community-wide concussion management. A representative from the local medical community can provide guidance to the CMT on how best to improve knowledge about sports related concussion among community health care providers. It is essential that the local health care community is aware of the school's return to play protocol and is committed to working with the school and CMT. This commitment will reduce the likelihood of "doctor shopping" by athletes or parents after a concussion.

RECOGNIZE :: REMOVE :: REFER :: RETURN

Sample Policies

Lewis S. Mills High School, Connecticut Policy
'Smallville' Sample

OCAMP
Oregon Concussion Awareness and Management Program

Lewis S. Mills High School:
"Procedures for Management of Head Injuries"

Our knowledge of head injuries has increased and our treatment has changed in the last two years based on new research. Consequently, the management of even mild head injuries has changed dramatically. We now know that all cognitive and physical exercise increases symptoms and slows recovery. The following are procedures for staff to follow in managing head injuries.

Lewis Mills High School seeks to provide a safe return to activity for all students after injury, particularly after a head injury. In order to effectively and consistently manage these injuries, the Lewis Mills Athletic Department abide by the following procedures that have been developed to aid in insuring that concussed athletes are identified, treated and referred appropriately, receive appropriate follow-up medical care during the school day, including academic assistance, and are fully recovered prior to returning to activity.

In addition to recent research, two (2) primary documents were consulted in developing this protocol. The "Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004" '(referred to in this document as the Prague Statement), and the "National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion" preferred to in this document as the NATA Statement).

This protocol will be reviewed on a yearly basis, by the Lewis Mills medical staff, defined as the Lewis Mills school nurse and the certified athletic trainer. Any changes or modifications will be reviewed and given to athletic department staff and appropriate school personnel in writing.

In addition, all athletic department staff will attend a yearly in-service meeting in which procedures for managing sports-related concussion are discussed.

Adopted on September 1, 2008
Reviewed - June 2009

Contents:

I. Recognition of concussion

A. Common signs and symptoms of concussion

1. Signs (observed by others):
   - Student appears dazed or stunned
   - Contusion (about assignment, plays, etc.)
   - Forgets assignments, plays, etc.
   - Moves clumsily (altered coordination)
   - Balance problems Personality change
   - Responds slowly to questions
   - Loss of consciousness (any duration)

2. Symptoms (reported by student):
   - Headache
   - Fatigue
   - Nausea or vomiting
   - Double vision, blurry vision
   - Sensitive to light (may need to wear sunglasses)
   - Sensitive to noise (no caf, music, assemblies, hall passing)
   - Feels sluggish
   - Feels "foggy"
   - Problems concentrating
3. These signs and symptoms are indicative of probable concussion. Other causes for symptoms should also be considered.

B. Along with above signs and symptoms the athletic department will utilize the following additional measures to evaluate head injuries sustained during Lewis Mills athletic activity.

1. General cognitive status can be determined by simple sideline cognitive testing.
   a. AT may utilize SCAT (Sports Concussion Assessment Tool)[3], SAC, sideline ImPACT, or other standard tool for sideline cognitive testing.
   b. Coaches should utilize the basic UPMC cognitive testing form.

II. ImPACT neuropsychological testing requirements

1. ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing) is a research-based software tool utilized to evaluate recovery after concussion. It was developed at the University of Pittsburgh Medical Center (UPMC). ImPACT evaluates multiple aspects of neurocognitive function, including memory, attention, brain processing speed, reaction time, and post-concussion symptoms.
   a. Neuropsychological testing is utilized to help determine recovery after concussion.
2. All athletes at Lewis Mills High School are required to take a baseline ImPACT test (usually freshman year).
   a. All athletes will view a video presentation entitled: "Heads Up: Concussion in High School Sports", prior to taking the baseline test.
3. Athletes in collision and contact sports (as defined by the American Academy of Pediatrics classifications) are required to take a "new" baseline test their junior year (list collision/contact sports at your school).

Fall:	Winter:	Spring:
B/G Soccer	B/G Basketball	Baseball
Field Hockey	Cheerleading	B/G Lacrosse
Football	Indoor Track	Outdoor Track
Girls Volleyball	(pole vault)	(pole vault)
	Diving	Softball
		Boys Volleyball

4. Any student sustaining a head injury outside of Lewis Mills High School athletic participation may receive post injury ImPACT testing through the Lewis Mills athletic department per parental/physician request.

III. Management and Referral Guidelines for All Staff

A. Suggested Guidelines for Management of head injuries

1. Any student with a witnessed loss of consciousness (LOG) of any duration should be and transported immediately to nearest emergency department via emergency vehicle.
2. Any student who has symptoms of a concussion, and who is not stable (i.e., condition is

changing or deteriorating), is to be transported immediately to the nearest emergency department via emergency vehicle.

3. An student who is symptomatic but stable, may be transported by his or her parents. The parents should be advised to contact the athlete's primary care physician, or seek care at the nearest emergency department, on the day of the injury.
    a. ALWAYS give parents the option of emergency transportation, even if you do not feel it is necessary.

III. Procedures for the Certified Athletic Trainer (AT) **specific to injuries sustained during Lewis Mills athletic participation**

A. The AT will assess the injury, or provide guidance to the coach if unable to personally attend to the athlete.
    1. Immediate referral to the athlete's primary care physician or to the hospital will be made when medically appropriate (see section II).
    2. The AT will perform serial assessments following recommendations in the NATA Statement, and utilize the SCAT (Sport Concussion Assessment Tool), as recommended by the Prague Statement, or sideline ImPACT, if available.
        a. The Athletic Trainer will notify the athlete's parents and give written and verbal home and follow-up care instructions.

B. The AT will notify the school nurse of the injury, prior to the next school day, so that the school RN can initiate appropriate follow-up in school immediately upon the athlete's return to school.
    1. The AT will continue to provide coordinated care with the school RN, for the duration of the injury.

C. The AT is responsible for administering post-concussion ImPACT testing.
    1. The initial post-concussion test will be administered within 48-72 hours post injury, whenever possible.
        a. Repeat post-concussion tests will be given an appropriate intervals, dependent upon clinical presentation.
    2. The AT will review post-concussion test data with the athlete and the athlete's parent.
    3. The AT will forward testing results to the athlete's treating physician, with parental permission and a signed release of information form.
    4. The AT or the athlete's parent may request that a neuropsychological consultant review the test data. The athlete's parents will be responsible for charges associated with the consultation.
    5. The AT will monitor the athlete, and keep the School Nurse informed of the individual's symptomatology and neurocognitive status, for the purposes of developing or modifying an appropriate health care plan for the student-athlete.
    6. The AT is responsible for monitoring recovery and coordinating the appropriate return to play activity progression.
    7. The AT will maintain appropriate documentation regarding assessment and management of the injury.

IV. Guidelines and procedures for coaches:

RECOGNIZE. REMOVE. REFER

A. Recognize concussion
    1. All coaches should become familiar with the signs and symptoms of concussion that are described in section I.
    2. Very basic cognitive testing should be performed to determine cognitive deficits.

B. Remove from activity

1. If a coach suspects the athlete has sustained a concussion, the athlete should be removed from activity until evaluated medically.

Any athlete who exhibits signs or symptoms of a concussion should be removed immediately, assessed, and <u>should not</u> be allowed to return to activity that day.

C. <u>Refer</u> the athlete for medical evaluation

1. Coaches should report all head injuries to the Lewis Mills Certified Athletic Trainer (AT), as soon as possible, for medical assessment and management, and for coordination of home instructions and follow-up care.
    a. The AT can be reached at: by Walkie Talkie or 673-0423 ext 5601
    b. The AT will be responsible for contacting the athlete's parents and providing follow-up instructions.
2. Coaches should seek assistance from the host site AT if at an away contest.
3. If the Lewis Mills AT is unavailable, or the athlete is injured at an away event, the coach is responsible for notifying the athlete's parents of the injury.
    a. Contact the parents to inform them of the injury and make arrangements for them to pick the athlete up at school.
    b. Contact the AT at the above number, with the athlete's name and home phone number, so that follow-up can be initiated.
    c. Remind the athlete to report directly to the school nurse before school starts, on the day he or she returns to school after the injury.
4. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home (rather than directly to MD):
    a. The Coach or AT should insure that the athlete will be with an emergency contact, who is capable of monitoring the athlete and understanding the home care instructions, before allowing the athlete to go home.
    b. The Coach or AT should continue efforts to reach the parent.
    c. If there is any question about the status of the athlete, or if the athlete is not able to be monitored appropriately, the athlete should be referred to the emergency department for evaluation.
    d. Athletes with suspected head injuries should not be permitted to drive home.

V. FOLLOW-UP CARE OF THE STUDENT DURING THE SCHOOL DAY

A. <u>Responsibilities of the school nurse after notification of student's bead injury</u>

1. The student will be instructed to report to the school nurse upon his or her return to school. At that point, the school nurse will:
    a. re-evaluate the student following school nurse standing orders.
    b. provide an individualized health care plan based on both the student's current condition, and initial injury information provided by the parent, AT and/or physician.
2. Notify the student's guidance counselor and teachers of the injury immediately via the individualized health care plan form.
3. Notify the student's P.E. teacher immediately if the student is restricted from all physical activity until further notice.
4. If the school RN receives notification of a student-athlete who has sustained a concussion from someone other than the AT (athlete's parent, athlete, physician note), the AT should be notified as soon as possible, so that an appointment for ImPACT testing can be made.
5. Monitor the student on a regular basis during the school day.

B. <u>Responsibilities of the student's guidance counselor</u>

1. Monitor the student closely and recommend appropriate academic accommodations for

students who are exhibiting symptoms of post-concussion syndrome.

2. Communicate with school health office on a regular basis, to provide the most effective care for the student.
3. Any adjustments to the students academic program or requirements must be approved by the administration.

VI. RETURN TO PLAY (RTP) PROCEDURES AFTER CONCUSSION

A. Returning to participate on the same day of injury

1. As previously discussed in this document, an athlete who exhibits signs or symptoms of concussion, or has abnormal cognitive testing, should not be permitted to return to play on the day of the injury. Any athlete who denies symptoms but has abnormal sideline cognitive testing should be held out of activity.
2. "When in doubt, hold them out."

B. Return to play after concussion

1. The athlete must meet all of the following criteria in order to progress to activity:
    a. Asymptomatic at rest and with exertion (including mental exertion in school) AND:
    b. Within normal range of baseline on post-concussion ImPACT testing AND:
    c. Have written clearance from primary care physician or specialist (athlete must be cleared for progression to activity by a physician other than an Emergency Room physician).
2. Once the above criteria are met, the athlete will be progressed back to full activity following a stepwise process, (as recommended by both the Prague and NATA Statements), under the supervision of the AT.
3. Progression is individualized, and will be determined on a case by case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport should be progressed more slowly.
4. Stepwise progression as described in the Prague Statement:
    a. No activity - do not progress to step 2 until asymptomatic
    b. Light aerobic exercise - walking, stationary bike
    c. Sport-specific training (e.g., skating in hockey, running in soccer)
    d. Non-contact training drills
    e. Full-contact training after medical clearance
    f. Game play

    Note: If the athlete experiences post-concussion symptoms during any phase, the athlete should drop back to the previous asymptomatic level and resume the progression after 24 hours.
5. The AT and athlete will discuss appropriate activities for the day. The athlete and coach will be given verbal instructions regarding permitted activities. The AT will keep written documentation of daily instructions.
6. The athlete should see the AT daily for re-assessment and instructions until he or she, has progressed to unrestricted activity, and been given a written report to that effect, from the AT.

[1] McCrory P, et al. Summary and Agreement Statement of the 2nd International Conference on Concussion in Sport, Prague 2004. *ClinJSports Med* 2005; 15(2):48-55.

[2] Guskiewicz KM, et al. National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion. *JAthl Train.* 2004;39(3):280-297.

[3] McCrory P, et al

Smallville School District
Management of Sports-Related Concussions
SAMPLE POLICY

Smallville School District (SSD) has developed this protocol to educate coaches, school personnel, parents, and athletes about appropriate concussion management. This protocol outlines procedures for staff to follow in managing concussions and outlines school policy as it pertains to return to play issues following a concussion.

A safe return-to activity protocol is important for all athletes following any injury, but it is essential after a concussion. The following procedures have been developed to ensure that concussed athletes are identified, treated, and referred appropriately. Consistent application of this protocol will ensure the athlete receives appropriate follow-up medical care and/or academic accommodations and ensures the athlete is fully recovered prior to returning to activity.

This protocol will be reviewed annually by SSD's concussion management team. Changes or modifications will be reviewed, and written notification will be provided to the athletic department staff, including coaches and other appropriate school personnel.

All athletic department staff will be required to attend a yearly in-service meeting to review procedures for managing sports-related concussions.

Recognition of Concussion

These signs and symptoms—following a witnessed or suspected blow to the head or body—are indicative of probable concussion.

Signs (observed by others):	**Symptoms** (reported by athlete):
Appears dazed or stunned	Headache
Exhibits confusion	Fatigue
Forgets plays	Nausea or vomiting
Unsure about game, score, opponent	Double vision, blurry vision
Moves clumsily (altered coordination)	Sensitive to light or noise
Balance problems	Feels sluggish
Personality change	Feels "foggy"
Responds slowly to questions	Problems concentrating
Forgets events prior to hit	Problems remembering
Forgets events after the hit	
Loss of consciousness (any duration)	

Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion must be removed immediately from the competition or practice and will not be allowed to return to play until cleared by an appropriate health care professional (per Max's Law, approved by Oregon Legislature in 2009).

Management and Referral Guidelines for All Staff

1. The following situations indicate a medical emergency and require activation of the Emergency Medical System:
    a. Any athlete with a witnessed loss of consciousness (LOC) of any duration should be spine boarded and transported immediately to nearest emergency department via emergency vehicle.
    b. Any athlete who has symptoms of a concussion and who is not stable (i.e., condition is worsening) is to be transported immediately to the nearest emergency department via emergency vehicle.
    c. An athlete who exhibits any of the following symptoms should be transported immediately to the nearest emergency department, via emergency vehicle:
        - deterioration of neurological function
        - decreased level of consciousness
        - decrease or irregularity in respirations
        - any signs or symptoms of associated injuries, spine or skull fracture, or bleeding
        - mental status changes: lethargy, difficulty maintaining arousal, confusion, or agitation
        - seizure activity.
2. An athlete who is symptomatic but stable (not worsening), may be transported by his/her parents. The parents should be advised to contact the athlete's primary care provider or seek care at the nearest emergency department on the day of the injury.

Guidelines and Procedures for Coaches:

Recognize concussion

1. All coaches should become familiar with the signs and symptoms of concussion that are described above.
2. Annual training will occur for coaches of every sport.

Remove from activity

Any athlete who exhibits signs, symptoms, or behaviors consistent with a concussion (such as LOC, headache, dizziness, confusion, or balance problems) must be removed immediately from the competition or practice and not allowed to return to play until cleared by an appropriate health care professional.

When in doubt, sit them out!

Refer the athlete for medical evaluation

1. The coach is responsible for notifying the athlete's parents of the injury.
    a. Contact the parents to inform them of the injury. Depending on the injury, an emergency vehicle or the parents will transport the athlete from the event.
    b. In the event that an athlete's parents cannot be reached, and the athlete is able to be sent home (rather than transported directly to a medical facility):

- The coach should ensure that the athlete will be with a responsible individual, who is capable of monitoring the athlete and understanding the home care instructions, before allowing the athlete to leave.
- The coach should continue efforts to reach a parent.

Athletes with a suspected head injury should not be permitted to drive home.

c. If there is any question about the athlete being monitored appropriately, a coach or designated adult should accompany the athlete and remain with the athlete until a parent arrives.

2. If at an away competition, the coach should seek assistance from the host site certified athletic trainer (ATC) or team physician.

Follow-Up Care of the Athlete during the School Day

Responsibilities of the Concussion Management Team after notification of student's concussion:

1. The athlete will be instructed to report to the school nurse or other trained designee from the Concussion Management Team upon his or her return to school. At that point, the school nurse will:
    - Re-evaluate the athlete using a graded symptom checklist.
    - Provide an individualized health care plan based on both the athlete's current condition and initial injury information provided by the parent.
2. Notify the student's counselor and teachers of the injury immediately.
3. Notify the student's P.E. teacher immediately that the athlete is restricted from all physical activity until cleared by his or her treating physician.
4. Monitor the athlete on a regular basis throughout the school day.
5. If the student's symptoms are expected to last 45 days or longer and there is a need for ongoing support, notify your Oregon Regional TBI Liaison (tbiteam@wou.edu).

Responsibilities of the student's counselor or designee:

1. Monitor the student closely and recommend appropriate academic accommodations for students who are exhibiting symptoms of concussion.
2. Communicate with school nurse or Concussion Management Team Leader on a regular basis to provide the most effective care for the student.

Return to Play (RTP) Procedures after Concussion

1. Return to activity and play is a medical decision. The athlete must meet all of the following criteria in order to progress to activity:
    - Asymptomatic at rest and with exertion (including mental exertion in school)

AND

    - Have written clearance from a physician (MD), physician's assistant (PA), or doctor of osteopathic medicine (DO) licensed by the Oregon State Board of

Medicine, or nurse practitioner licensed by the Oregon State Board of Nursing, in accordance with OAR # 581-022-0421.

2. Once the above criteria are met, the athlete will be progressed back to full activity following the step-wise process detailed below. (This progression must be closely supervised by a Certified Athletic Trainer. If your school does not have an athletic trainer, then the coach must have a detailed plan to follow as directed by the athlete's physician).
3. Progression is individualized and will be determined on a case by case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may be progressed at a slower rate.
4. The stepwise progression is described below:

Step 1.	**Complete cognitive rest.** This may include staying home from school or limiting school hours (and studying) for several days. Activities requiring concentration and attention may worsen symptoms and delay recovery.
Step 2.	**Return to school full-time.**
Step 3.	**Light exercise**. This step cannot begin until the athlete is no longer having concussion symptoms and is cleared by a physician for further activity. At this point the athlete may begin walking or riding an exercise bike. No weight-lifting.
Step 4.	**Running in the gym or on the field.** No helmet or other equipment.
Step 5.	**Non-contact training drills in full equipment.** Weight-training can begin.
Step 6.	**Full contact practice or training.** Must be cleared by an approved health care provider before returning to play.
Step 7.	**Play in game.**

The athlete should spend 1 to 2 days at each step before advancing to the next. If post concussion symptoms occur at any step, the athlete must stop the activity, and the treating physician must be contacted. Depending upon the specific type and severity of the symptoms, the athlete may be told to rest for 24 hours and then resume activity at a level one step below where he or she was when the symptoms occurred.

SAMPLE RETURN TO ACTIVITY DOCUMENTATION

Student:		**Coach:**	
Parent/Guardian:		**Sport:**	
Phone Number:		**Date of Injury:**	____/____/____
School Counselor:		**Cause of Injury:**	

At the time of a suspected concussion:

- ❑ The athlete is removed from participation (athletics, PE class, weight training, etc).
- ❑ Coach/Athletic Director contacted the parent/guardian.
- ❑ Parent/Guardian received concussion information & medical clearance form for return to participation.

Following Concussion:

- ❑ Coach/Athletic Director contacted the Concussion Management Team.
- ❑ A member from the Concussion Management Team followed-up with parent to: check on athlete's status, review next steps to return-to-participation, and answer any questions.
- ❑ A member from the Concussion Management Team administered symptom checklist to the student athlete—record below
  date ___/___/___ score _____

IF Student is experiencing symptoms:

- ❑ Concussion Management Team monitored return-to-academics graduated steps and accommodation as needed
  - ❑ Counselor contacted
  - ❑ Email sent to teachers
  - ❑ Accommodations sent to teachers
- ❑ Continue to monitor symptom checklist—record below

  date ___/___/___ score _____

  date ___/___/___ score _____

  date ___/___/___ score _____

NOTE: If symptoms are present for more than 45 days please contact your Regional TBI Liaison.

WHEN Student is symptom free:

- ❑ Parent/Guardian obtained signature for release from licensed health care provider (physician (MD), physician's assistant (PA), doctor of osteopathic medicine (DO), or nurse practitioner).
  Date received ___/___/___
- ❑ The athlete may proceed to Stages 3–5 of Return-to-Play Protocol providing he/she remains symptom free.

3–Light aerobic activity date ___/___/___

4–Sport-specific exercise date ___/___/___

5–Non-contact training drills date ___/___/___

WHEN medical clearance form is received AND symptom checklist has returned to baseline

- ❑ Concussion Team approved progression to Stages 6 and 7 of Return-to-Play Protocol providing he/she remains symptom free.

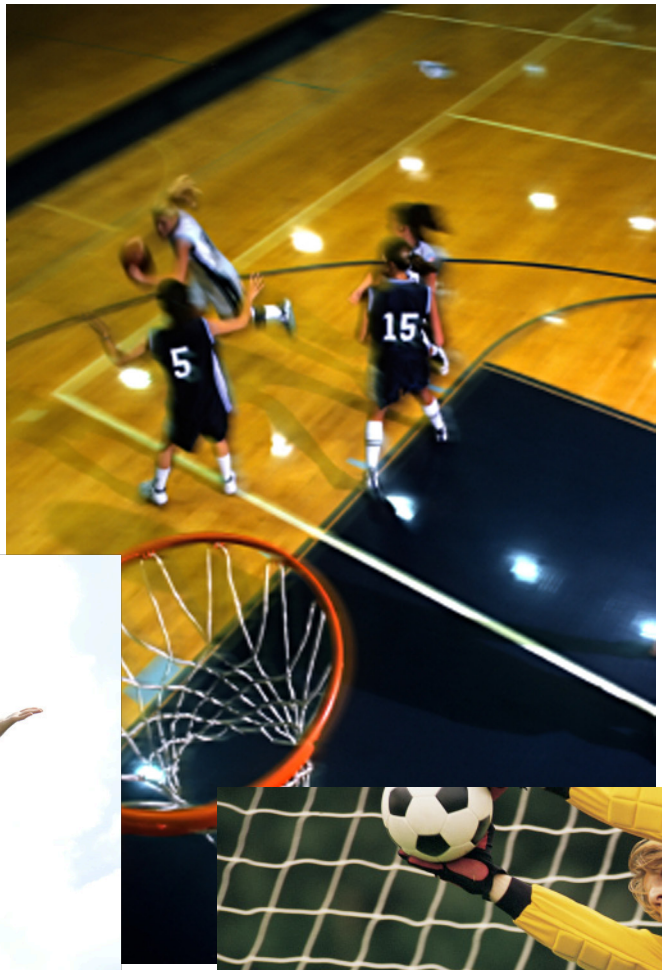
6–Full-contact practice date ___/___/___

7–Return to Play date ___/___/___

Coaches—Concussion Management

BEST PRACTICE:

In recognition of the frequent and potentially serious complications of sports-related concussion, Oregon law requires schools to follow a specified Return-to-Play Protocol. Because the role of the coach in concussion management is critical, annual training about the symptoms and management of sports concussion is mandatory. This section includes information and resources for coaches about recognition and management of concussion.



OSAA Sideline Concussion Guide

Signs and Symptoms of a Concussion

One or more of these signs or symptoms may indicate that an athlete has a concussion. Any of the symptoms listed in this table should be taken seriously. Athletes who experience these signs or symptoms after a bump, blow, or jolt to the head should be kept from play until cleared by a health care professional.

SIGNS OBSERVED	SYMPTOMS REPORTED
Appears dazed or stunned	Headache
Is confused about assignment	Nausea
Forgets plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or fuzzy vision
Moves clumsily	Sensitivity to light or noise
Answers questions slowly	Feeling sluggish
Loses consciousness	Feeling foggy or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit or fall	Confusion
Can't recall events after hit or fall	

When a Concussion Occurs

If you suspect that an athlete has a concussion, take the following steps:

1. Immediately remove the athlete from play. Athletes who experience signs or symptoms of concussion should not be allowed to return to play. ***When in doubt, keep them out.***
2. Ensure that the athlete is evaluated by an appropriate health care professional. Do not try to judge the severity of the injury yourself.
3. Inform the athlete's parents or guardians about the known or possible concussion. Make sure they know that the athlete should be seen by a health care professional.
4. Allow the athlete to return to play only with permission from an appropriate Health Care Professional. Any athlete who continues to have the above signs or symptoms upon return to activity must be removed from play and re-evaluated by their health care provider.

This information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the OSAA's Medical Aspects of Sports Committee. Please go to www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm for more information.

RETURN TO PLAY—Protocol After Concussion

Return to activity and play is a medical decision. The athlete must meet all of the following criteria in order to progress to activity:

1. Asymptomatic at rest and with exertion (including mental exertion in school).
2. Written clearance from a licensed healthcare provider (physician (MD), physician's assistant (PA), doctor of osteopathic medicine (DO), or nurse practitioner).

Once the above criteria are met, the athlete will be progressed back to full activity following the stepwise process detailed below. A Certified Athletic Trainer must closely supervise this progression. If your school does not have an athletic trainer, then the coach must have a very specific plan to follow as directed by the athlete's physician.

Progression is individualized and will be determined on a case-by-case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may be progressed more slowly. The stepwise progression is described below:

Step 1. **Complete cognitive rest.** This may include staying home from school or limiting school hours (and studying) for several days. Activities requiring concentration and attention may worsen symptoms and delay recovery.

Step 2. **Return to school full-time.** (Learning accommodations may be required.)

Step 3. **Light exercise.** This step cannot begin until the athlete is no longer having concussion symptoms and is cleared by a physician for further activity. At this point the athlete may begin walking or riding an exercise bike. No weight lifting.

Step 4. **Running in the gym or on the field.** No helmet or other equipment.

Step 5. **Non-contact training drills in full equipment.** Weight training can begin.

Step 6. **Full contact practice or training.** Must be cleared by physician before returning to play.

Step 7. **Play in game.**

The athlete should spend 1 to 2 days at each step before advancing to the next. If post concussion symptoms occur at any step, the athlete must stop the activity and the treating physician must be contacted. Depending upon the specific type and severity of the symptoms, the athlete may be told to rest for 24 hours and then resume activity at a level one step below where he or she was when the symptoms occurred.

RECOGNIZE :: REMOVE :: REFER :: RETURN

POST-CONCUSSION SYMPTOM CHECKLIST

Name: _____ Date: ____/____/_____

Instructions: For each item please indicate how much the symptom has bothered you over the ***past 2 days***

Symptoms		none	mild		moderate		severe	
Physical	Headache	0	1	2	3	4	5	6
	Nausea	0	1	2	3	4	5	6
	Vomiting	0	1	2	3	4	5	6
	Balance Problem	0	1	2	3	4	5	6
	Dizziness	0	1	2	3	4	5	6
	Visual Problems	0	1	2	3	4	5	6
	Fatigue	0	1	2	3	4	5	6
	Sensitivity to Light	0	1	2	3	4	5	6
	Sensitivity to Noise	0	1	2	3	4	5	6
	Numbness/Tingling	0	1	2	3	4	5	6
	Pain other than Headache	0	1	2	3	4	5	6
Thinking	Feeling Mentally Foggy	0	1	2	3	4	5	6
	Feeling Slowed Down	0	1	2	3	4	5	6
	Difficulty Concentrating	0	1	2	3	4	5	6
	Difficulty Remembering	0	1	2	3	4	5	6
Sleep	Drowsiness	0	1	2	3	4	5	6
	Sleeping Less than Usual	0	1	2	3	4	5	6
	Sleeping More than Usual	0	1	2	3	4	5	6
	Trouble Falling Asleep	0	1	2	3	4	5	6
Emotional	Irritability	0	1	2	3	4	5	6
	Sadness	0	1	2	3	4	5	6
	Nervousness	0	1	2	3	4	5	6
	Feeling More Emotional	0	1	2	3	4	5	6

Exertion: Do these symptoms worsen with:

Physical Activity ❍ Yes ❍ No ❍ Not applicable

Thinking/Cognitive Activity ❍ Yes ❍ No ❍ Not applicable

Overall Rating: How different is the person acting compared to his/her usual self?

Same as Usual 0 1 2 3 4 5 6 Very Different

Activity Level: Over the past two days, compared to what I would typically do, my level of activity has been _____% of what it would be normally.

SIGNS AND SYMPTOMS OF CONCUSSION

Concussions can appear in many different ways. Listed below are some of the signs and symptoms frequently associated with concussions. Most signs, symptoms and abnormalities after a concussion fall into the four categories listed below. A coach, parent or other person who knows the athlete well can often detect these problems by observing the athlete and/or by asking a few relevant questions of the athlete, official or a teammate who was on the field or court at the time of the concussion. Below are some suggested observations and questions a non-medical individual can use to help determine whether an athlete has suffered a concussion and how urgently he or she should be sent for appropriate medical care.

1. **PROBLEMS IN BRAIN FUNCTION:**
   a. Confused state – dazed look, vacant stare or confusion about what happened or is happening.
   b. Memory problems – can't remember assignment on play, opponent, score of game, or period of the game; can't remember how or with whom he or she traveled to the game, what he or she was wearing, what was eaten for breakfast, etc.
   c. Symptoms reported by athlete – Headache, nausea or vomiting; blurred or double vision; oversensitivity to sound, light or touch; ringing in ears; feeling foggy or groggy; dizziness.
   d. Lack of sustained attention – difficulty sustaining focus adequately to complete a task, a coherent thought or a conversation.

2. **SPEED OF BRAIN FUNCTION:** Slow response to questions, slow slurred speech, incoherent speech, slow body movements and slow reaction time.

3. **UNUSUAL BEHAVIORS:** Behaving in a combative, aggressive or very silly manner; atypical behavior for the individual; repeatedly asking the same question over and over; restless and irritable behavior with constant motion and attempts to return to play; reactions that seem out of proportion and inappropriate; and having trouble resting or "finding a comfortable position."

4. **PROBLEMS WITH BALANCE AND COORDINATION:** Dizziness, slow clumsy movements, inability to walk a straight line or balance on one foot with eyes closed.

IF NO MEDICAL PERSONNEL ARE ON HAND AND AN INJURED ATHLETE HAS ANY OF THE ABOVE SYMPTOMS, HE OR SHE SHOULD BE SENT FOR APPROPRIATE MEDICAL CARE.

CHECKING FOR CONCUSSION

The presence of any of the signs or symptoms that are listed in this brochure suggest a concussion has most likely occurred. In addition to observation and direct questioning for symptoms, medical professionals have a number of other instruments to evaluate attention, processing speed, memory, balance, reaction time, and ability to think and analyze information (called executive brain function). These are the brain functions that are most likely to be adversely affected by a concussion and most likely to persist during the post concussion period.

If an athlete seems "clear" he or she should be exercised enough to increase the heart rate and then evaluate if any symptoms return before allowing that athlete to practice or play.

Computerized tests that can evaluate brain function are now being used by some medical professionals at all levels of sports from youth to professional and elite teams. They provide an additional tool to assist physicians in determining when a concussed athlete appears to have healed enough to return to school and play. This is especially helpful when dealing with those athletes denying symptoms in order to play sooner.

For non-medical personnel, the Centers for Disease Control and Prevention (CDC) has also developed a tool kit ("Heads Up: Concussion in High School Sports"), which has been made available to all high schools, and has information for coaches, athletes and parents. The NFHS is proud to be a co-sponsor of this initiative.

PREVENTION

Although all concussions cannot be prevented, many can be minimized or avoided. Proper coaching techniques, good officiating of the existing rules, and use of properly fitted equipment can minimize the risk of head injury. Although the NFHS advocates the use of mouthguards in nearly all sports and mandates them in some, there is no convincing scientific data that their use will prevent concussions.

Prepared by NFHS Sports Medicine Advisory Committee. 2009

References:

NFHS. Concussions. 2008 NFHS Sports Medicine Handbook (Third Edition). 2008: 77-82.
NFHS. http://www.nfhs.org.

National Federation of State High School Associations
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www.nfhs.org

National Federation of State High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

EVEN SEEMINGLY MINOR CONCUSSIONS CAN HAVE DEVASTATING RESULTS

INTRODUCTION

Concussions are a common problem in sports and have the potential for serious complications if not managed correctly. Even what appears to be a "minor ding or bell ringer" has the real risk of catastrophic results when an athlete is returned to action too soon. The medical literature and lay press are reporting instances of death from "second impact syndrome" when a second concussion occurs before the brain has recovered from the first one regardless of how mild both injuries may seem.

At many athletic contests across the country, trained and knowledgeable individuals are not available to make the decision to return concussed athletes to play. Frequently, there is undo pressure from various sources (parents, player and coach) to return a valuable athlete to action. In addition, often there is unwillingness by the athlete to report headaches and other findings because the individual knows it would prevent his or her return to play.

Outlined below are some guidelines that may be helpful for parents, coaches and others dealing with possible concussions. Please bear in mind that these are general guidelines and must not be used in place of the central role that physicians and athletic trainers must play in protecting the health and safety of student-athletes.

SIDELINE MANAGEMENT OF CONCUSSION

1. **Did a concussion take place?** Based on mechanism of injury, observation, history and unusual behavior and reactions of the athlete, even without loss of consciousness, assume a concussion has occurred if the head was hit and even the mildest of symptoms occur. *(See other side for signs and symptoms)*

2. **Does the athlete need immediate referral for emergency care?** If confusion, unusual behavior or responsiveness, deteriorating condition, loss of consciousness, or concern about neck and spine injury exist, the athlete should be referred at once for emergency care.

3. **If no emergency is apparent, how should the athlete be monitored?** Every 5- 10 minutes, mental status, attention, balance, behavior, speech and memory should be examined until stable over a few hours. If appropriate medical care is not available, an athlete even with mild symptoms should be sent for medical evaluation.

4. **No athlete suspected of having a concussion should return to the same practice or contest, even if symptoms clear in 15 minutes.**

MANAGEMENT OF CONCUSSIONS AND RETURN TO PLAY

(See "SIDELINE DECISION-MAKING" Below)

Increasing evidence is suggesting that initial signs and symptoms, including loss of consciousness and amnesia, may not be very predictive of the true severity of the injury and the prognosis or outcome. More importance is being assigned to the duration of such symptoms and this, along with data showing symptoms may worsen some time after the head injury, has shifted focus to continued monitoring of the athlete. This is one reason why these guidelines no longer include an option to return an athlete to play even if clear in 15 minutes and why there is no discussion about the "Grade" of the concussion.

Any athlete who is removed from play because of a concussion should have medical clearance from an appropriate health care professional before being allowed to return to play or practice. The Second International Conference on Concussion held in Prague recommends an athlete should not return to practice or competition in sport until he or she is asymptomatic including after exercise.

Recent information suggests that mental exertion, as well as physical exertion, should be avoided until concussion symptoms have cleared. Premature mental or physical exertion may lead to more severe and more prolonged post concussion period. Therefore, the athlete should not study, play video games, do computer work or phone texting until his or her symptoms are resolving. Once symptoms are clear, the student-athlete should try reading for short periods of time. When 1-2 hours of studying can be done without symptoms developing, the athlete may return to school for short periods gradually increasing until a full day of school is tolerated without return of symptoms.

Once the athlete is able to complete a full day of school work, without PE or other exertion, the athlete can begin the gradual return to play protocol as outlined below. Each step increases the intensity and duration of the physical exertion until all skills required by the specific sport can be accomplished without symptoms. These recommendations have been based on the awareness of the increased vulnerability of the brain to concussions occurring close together and of the cumulative effects of multiple concussions on long-term brain function. Research is now revealing some fairly objective and relatively easy-to-use tests which appear to identify subtle residual deficits that may not be obvious from the traditional evaluation. These identifiable abnormalities frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to play in relative safety. The significance of these deficits is still under study and the evaluation instruments represent a work in progress. They may be helpful to the professional determining return to play in conjunction with consideration of the severity and nature of the injury; the interval since the last head injury; the duration of symptoms before clearing; and the level of play.

SIDELINE DECISION-MAKING

1. No athlete should return to play (RTP) on the same day of concussion.
2. Any athlete removed from play because of a concussion must have medical clearance from an appropriate health care professional before he or she can resume practice or competition.
3. Close observation of athlete should continue for a few hours.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based on return of any signs or symptoms.

MEDICAL CLEARANCE RTP PROTOCOL

1. No exertional activity until asymptomatic.
2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc.
3. Initiate aerobic activity fundamental to specific sport such as skating or running, and may also begin progressive strength training activities.
4. Begin non-contact skill drills specific to sport such as dribbling, fielding, batting, etc.
5. Full contact in practice setting.
6. If athlete remains asymptomatic, he or she may return to game/play.

A. ATHLETE MUST REMAIN ASYMPTOMATIC TO PROGRESS TO THE NEXT LEVEL.

B. IF SYMPTOMS RECUR, ATHLETE MUST RETURN TO PREVIOUS LEVEL.

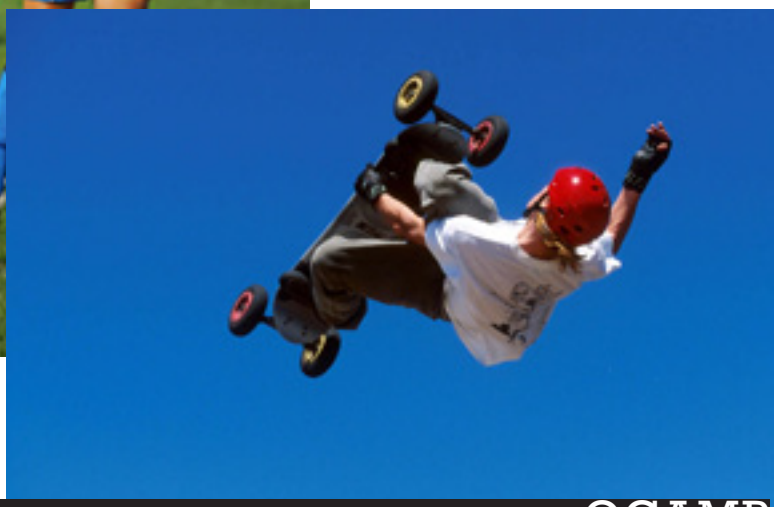
C. MEDICAL CHECK SHOULD OCCUR BEFORE CONTACT.

Parents & Athletes—Concussion Management

BEST PRACTICE:

New research shows that young athletes are particularly vulnerable to the effects of concussion—a traumatic injury to the brain. Concussion symptoms usually clear up after a few days but may last several months. Returning to athletic practice or to a full school day before symptoms have cleared can result in prolonging recovery or risking further injury to the brain.

In recognition of the seriousness of sports concussion, Oregon law requires schools to follow specific procedures for returning student athletes to play and academics. The parents' role in this process is very important: (a) become informed about concussion, (b) seek medical attention for your child, (c) keep your child out of play and school if concussion symptoms are present, and (d) work with the school concussion management team to plan a safe return to school and play.



HEADS UP CONCUSSION IN HIGH SCHOOL SPORTS

A FACT SHEET FOR PARENTS

What is a concussion?

A concussion is a brain injury. Concussions are caused by a bump, blow, or jolt to the head or body. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

What are the signs and symptoms?

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days after the injury. If your teen reports ***one or more*** symptoms of concussion listed below, or if you notice the symptoms yourself, keep your teen out of play and seek medical attention right away.

Signs Observed by Parents or Guardians	Symptoms Reported by Athlete
• Appears dazed or stunned	• Headache or "pressure" in head
• Is confused about assignment or position	• Nausea or vomiting
• Forgets an instruction	• Balance problems or dizziness
• Is unsure of game, score, or opponent	• Double or blurry vision
• Moves clumsily	• Sensitivity to light or noise
• Answers questions slowly	• Feeling sluggish, hazy, foggy, or groggy
• Loses consciousness *(even briefly)*	• Concentration or memory problems
• Shows mood, behavior, or personality changes	• Confusion
• Can't recall events *prior* to hit or fall	• Just not "feeling right" or is "feeling down"
• Can't recall events *after* hit or fall	

How can you help your teen prevent a concussion?

Every sport is different, but there are steps your teens can take to protect themselves from concussion and other injuries.

- Make sure they wear the right protective equipment for their activity. It should fit properly, be well maintained, and be worn consistently and correctly.
- Ensure that they follow their coaches' rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.

What should you do if you think your teen has a concussion?

1. **Keep your teen out of play.** If your teen has a concussion, her/his brain needs time to heal. Don't let your teen return to play the day of the injury and until a health care professional, experienced in evaluating for concussion, says your teen is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage, and even death.
2. **Seek medical attention right away.** A health care professional experienced in evaluating for concussion will be able to decide how serious the concussion is and when it is safe for your teen to return to sports.
3. **Teach your teen that it's not smart to play with a concussion.** Rest is key after a concussion. Sometimes athletes wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let your teen convince you that s/he's "just fine."
4. **Tell all of your teen's coaches and the student's school nurse about ANY concussion.** Coaches, school nurses, and other school staff should know if your teen has ever had a concussion. Your teen may need to limit activities while s/he is recovering from a concussion. Things such as studying, driving, working on a computer, playing video games, or exercising may cause concussion symptoms to reappear or get worse. Talk to your health care professional, as well as your teen's coaches, school nurse, and teachers. If needed, they can help adjust your teen's school activities during her/his recovery.

If you think your teen has a concussion:
Don't assess it yourself. Take him/her out of play. Seek the advice of a health care professional.

It's better to miss one game than the whole season.

For more information and to order additional materials ***free-of-charge***, visit: **www.cdc.gov/Concussion**.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

June 2010

ATENCIÓN

CONMOCIONES CEREBRALES EN LOS DEPORTES DE LA ESCUELA SECUNDARIA

HOJA INFORMATIVA PARA LOS PADRES

¿Qué es una conmoción cerebral?

Una conmoción cerebral es una lesión en el cerebro causada por un golpe o una sacudida en la cabeza o el cuerpo. Incluso un golpeteo, un zumbido en la cabeza, o lo que parece ser un golpe o una sacudida leve puede ser algo grave.

¿Cuáles son los signos y síntomas?

La conmoción cerebral no se puede ver. Los signos y síntomas de una conmoción cerebral pueden aparecer justo después de una lesión o puede que no aparezcan o se noten sino hasta después de días de ocurrida la lesión. Si su hijo adolescente le informa sobre ***algún*** síntoma de conmoción cerebral de los especificados a continuación, o si usted nota los signos, no permita que su hijo juegue y busque atención médica de inmediato.

Signos que notan los padres o tutores	Síntomas que reporta el atleta
• El atleta luce aturdido o desorientado • Está confundido en cuanto a su posición o lo que debe hacer • Olvida las instrucciones • No se muestra seguro del juego, de la puntuación ni de sus adversarios • Se mueve con torpeza • Responde a las preguntas con lentitud • Pierde el conocimiento *(aunque sea por poco tiempo)* • Muestra cambios de humor, conducta o personalidad • No puede recordar lo ocurrido *antes* o después de un golpe o una caída	• Dolor de cabeza o "presión" en la cabeza • Náuseas o vómitos • Problemas de equilibrio o mareo • Visión borrosa o doble • Sensibilidad a la luz y al ruido • Debilidad, confusión, aturdimiento o estado grogui • Problemas de concentración o de memoria • Confusión • No se "siente bien" o se siente "desganado"

¿Cómo puede ayudar a su hijo adolescente para que evite una conmoción cerebral?

Cada deporte es diferente, pero hay una serie de medidas que su hijo puede tomar para protegerse de las conmociones cerebrales.

- Asegúrese de que use el equipo de protección adecuado para la actividad. El equipo debe ajustarse bien y estar en buen estado, y el jugador debe usarlo correctamente y en todo momento.
- Controle que siga las reglas que imparta el entrenador y las reglas del deporte que practica.
- Invítelo a mantener el espíritu deportivo en todo momento.

¿Qué debe hacer si cree que su hijo adolescente ha sufrido una conmoción cerebral?

1. No permita que su hijo siga jugando. Si su hijo sufre una conmoción cerebral, su cerebro necesitará tiempo para sanarse. No permita que su hijo regrese a jugar el día de la lesión y espere a que un profesional de la salud, con experiencia en la evaluación de conmociones cerebrales, indique que ya no presenta síntomas y que puede volver a jugar. Una nueva conmoción cerebral que ocurra antes de que el cerebro se recupere de la primera, generalmente en un periodo corto (horas, días o semanas), puede retrasar la recuperación o aumentar la probabilidad de que se presenten problemas a largo plazo. En casos poco frecuentes, las conmociones cerebrales repetidas pueden causar edema (inflamación del cerebro), daño cerebral permanente y hasta la muerte.

2. Busque atención médica de inmediato. Un profesional de la salud con experiencia en la evaluación de las conmociones cerebrales podrá determinar la gravedad de la conmoción cerebral que ha sufrido su hijo adolescente y cuándo podrá volver a jugar sin riesgo alguno.

3. Enséñele a su hijo que no es sensato jugar con una conmoción cerebral. Descansar es fundamental después de una conmoción cerebral. Algunas veces los atletas creen equivocadamente que jugar lesionado es una demostración de fortaleza y coraje. Convenza a los demás de que no deben presionar a los atletas lesionados para que jueguen. No deje que su hijo adolescente lo convenza de que está "bien".

4. Avíseles a todos los entrenadores de su hijo y a la enfermera de la escuela sobre *cualquier* conmoción cerebral. Los entrenadores, las enfermeras escolares y otros miembros del personal de la escuela deben saber si su hijo adolescente *alguna vez* tuvo una conmoción cerebral. Su hijo debe limitar sus actividades mientras se recupera de una conmoción cerebral. Ciertas actividades como estudiar, manejar, trabajar en la computadora, jugar video juegos o hacer ejercicio pueden provocar que los síntomas de una conmoción cerebral vuelvan a aparecer o empeoren. Hable con su proveedor de atención médica y también con los entrenadores, las enfermeras de la escuela y los profesores de su hijo adolescente. De ser necesario, estas personas pueden colaborar en la adaptación de las actividades de su hijo durante su recuperación.

Si usted cree que su hijo adolescente ha sufrido una conmoción cerebral:

No trate de evaluarlo usted mismo. Haga que salga del juego. Busque atención médica de un profesional de la salud.

Es preferible perderse un juego que toda la temporada.

Para obtener más información y solicitar más materiales ***de forma gratuita***, visite: **www.cdc.gov/Concussion**.

DEPARTAMENTO DE SALUD Y SERVICIOS HUMANOS DE LOS EE. UU.
CENTROS PARA EL CONTROL Y LA PREVENCIÓN DE ENFERMEDADES

Junio 2010

HEADS UP

CONCUSSION IN HIGH SCHOOL SPORTS

A FACT SHEET FOR **ATHLETES**

What is a concussion?

A concussion is a brain injury that:

- Is caused by a bump, blow, or jolt to the head or body.
- Can change the way your brain normally works.
- Can occur during practices or games in any sport or recreational activity.
- Can happen even if you haven't been knocked out.
- Can be serious even if you've just been "dinged" or "had your bell rung."

All concussions are serious. A concussion can affect your ability to do schoolwork and other activities (such as playing video games, working on a computer, studying, driving, or exercising). Most people with a concussion get better, but it is important to give your brain time to heal.

What are the symptoms of a concussion?

You can't see a concussion, but you might notice ***one or more*** of the symptoms listed below or that you "don't feel right" soon after, a few days after, or even weeks after the injury.

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light or noise
- Feeling sluggish, hazy, foggy, or groggy
- Difficulty paying attention
- Memory problems
- Confusion

What should I do if I think I have a concussion?

- **Tell your coaches and your parents.** Never ignore a bump or blow to the head even if you feel fine. Also, tell your coach right away if you think you have a concussion or if one of your teammates might have a concussion.
- **Get a medical check-up.** A doctor or other health care professional can tell if you have a concussion and when it is OK to return to play.
- **Give yourself time to get better.** If you have a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have another concussion. Repeat concussions can increase the time it takes for you to recover and may cause more damage to your brain. It is important to rest and not return to play until you get the OK from your health care professional that you are symptom-free.

How can I prevent a concussion?

Every sport is different, but there are steps you can take to protect yourself.

- Use the proper sports equipment, including personal protective equipment. In order for equipment to protect you, it must be:
  - The right equipment for the game, position, or activity
  - Worn correctly and the correct size and fit
  - Used every time you play or practice
- Follow your coach's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.

If you think you have a concussion:
Don't hide it. Report it. Take time to recover.

It's better to miss one game than the whole season.

For more information and to order additional materials ***free-of-charge***, visit: **www.cdc.gov/Concussion**.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

March 2010

ATENCIÓN

CONMOCIONES CEREBRALES EN LOS DEPORTES DE LA ESCUELA SECUNDARIA

HOJA INFORMATIVA PARA LOS ATLETAS

¿Qué es una conmoción cerebral?

Una conmoción cerebral es una lesión del cerebro que:

- Es causada por un golpe o una sacudida en la cabeza o el cuerpo.
- Puede alterar el funcionamiento normal del cerebro.
- Puede ocurrir durante las prácticas o la competición de cualquier deporte o durante las actividades recreativas.
- Puede ocurrir aun cuando no se haya perdido el conocimiento.
- Puede ser grave aunque se trate de un golpe leve o que provoque una sensación de zumbido en la cabeza.

Todas las conmociones cerebrales son graves. Las conmociones cerebrales pueden afectar tus actividades escolares u otras actividades (como jugar video juegos, trabajar en la computadora, estudiar, conducir o hacer ejercicio). La mayoría de las personas que sufren una conmoción cerebral se mejoran, pero es importante tomarse el tiempo necesario para que el cerebro se recupere.

¿Cuáles son los síntomas de una conmoción cerebral?

Aunque la conmoción cerebral no se pueda observar, puede que notes uno o más de los siguientes síntomas o que "no te sientas del todo bien" justo después de la lesión, a los días o las semanas siguientes.

- Dolor de cabeza o "presión" en la cabeza
- Náuseas o vómitos
- Problemas de equilibrio o mareo
- Visión borrosa o doble
- Molestia causada por la luz o el ruido
- Debilidad, confusión, aturdimiento o estado grogui
- Dificultad para prestar atención
- Problemas de memoria
- Confusión

¿Qué debo hacer si creo que he sufrido una conmoción cerebral?

- Avísale a tus entrenadores y a tus padres. Nunca ignores un golpe o una sacudida en la cabeza, aun cuando te sientas bien. También, avísale a tu entrenador enseguida si crees que has sufrido una conmoción cerebral o le puede haber pasado a uno de tus compañeros.
- Ve al médico para que te examine. Un médico u otro profesional de la salud podrá decirte si sufriste una conmoción cerebral y cuándo estarás listo para volver a jugar.
- Tómate el tiempo suficiente para curarte. Si sufriste una conmoción cerebral, tu cerebro necesitará tiempo para sanarse. Cuando tu cerebro se está curando, existe una mayor probabilidad de que sufras una segunda conmoción. Las conmociones cerebrales repetidas pueden aumentar el tiempo de recuperación y dañar más el cerebro. Es importante descansar y no volver a jugar hasta que tu profesional de la salud te indique que ya no tienes más síntomas y que puedes reanudar tu actividad deportiva.

¿Cómo puedo prevenir una conmoción cerebral?

Depende del deporte que practicas, pero puedes tomar una serie de medidas para protegerte.

- Usa el equipo de deporte adecuado, incluido el equipo de protección personal. Para que este equipo te proteja, debe:
  - Ser adecuado para el deporte que practicas, tu posición en el juego y tipo de actividad.
  - Usarse correctamente y ajustarse bien a tu cuerpo.
  - Colocarse cada vez que juegues o practiques.
- Sigue las reglas de seguridad del entrenador y las reglas del deporte que practicas.
- Mantén el espíritu deportivo en todo momento.

Si crees que sufriste una conmoción cerebral:
No trates de ocultarlo. Notifícaselo a alguien.
Tómate tiempo para recuperarte.

Es preferible perderse un juego que toda la temporada.

Para obtener más información y solicitar más materiales ***de forma gratuita***, visite: **www.cdc.gov/Concussion**.

DEPARTAMENTO DE SALUD Y SERVICIOS HUMANOS DE LOS EE. UU.
CENTROS PARA EL CONTROL Y LA PREVENCIÓN DE ENFERMEDADES

Marzo del 2010

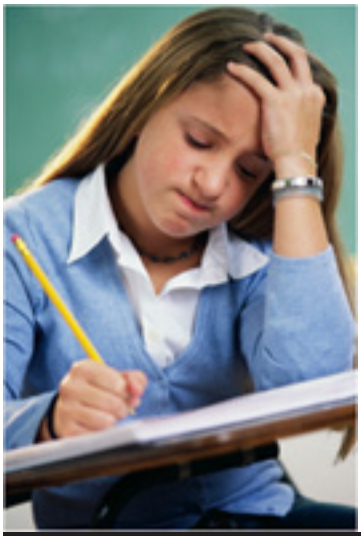
Educators— Concussion Management

BEST PRACTICE:

Concussion/mild traumatic brain injury (TBI) is not just an athletic issue—it's an educational issue. A concussion can interfere with school, work, and social interactions. Many players with a concussion will have difficulty in school with short- and long-term memory, concentration, and organization. These problems typically last no longer than a few weeks, but for some these difficulties may last for months. Recent studies have shown that when young athletes recovering from concussion return to the full-time demands of school too soon, their symptoms worsen.

In many cases it is best to reduce the athlete's class load immediately after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days or a longer period of time, if needed. When the student athlete can study for 1–2 hours without symptoms developing, he or she may return to school for short periods, gradually increasing until a full day of school is tolerated without return of symptoms. Learning accommodations can help ease the student into full-time academics (see sample list of accommodations in this section).

Although most student athletes recover from concussion within three weeks, a small percentage may have significant injuries, will not return to athletics, and will need on-going supports at school. In these cases, school staff with expertise in working with students with TBI can be very helpful. If symptoms last 45 days or more, contact your Oregon Regional TBI Liaison (tbiteam@wou.edu).



Sample Mild TBI/Concussion Learning Accommodations Plan

Student Name: _____ Date of Evaluation: _____

As you know, the student named above has recently suffered a concussion and may have the following symptoms from the injury: headaches, nausea, fatigue, visual problems, balance problems, sensitivity to light or noise, dizziness, feeling mentally foggy, problems concentrating or remembering, irritability, sadness, nervousness, drowsiness and feeling easily overwhelmed. The signs and symptoms of a concussion can persist for days to weeks and can greatly affect learning. Sometimes symptoms may persist for months or longer. We ask you to please make the following accommodations to aid in the recovery process:

GENERAL RECOMMENDATIONS

- ❍ No school until specified, to be reviewed on _____
- ❍ Abbreviated daily class schedule (every other day, shortened day)
- ❍ No physical education classes (Including weight training, aerobics, yoga)
- ❍ Consider reducing make-up work
- ❍ No testing (e.g., midterms, finals, standardized) during recovery period, until student is cleared

RECOMMENDATIONS FOR COGNITIVE ISSUES

- ❍ Provide extended time to complete assignments and/or shortened assignments
- ❍ Provide extended time to take tests in a quiet environment
- ❍ Provide a quiet environment to take tests
- ❍ Provide written instructions for homework
- ❍ Provide class notes by teacher or peer
- ❍ Allow utilization of notes for test taking due to memory issues
- ❍ Consider using tape recorder for note taking

RECOMMENDATIONS FOR FATIGUE/PHYSICAL ISSUES

- ❍ Allow time to visit school nurse for treatment of headaches or other symptoms, if needed
- ❍ Allow rest breaks during the day, if needed
- ❍ Allow "hall passing time" before or after the crowds have cleared
- ❍ Allow student to wear sunglasses indoors to control for light sensitivity
- ❍ Allow student to take lunch in quiet space to allow for rest and control for noise sensitivity

RECOMMENDATIONS FOR EMOTIONAL ISSUES

- ❍ Share progress and difficulties with parents, school nurse, counselor, physician, and athletic trainer
- ❍ Develop an emotional support plan for the student, this may include an adult with whom he/she can talk if feeling overwhelmed

If student symptoms require ongoing accommodations, consider contacting your district or building 504 coordinator to determine If a 504 plan would be beneficial. If symptoms last 45 days or more, contact your Oregon Regional TBI Liaison (tbiteam@wou.edu).

Facts about Concussion and Brain Injury



About Concussion

A concussion is a type of traumatic brain injury (TBI) caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or a blow to the body that causes the head and brain to move quickly back and forth. Doctors may describe a concussion as a "mild" brain injury because concussions are usually not life-threatening. Even so, their effects can be serious.

Concussion Signs and Symptoms

Most people with a concussion recover quickly and fully. But for some people, symptoms can last for days, weeks, or longer. In general, recovery may be slower among older adults, young children, and teens. Those who have had a concussion in the past are also at risk of having another one and may find that it takes longer to recover if they have another concussion. Symptoms of concussion usually fall into four categories:

Thinking/Remembering	Difficulty thinking clearly	Feeling slowed down	Difficulty concentrating	Difficulty remembering new information
Physical	Headache	Nausea or vomiting (early on)	Sensitivity to noise or light	Feeling tired, having no energy
	Fuzzy or blurry vision	Dizziness	Balance problems	
Emotional/Mood	Irritability	Sadness	More emotional	Nervousness or anxiety
Sleep	Sleeping more than usual	Sleep less than usual	Trouble falling asleep	

Getting Better

Rest is very important after a concussion because it helps the brain to heal. Ignoring your symptoms and trying to "tough it out" often makes symptoms worse. Be patient because healing takes time. Only when your symptoms have reduced significantly, in consultation with your doctor, should you slowly and gradually return to your daily activities, such as work or school. If your symptoms come back or you get new symptoms as you become more active, this is a sign that you are pushing yourself too hard. Stop these activities and take more time to rest and recover. As the days go by, you can expect to gradually feel better.

Tips to help you get better:

- Get plenty of sleep at night, and rest during the day.
- Avoid activities that are physically demanding (e.g., sports, heavy housecleaning, working-out) or require a lot of concentration (e.g., sustained computer use, video games).
- Ask your doctor when you can safely drive a car, ride a bike, or operate heavy equipment.
- Do not drink alcohol. Alcohol and other drugs may slow your recovery and put you at risk of further injury.

There are many people who can help you and your family as you recover from a concussion. You do not have to do it alone. Keep talking with your doctor, family members, and loved ones about how you are feeling, both physically and emotionally. If you do not think you are getting better, tell your doctor.

For more information and resources, please visit CDC on the Web at: www.cdc.gov/Concussion.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention

CS202043

Oregon School Activities Association
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Wilsonville, OR 97070

503.682.6722 FAX 503.682.0960 http://www.osaa.org

CONCUSSION – RETURN TO LEARN MEDICAL RELEASE

Return to Academics after Concussion

When students have symptoms after a concussion, they may need a gradual return to their pre-injury academic load. This progression can speed recovery and support the student's return to a full academic load. Important things to remember:

- The stages are flexible based on the student's tolerance to school activities.
- Depending on symptoms, a student may start at any step and remain at each step as long as needed.
- If symptoms worsen, the student should return to the previous step.
- Daily check-ins with the student regarding how they are tolerating school is recommended.
- Depending on symptoms, some students can begin limited physical activity early after injury.

Stage	Suggested Accommodations	Criteria for Progression
Rest – Limited mental activity	**Limited mental exertion (computer, texting, video games, or homework), no driving.**	**30 minutes of mental exertion without symptom exacerbation.**
Part-time school with accommodations	**Accommodations based on symptoms (e.g., shortened day/schedule, built-in breaks, no significant classroom or standardized testing).**	**Full day of school with accommodations.**
Full-time school with accommodations	**Accommodations based on symptoms (e.g., shortened day/schedule, built-in breaks, no significant classroom or standardized testing).**	**Handles all class periods in succession without symptom increase.**
Full pre-injury academic load	**Complete return to pre-injury status**	**N/A**

For more information, including a detailed list of suggested accommodations, visit CBIRT.org
If you have questions contact your School Nurse, Athletic Trainer, Counselor or staff at the Center on Brain Injury Research and Training (CBIRT) at 541.346.0593.

Signs and Symptoms

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is most often caused by a direct blow to the head, but it can also result from body actions that snap the head forward or back, shaking the brain around in the skull hard enough to cause a brain injury, such as a whiplash injury. It is possible to sustain a concussion without being directly hit in the head. Children and adolescents are among those at greatest risk for concussion. A concussion is a brain injury and should be taken seriously.

A TBI can Result from:

- Falls
- Car wrecks
- Sports injuries
- Collisions with objects or other people
- Being shaken
- Any trauma to the head

Common Symptoms of TBI

Cognitive/Communication	Emotional/Behavioral	Physical
• Feeling dazed or in a fog - disorientation • Confusion • Difficulty concentrating slowed information processing learning problems • Difficulty with memory difficulty juggling multiple tasks • Communicating in "socially unacceptable" ways • Difficulty with concentration and attention	• Irritability • Quick to anger • Decreased motivation • Anxiety • Depression • Social withdrawal • Does not get the "gist" of social interactions • May comment on or react to things that seems random to others	• Dizziness • Weakness • Changes in balance • Headaches • Changes in vision • Changes in hearing • Sleep disturbance • Fatigue

Any variety of the symptoms listed above can have a negative impact on a student's learning and school experience. Recovery may be delayed when students push through symptoms. Therefore, it is important to avoid stimuli that increase symptoms. We ask that you modify learning activities vs. postpone them. Remember, injuries are unique and what increases symptoms in one student may not in another.

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Staff Notification Regarding a Student with a Concussion

Your student _____ sustained a concussion on _____.

As an educator, you play an important role in helping your student in the management and recovery of their concussion. A concussion is a mild traumatic brain injury (mTBI) and should be treated seriously. Some students may be advised to stay home immediately following concussion. However, those students should not miss more than 2-3 days of school except in rare cases.

Each concussion is unique; students may experience multiple symptoms and will recover at different rates. For most students, concussion symptoms persist for days or weeks. In rare cases, students may experience symptoms for months or longer and will require a multi-disciplinary treatment plan in addition to academic accommodations. You can help by monitoring the student and reporting any worsening symptoms to the management team.

At the time of evaluation, your student reported the following signs and symptoms:

Concussion Signs and Symptoms

☐ Appears dazed or stunned	☐ Drowsiness
☐ Seems confused	☐ Sensitivity to light or noise
☐ Forgets plays or instructions	☐ Feeling more emotional
☐ Shows changes in mood, behavior or personality	☐ Feeling slowed down
☐ Responds slowly to questions	☐ Foggy or hazy feeling
☐ Headache or pressure in the head	☐ Problems concentrating
☐ Nausea or vomiting	☐ Problems remembering
☐ Balance problems or dizziness	☐ Double vision, blurry vision
☐ Feeling lightheaded, sluggish, fatigued or groggy	☐ Just not feeling right
☐ Irritability, sadness, nervousness, anxiety	☐ Sleep problems

Notes from Medical Provider: _____

_____

_____

_____

_____

_____

_____

Submitted by: _____ Date: _____

Attached is the Return to Academics Form with guidance on a learning progression to help guide recovery, the Signs and Symptoms Fact Sheet and the Temporary Accommodations Plan that can outline a strategy to minimize symptoms and facilitate optimum recovery. Please identify a staff member to help coordinate accommodations, monitor the student and serve as school point person to respond to parent concerns and collaborate with the health care provider.

School Point Person: _____

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Temporary Accommodations Plan for Concussion

Student Name: _____ Date of Evaluation: _____

After a concussion/mTBI, students who receive academic accommodations without penalty for missed work are more successful and better able to manage school demands. For most students, accommodations can be made without formal written plans such as a 504 or IEP. Students with symptoms lasting longer than three to four weeks may benefit from a more detailed assessment by a concussion specialist, who may recommend a 504 plan. If accommodations are needed longer than four months, the team should consider special education. These recommendations are based on the student's current symptom level and tolerance to mental exertion. As the student improves or new learning needs emerge, these guidelines may be adjusted. This form is designed to outline a strategy to minimize symptoms and facilitate optimum recovery.

GENERAL RECOMMENDATIONS:

- □ No return to school until specified. To be re-evaluated on: _____
- □ Return to school with the following supports: _____
- □ Adjust class schedule (i.e., every other day, shortened day, shortened classes, breaks)
  Shortened day: _____ hours/day or _____ classes/day or _____ days/week _____
- □ No physical education classes. However, the student can exercise for _____ minutes if there is no significant increase in symptoms. Walk, run, exercise bike, lift weights, other: _____
- □ Limit classes with "noisy environments" (i.e., band, choir, shop, drama, lunch).
- □ Reduce in-class work and homework (select most important or critical tasks and concepts only, consider maximum hours of nightly homework, limit number of problems, questions, or pages to read, offer alternative ways for student to demonstrate knowledge).
- □ Delay testing (standardized tests, midterms, finals, etc.) until student reaches "yellow" stage.

RECOMMENDATIONS FOR COGNITIVE ISSUES:

- □ Shorten, unweight grade and/or provide extended time to complete assignments.
- □ Shorten, unweight grade and/or provide extended time to take tests in a quiet environment (including across multiple class periods). ***Do not mark if student is deferred from test taking***
- □ Stagger tests, so the student only needs to prepare for one per day. ***Do not mark if student is deferred from test taking***
- □ Provide concise written instructions for homework.
- □ Provide class notes by teacher or peer (i.e., online notes, recording, teacher provides notes).

RECOMMENDATIONS FOR FATIGUE/PHYSICAL ISSUES:

- □ Allow time to visit the health room or school nurse for treatment of symptoms such as headache.
- □ Allow rest breaks during the day such as resting head down on desk or resting in health office.
- □ Allow "hall passing time" before or after the crowds have cleared.
- □ Allow student to wear sunglasses and/or hat or visor indoors to control for light sensitivity.
- □ Allow student to wear earplugs (not with music) to control for noise sensitivity.
- □ Provide quiet environment for lunch.

RECOMMENDATIONS FOR EMOTIONAL ISSUES:

- □ Share progress and difficulties with parents, nurse, teacher, counselor, doctor and/or athletic trainer.
- □ Develop an emotional support plan for the student; this may include an adult with whom he/she can talk, if feeling overwhelmed.

Family signed an information release for bi-directional communication with _____

Signature: _____ Date: _____

Printed Name: _____

RETURN TO PLAY POLICIES

Pennsylvania

Model Policy and Guidance for Pennsylvania Schools for Sports-Related Concussion/Mild Traumatic Brain Injury

INTRODUCTION

This document is designed to provide guidance to Pennsylvania school boards of education in the development, establishment, and implementation of policies, protocols and programs for the prevention, detection, and treatment of Sports Related Concussion/Mild Traumatic Brain Injury (mTBI).

Part I
BACKGROUND

A concussion is a traumatic brain injury (TBI) caused by a direct or indirect blow to the head or body. The Center for Disease Control and Prevention estimates that as many as 3.8 million sports and recreation related concussions occur in the United States each year. In mid-November of 2011, Pennsylvania Governor Tom Corbett signed the Act of Nov. 9, 2011, P.L. 411, No.101, known as the Safety in Youth Sports Act, into law. This law makes certain requirements of Pennsylvania schools and the personnel who supervise the student athletes who represent these schools, as well as the medical personnel who support them when there is an injury.

In order to ensure the safety of student athletes, it is imperative that the governing body and administration of schools in Pennsylvania develop policy and procedures governing the processes to be utilized in their Local Education Agency (LEA) when it is suspected that a concussion has occurred. Clear and easily understood guidelines must be stipulated for returning the student athlete both to the field of competition and to the classroom. Allowing a student athlete to return to play or to return the classroom before recovering from a concussion increases the chance of continuing symptoms or predisposition for a more serious brain injury that can result in severe disability and/or death.

Part II
GUIDANCE FOR POLICY DEVELOPMENT
(BASED ON THE ACT OF NOV. 9, 2011, P.L. 411, NO. 101)

Policy Context

The decisions made on the policy governing the care of student athletes who have sustained sports-related concussions and head injuries is dependent on the individual characteristics of each school district, charter, and non-public school. Each board of education, however, should develop a policy in regards to the care and treatment of a student athlete who is suspected of sustaining a sports-related concussion or head injury. This policy should not only cover the

return of the athlete to the field of competition and or practice, it should also define the appropriate return of the student to their academic pursuits.

Requirements for Policy Contents

It is suggested that the policy contain, at a minimum, the following components:

- Once each school year, a coach shall complete the concussion management certification training course offered by the Centers for Disease Control and Prevention, the National Federation of State High School Associations or another provider approved by the Pennsylvania Department of Health. A coach shall not coach an athletic activity until the coach completes the training course required under this subsection.
- The school will hold an informational meeting, prior to the start of each athletic season, for all competitors regarding concussion management and how pre-season baseline assessments can aid in the evaluation, management and recovery process. These meetings may also include parents, guardians, coaches, physicians, neuropsychologists, athletic trainers and physical therapists.
- A student desiring to participate in any athletic activity and the student's parent or guardian shall, each school year, sign and return to the school an acknowledgement of their receipt and review of concussion and traumatic brain injury information.
- All medical personnel, authorized to make decisions on when the student athlete can return to play must complete, or have completed, training in the evaluation and management of concussion. Material for this training is available on-line through the Pennsylvania Departments of Education or Health (www.state.pa.us) and through the Centers for Disease Control and Prevention (www.cdc.gov).
- Authority is granted to game officials, the coach, athletic trainer, licensed physician, licensed physical therapist or other individual trained in the recognition of the signs and symptoms of a concussion and designated by the school, to determine that a student athlete exhibits signs or symptoms of a concussion or traumatic brain injury.
- Once the student athlete has exhibited signs or symptoms of a concussion/traumatic brain injury he/she must be removed by the coach from participation. The student athlete cannot return to practice or play until the student athlete is evaluated and cleared for return to participation in writing by an appropriate medical professional (as defined in the Safety in Youth Sports Act) with training in the evaluation and management of concussion.
- Any coach who violates this policy will be suspended from coaching any athletic activity for the remainder of that season. For a second violation the coach will be suspended from coaching any athletic activity for the remainder of that season and for the next season. For a third violation, the coach will be permanently suspended from coaching any athletic activity.

PART III RECOMMENDED PROCEDURES

(BASED ON BEST PRACTICES FOR MANAGING CONCUSSION)

- **Student athletes who are exhibiting any of the signs or symptoms of a sports-related concussion or other head injuries during practice or competition shall be immediately removed from play and may not return to play until he/she is evaluated and cleared for return to participation in writing by an appropriate medical professional. Some of the signs and symptoms are as follows:**

  Signs of Concussion:
  (Could be observed by Coaches, Athletic Trainer, School/Team Physician, School Nurse. Physical Therapist)
  The signs of a concussion include:
  1. Appears dazed, stunned, or disoriented, demonstrates decreased alertness
  2. Forgets plays, or demonstrates short term memory difficulty
  3. Slurs words
  4. Exhibits difficulties with balance or coordination.
  5. Answers questions slowly or inaccurately.
  6. Exhibits seizures or vomiting
  7. Changes in level of consciousness. (Estimates are that <10% of concussions result in the loss of consciousness)

  Symptoms of Concussion
  (Reported by the student athlete to Coaches, Athletic Trainer, School/ Team Physician, School Nurse, Parent/ Guardian, Physical Therapist)
  The symptoms of a concussion include:
  1. Headache
  2. Nausea
  3. Balance problems or dizziness
  4. Double vision or changes in vision
  5. Sensitivity to light or sound/noise
  6. Feeling sluggish or foggy
  7. Difficulty with concentration and short term memory
  8. Sleep disturbance
  9. Irritability or changes in personality and behavior

- **Once a student athlete has been removed from competition or practices because of signs or symptoms of a concussion, the following Concussion Management Protocol must be followed:**

    1. Emergency medical treatment should be pursued if there is a deterioration of symptoms including seizure, altered level of consciousness, vomiting, altered pupillary findings, or direct neck pain associated with the injury.
    2. All appropriate school officials should be notified of the event, including the school physician, Athletic Trainer, Physical Therapist, Athletic Director/Building Administrator school nurse, school psychologist, school counselor and all of the student's teachers.
    3. School officials must make contact with the student athlete's parent/guardian and inform him/her of the suspected sports-related concussion or head injury.
    4. School officials shall provide the student athlete and their parent or guardian with information on the continuing care of a person with concussion.. This material is available through the Pennsylvania Departments of Health or Education, or the Centers for Disease Control and Prevention (www.cdc.gov).
    5. When appropriate, a referral should be made to the regional BrainSTEPS Team. This team will consult with school teams and families in the development and delivery of educational services for the student who has sustained a concussion.
    6. The student athlete must be evaluated by an appropriate medical professional who is trained in the evaluation and management of concussions.
    7. The student athlete must receive written clearance from an appropriate medical professional, trained in the evaluation and management of concussions that states the student athlete is asymptomatic at rest and may begin a graduated return-to-play protocol.

- **Complete physical, cognitive, emotional, and social rest is advised while the student athlete is experiencing symptoms and signs of a concussion/traumatic brain injury. Minimize mental exertion, limiting overstimulation, limit cell phone or computer usage, testing, video gaming, multi-tasking etc.**

Return to Play

- **After written medical clearance is given by an appropriate medical professional the student athlete may begin a graduated individualized return-to-play protocol supervised by a athletic trainer or Licensed Physical Therapist, school/team physician or in cases where the afore mentioned are not available a physician or licensed health**

care provider trained in the evaluation and management of sports-related concussions. The following graduated return to play should be followed:

1. Completion of a full day of normal cognitive activities (school day, studying for tests, watching practice, interacting with peers) without re-emergence of any signs or symptoms. If no return of symptoms, next day advance to:
2. Light aerobic exercise, which includes walking, swimming, or stationary cycling, keeping the intensity < 70% maximum predicted heart rate: no resistance training. The objective of this step is increased heart rate. If no return of symptoms, next day advance to:
3. Sport-specific exercise including skating, and/or running; no head impact activities. The objective of this step is to add movement and continue to increase heart rate. If no return of symptoms, next day advance to:
4. Non-contact training drills (e.g., passing drills). The student athlete may initiate progressive resistance training. If no return of symptoms, next day advance to:
5. Participation in normal training activities. The objective of this step is to restore confidence and to assess functional skills by the coaching staff. If no return of symptoms, next day advance to:
6. Return to play involving normal exertion or game activity.

- **If concussion symptoms recur during the graduated return-to-play protocol, the student athlete will return, at a minimum, to the previous level of activity that caused no symptoms, and the attending physician should be notified.**

- **Utilization of standardized tools such as symptom checklists, and comparison of post-injury performance to preseason baseline cognitive, and balance testing are suggested.**

Return to Classroom:

- **Temporary learning support accommodations may be needed for student athletes with Sports-Related Head Injuries to return to the classroom**

Rest is the best "medicine" for healing concussions or other head injuries. The concussed brain is affected in many functional aspects as a result of the injury. Memory, attention span, concentration and speed of processing significantly impact learning. Further, exposing the concussed student athlete to the stimulating school environment may exacerbate symptoms and delay the resolution of symptoms needed for recovery. Accordingly, consideration of the cognitive effects in returning to the classroom is also an important part of the treatment of sports-related concussions and head injuries.

Students who return to school after a concussion may need to:

1. Take rest breaks as needed
2. Spend fewer hours at school (have a shortened school day)
3. Be given more time to take tests or complete assignments. (All courses should be considered)
4. Receive help with schoolwork (e.g. pre-teaching, outlines, note taker).
5. Reduce time spent on the computer, reading, and writing.
6. Be granted early dismissal from each class to avoid crowded hallways.
7. No standardized testing (e.g. PSSA, SAT) during the initial recovery window of 2-4 weeks.

In Pennsylvania, BrainSTEPS teams are available to virtually any secondary school in the Commonwealth. These teams have been developed by the Brain Injury Association of Pennsylvania with funding from the Pennsylvania Department of Health and the Department of Education. BrainSTEPS teams are designed to support the staff, student, parents or guardians in a return to school after a brain injury. These teams work with all parties to identify and implement appropriate accommodations and modifications to manage the student's symptoms and to support their learning needs throughout their secondary school career

The school (e.g. teachers, school counselors, school nurse) and family should monitor the performance of the student closely for 2 weeks after the return to school. If the return to the classroom causes concussion symptoms to re-occur or if the student demonstrates uncharacteristic performance (e.g. reduced attention span, inability to take tests, acting out in class). The school should initiate a formal referral to the local BrainSTEPS team (www.brainsteps.net)

It has been widely established that baseline neurocognitive testing is a valuable tool in assisting trained sports medicine clinicians in making return to play decisions. It is recommended that schools utilize this testing.

Part IV
Use of the Model Policy and Guidance

This document is presented as a guide and model by the Brain Injury Association of Pennsylvania. District boards of education, boards of trustees, and non-public schools may add additional provisions or protocols to address local issues and priorities, and may use formats that are consistent with the board of education's approved policies and procedures.

Part V
Resources on Interscholastic Sports Related Concussions and Head Injuries

Internet Resources

Centers for Disease Control and Prevention – Concussion Toolkit
http://www.cdc.gov/concussion/HeadsUp/physicians_tool_kit.html
http://www.cdc.gov/concussion/headsup/pdf/ACE-a.pdf
http://www.cdc.gov/concussion/headsup/pdf/ACE_care_plan_school_version_a.pdf
http://www.cdc.gov/concussion/headsup/pdf/Concussion_in_Sports_palm_card-a.pdf

National Federation of State High Schools Association- Online "Concussion in Sports" training program.
www.nfhs.org

Brain Injury Association of Pennsylvania (BIAPA)
www.biapa.org

Pennsylvania Athletic Trainers Society (PATS)
www.gopats.org

National Collegiate Athletic Association (NCAA)
www.NCAA.org/health-safety

Pennsylvania Interscholastic Athletic Association (PIAA)
www.piaa.org

Pennsylvania Physical Therapy Association (PPTA)
www.ppta.org

Articles

"Consensus Statement on Concussion in Sport: 3rd International Conference on Concussion in Sport held in Zurich, November 2008". Clinical Journal of Sports Medicine, Volume 19, May 2009, pp.185-200

Halstead ME, Walter, KD and the Council on Sports Medicine and Fitness, Clinical Report: Sport-related Concussion in Children and Adolescents" Pediatrics Volume 126, September 2010, pp.597-615.

McGrath, N. Supporting the Student/athlete's return to the classroom after a sport-related concussion, Journal of Athletic Training. 2010;45(5): 492-498

Kutcher, J. & Eckner, J. (2010). At-risk population in sports-related concussion. Current Sports Medicine Reports, 9(1), 16-20

Grady, M. (2010). Concussion in the Adolescent athlete. Current Problems in Pediatric And Adolescent Health Care. 40(7), 154-169

RETURN TO PLAY POLICIES

Rhode Island

The Rhode Island Interscholastic League
Established 1932

Recommended Concussion Protocol for the School Healthcare Provider

Return to Play Guidelines

Athlete Name: _____ School: _____

This student athlete is symptom free and may return to regular academic learning. They can now begin their recovery return to play protocol for athletic participation.

Rhode Island State Law requires the student athlete to be cleared by a licensed physician. Athletes who have symptoms anytime during this protocol, should not be permitted to advance to the next step. Increased symptoms should immediately be communicated to the supervising Physician.

Supervising Physician: _____

RTP Protocol Step	Initial on completion	Date
1. Symptom Free Recovery		
2. Light exercise (15 minutes light activity – Aerobic, ie. bike, jog, etc… – No Weightlifting)		
3. Moderate Exercise (20 to 30 minutes – Aerobic and Anaerobic)		
4. Practice with no contact		
5. Full contact practice		
6. Return to full participation/eligible to play in a contest		

* One day between each step

Plan supervised and completed by (Print name): _____

Signature: _____ Date: _____

Healthcare credentials: _____

Important – Written Physician Clearance allowing athletes to begin the Return to Play protocol must be accompanied with this form.

Date of Injury	**Date – Symptom Free**	**Date to start RTP**	**Date – full participation**

Concussions

National Federation of State High School Associations

CUMULATIVE EFFECTS OF REPEATED CONCUSSIONS

A three-year, follow-up study shows that athletes having a previous history of at least one concussion are at an increased risk for further concussions. As the number of concussions increase, so do the risk for future injuries (Guskiewicz et al, 2003). It has also been shown that repeated concussions have been linked to longer recovery periods. Highlighting the importance of making sure athletes are symptom free prior to returning to competition from a previous MHI, research has shown that 1 in 15 athletes with a concussion have recurring concussions within 7-10 days from the first concussion. Because of these findings and the potential for complications resulting from MHIs, it is recommended that athletes sustaining more than one concussion should be referred for follow-up evaluation and assessment to determine any residual effects that might preclude participation in contact or collision sports. Cases of individuals suffering permanent brain damage from multiple concussions have been reported but no consensus on how many concussions are too many or what leads to that permanent damage.

MEDICAL CLEARANCE TO RETURN TO PARTICIPATION AFTER HEAD INJURY

There is unanimous agreement within the medical community that NO athlete who has signs and symptoms of post concussion should be returned to action. There is also unanimity that there is increased risk of significant damage from a concussion for a period of time after a preceding concussion and from cumulative damage of multiple head injuries. The more concussions an individual has, the greater is the risk of having additional concussions. The exact period of increased vulnerability or the number of concussions that is "too many" has not been determined. Traditionally, physicians have advised athletes not to return to action until they have been free of symptoms for a minimum of a week. (McCrea et al, 2003). Now, rather that discuss a length of time to be free of symptoms, guidelines suggest using the gradual return-to-play protocol shown above while monitoring the athlete for symptoms. This could be longer or shorter than a week. Research, utilizing some of the testing instruments mentioned above, is now revealing subtle residual effects of concussion not found by traditional evaluation. These identifiable deficits frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to action with relative safety.

Source: National Federation of State High School Associations
Sports Medicine Handbook—Fourth Edition
Endorsed by the RI Interscholastic League Sports Medicine Advisory Comm.

CONCUSSIONS

School & Youth Programs
Concussion Act
Title 16-91

Findings of fact—The Rhode Island General Assembly hereby finds and declares:

(1) Concussions are one of the most commonly reported injuries in children and adolescents who participate in sports and recreational activities. A concussion is cause by a blow or motion to the head or body that causes the brain to move rapidly inside the skull. The risk of catastrophic injuries or death is significant when a concussion or head injury is not properly evaluated and managed.

(2) Concussions are a type of brain injury that can range from mild to severe and can disrupt the way the brain normally works. Concussions can occur in any organized or unorganized sport or recreational activity and can result from a fall or from players colliding with each other, the ground, or with obstacles. Concussions occur with or without loss of consciousness, but the vast majority occurs without loss of consciousness.

(3) Continuing to play with a concussion or symptoms of a head injury leaves the young athlete especially vulnerable to greater injury and even death. The general assembly also recognizes that, despite having generally recognized return to play standards for concussion and head injury, some affected youth athletes are prematurely returned to play resulting in actual or potential physical injury or death to youth athletes in the State of Rhode Island.

(4) Concussions can occur in any sport or recreational activity. All coaches, parents, and athletes shall be advised of the signs and symptoms of concussions as well as the protocol for treatment.

In response to these findings schools are required to educate and inform parents and athletes and of the Nature & Risk of concussions and head injury including issues related to the continuation of play after a suspected concussion or head injury. Furthermore, an athlete who is suspected of sustaining a concussion or head injury in a practice or game shall be removed from competition. In addition, the athlete may not return to play until he/she is evaluated by a licensed physician and until the athlete receives written clearance to return to play from that licensed physician.

This information sheet must be reviewed, signed by all athletes and their parents and/or guardian and returned to the school at the beginning of each sport season and prior to the youth's return to practice or competition.

The law also requires the following:

- **Any athlete who is suspected of sustaining a concussion or head injury during practice or a game shall be removed from practice or game.**
- **Any athlete who is suspected of sustaining a concussion or head injury may not return to play until he/she is evaluated by a licensed physician and receives written clearance to return to play by that licensed physician.**

For more information please visit the RIIL website (www.riil.org)

Parent/Guardian _____

Athlete _____

Sport _____

School _____

I have reviewed the contents of this pamphlet with my son/daughter.

_____ Parent Signature

_____ Athlete Signature

Date Signed _____

Complications Associated with Concussions

POST-CONCUSSION SYNDROME

Following a concussion, athletes may suffer a number of lingering symptoms for varying lengths of time. Below are listed some of the more common symptoms that may last for weeks or months. Again, no athlete with any symptom related to head injury should even begin the return-to-play protocol.

- Impaired attention
- Concentration and memory deficits
- Dizziness
- Tinnitus (ringing in the ears)
- Prolonged or recurring headaches (especially with exertion)*
- Fatigue
- Irritability
- Visual problems
- Neurasthenia, weakness or numbness

*Often high school athletes may return to sport prematurely because the headache can mistakenly be seen as a common ailment. However, recent research has shown that athletes with residual headaches even a week post concussion do poorly on specialized tests such as reaction time and memory (Collins et al, 2003). It is imperative that even a seemingly non-significant headache not be dismissed as a common ailment prior to returning to sports.

SECOND-IMPACT SYNDROME

Second-impact syndrome is a rare event, which poses a significant concern for athletes who return too soon after suffering a previous concussion. Second-impact syndrome occurs when a second concussion occurs before a previous concussion has completely healed even if both of the injuries were very mild. Second-impact syndrome is characterized by an autoregulatory dysfunction that causes rapid and fatal brain swelling, and can result in death in as little as two to five minutes (McCrory, 1998). It is particularly important to note that **virtually all of the second-impact syndrome cases that have been reported have occurred in adolescent athletes.** The signs of second-impact syndrome are as follows:

- Previous history of concussion
- Visual, motor or sensory changes
- Difficulty with memory and/or thought process
- Collapse into coma
- Neurological abnormalities in strength, range of motion or sensory feelings.

Concussions

More on Concussions

SIGNIFICANCE

The initial recognition and management of concussions are particularly important in high school athletes in preventing two potential complications associated with concussions in this age group: post-concussion syndrome and second-impact syndrome. Younger athletes may be at increased risk of cerebral swelling after a mild head injury with greater vulnerability for post-concussion symptoms for a longer period of time. Proper management should minimize the risk for these catastrophic results.

RECOGNITION OF CONCUSSIONS

Severity

The severity or seriousness of a concussion is primarily based on how long the symptoms last. The number and severity of symptoms may have some correlation but no specific symptoms are more likely to help determine severity. Restricting mental and physical activity immediately after the concussion seems to correlate with a quicker return to play.

Signs and Symptoms of Concussions

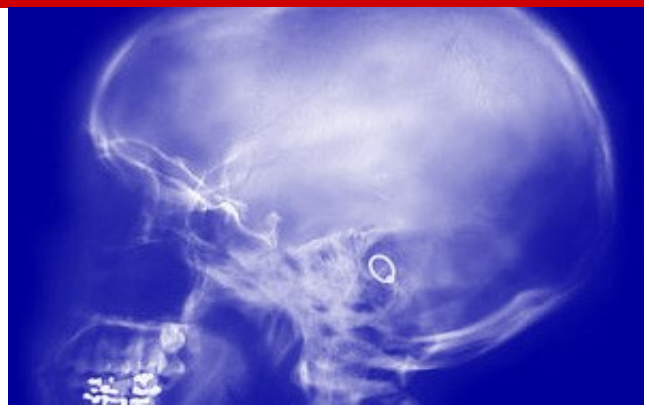
Coaches, administrators, officials (See Table 10 below) parents and athletes need to be aware of the observable signs and reported symptoms of a concussion.

Table 10. Signs and Symptoms of Concussions

Signs observed by medical staff	Symptoms reported by athlete
Player appears dazed	Headache
Player has vacant facial expression	Nausea
Confusion about assignment	Balance problems or dizziness
Athlete forgets plays	Double or fuzzy vision
Disorientation to game, score, opposing team	Sensitivity to light or noise
Inappropriate emotional reaction (laughing, crying)	Feeling slowed down
Player displays incoordination or clumsiness	Feeling "foggy" or "not sharp"
Player is slow to answer questions	Change in sleep pattern
Loss of consciousness	Concentration or memory problems
Repeating the same questions or comments over and over again	Irritability
	Sadness
	Feeling more emotional

Concussions

National Federation of State High School Associations



- Even though most concussions are mild, all concussions are potentially serious and may result in complications that range from prolonged brain damage to death if not managed properly.
- An athlete who has a head injury should not return to play without evaluation by medical personnel.
- Do not allow any athlete to return to participation if he/she has any symptoms.
- If an apparent head injury occurs, even if uncertainty exists about the severity of the injury and whether a true concussion occurred, that athlete should not return to action until medical clearance is obtained.
- Even a seemingly minor head injury, often referred to as "a ding" or "bell ringer," is now considered a true concussion and must be managed as such to avoid potential long-term consequences.
- Neither loss of consciousness, vomiting or amnesia is necessary for a head injury to be considered a concussion.

RECOGNITION

A concussion, by definition, means "to shake violently." A blow to the head that causes the brain to shake inside the skull and result in EVEN A BRIEF AND MILD alteration in brain function is considered a concussion. Although no obvious signs or symptoms may show up immediately, listed below are some of the symptoms that may suggest a concussion has occurred. Any of these

- Headache
- Dazed and vacant expression ("foggy")
- Confusion
- Difficulty with balance and coordination skills
- Difficulty with concentration, memory and organizational skills
- Nausea and/or vomiting
- Amnesia
- Slurred and/or inappropriate speech
- Repeating the same questions or comments
- Apparent loss of consciousness
- Moves slowly and/or clumsily
- Unsure of game, score or opponent
- Forgets play responsibilities
- Double vision or blurred vision
- Increased sensitivity to light or noise
- Sleep difficulties
- Increased irritability
- Hypersensitivity to light and noise
- Abnormal vision, hearing, smell and/or taste
- Excessive fatigue
- Abnormal sleep patterns
- Ringing in the ears
- Numbness and tingling
- Emotional problems, especially sadness and depression

Returning the Athlete to Participation

The International Conference on Concussion at Vienna (2001) and Prague (2004), have significantly changed the thinking of proper management of head injuries in athletes. Some of the conclusions are highlighted below:

- The grading systems for concussions previously utilized are no longer considered useful in determining how serious an injury may be or in determining when an athlete can safely return to play. No symptom(s) or signs (including loss of consciousness or amnesia) accurately predict the severity of the injury or help decide when an athlete can return to play.
- New guidelines recommend monitoring the course of the symptoms and beginning a gradual return-to-play protocol when all symptoms have cleared. (See Table 8—Sideline Decision-making and Table 9—Return-to-play below)
- There are now objective, validated methods of evaluating brain function in athletes to help physicians determine with greater confidence when an athlete does seem to be clear of symptoms and can start through the graduated return-to-play regimen. These include questionnaires, various pencil-and-paper tests, balance tests, neurological and memory tasks, and computerized tests. Recognizing that athletes, with the mentality of "playing through the pain," are not always totally candid about admitting symptoms, guidelines now recommend the use of these more objective methods to evaluate how an athlete's brain is functioning. Tests requiring little cost like Sideline Assessment of Concussion (SAC), Sideline Concussion Checklist (SCC), and Sport Concussion Assessment Tool (SCAT) have been shown to be helpful. Newer computerized neuro-psychological screening like impact, CRI and Sentinel have also been shown to be helpful for physicians making return-to-play decisions.
- Guidelines further suggest that athletes playing high-risk or collision sports or with a history of previous concussions, should have these tests administered prior to the season to serve as a baseline in case an injury does occur.
- Mental exertion appears to worsen and prolong concussion symptoms to the same degree as physical exertion. Therefore, the concept of "cognitive rest" should be adhered to in concussion management. This may involve a limited class schedule for several days following a concussion, or rescheduling tests. More severely concussed athletes may require more detailed and long-lasting special accommodations.
- A requirement to begin the return-to-play protocol is that the athlete must have no symptoms. Then, gradual increase in mental activity as tolerated will be followed by a similar gradual return to full physical activity. If symptoms recur, then the athlete must regress to a previous level of performance . (See Tables 8 and 9 below)

Table 8. Sideline Decision-making

Sideline Decision-making	Medical Clearance RTP Protocol
1. No athlete should return to play (RTP) after head injury even if clear in 15 minutes without medical clearance. 2. Any athlete removed from play for a head injury must have appropriate medical clearance before practice or competition may resume. 3. Close observation of athlete should continue for a few hours. 4. After medical clearance, RTP should follow a stepwise protocol with provisions for delayed RTP based on return of any signs or symptoms.	1. No exertional activity until asymptomatic. 2. When the athlete appears clear, begin low-impact activity such as walking, stationary bike, etc. 3. Initiate aerobic activity fundamental to specific sport such as skating, running, etc. 4. Begin non-contact skill drills specific to sport such as dribbling, ground balls, batting, etc. 5. Then full contact in practice setting. 6. If athlete remains without symptoms, he or she may return to play.

A. Athlete must remain asymptomatic to progress to the next level.
B. If symptoms recur, athlete must return to previous level.
C. Medical check should occur before contact.

Table 9. Return-to-play

Return-to-play Medical Clearance Protocol
No mental or physical activity should occur until athlete's symptoms are gone. Avoid physical exertion but also avoid studying, school attendance, test taking, video games, computer use and TV until clear.
When clear, begin with short periods of reading, focusing and an abbreviated school day as tolerated.
When tolerating full day of school attendance, begin low-impact activity such as walking, stationary bike, etc. Gradually increase intensity and duration as tolerated.
Advance to aerobic activity fundamental to specific sport such as skating, running, etc.
Advance to non-contact skill drills sports specific such as dribbling, batting, shooting.
Full contact in practice setting.
If accomplishes all the above without return of signs and symptoms, may return to play following final clearance. Some athletes, especially if multiple previous concussions, should consider having a base-line computerized neuropsychological test performed because of the increased risk of concussions in those with previous ones.

RETURN TO PLAY POLICIES

South Carolina

SCHSL Concussion Return to Play Form

This form is adapted from the Acute Concussion Evaluation (ACE) care plan on the CDC web site. www.cdc.gov/injury. All medical providers are encouraged to review this site if they have questions regarding the latest information on the evaluation and care of the scholastic athlete following a concussion injury. **Please initial any recommendations that you select.**

Athlete's Name _____ Date of Birth _____

Date of Injury _____

This return to play plan is based on today's evaluation Date of Evaluation _____

Return to this office Date/Time _____

Care plan completed by _____ Return to school on (date) _____

RETURN TO SPORTS

Please Note

1. **Athletes should not return to practice or play the same day that their head injury occurred.**
2. **Athletes should never return to play or practice if they still have <u>ANY symptoms</u>.**
3. Athletes, be sure that your coach and /or athletic trainer are aware of your injury, symptoms, and has the contact information for the treating physician. The following are the return to sports recommendations at the present time:

The following are the return to sports recommendations at the present time:

PHYSICAL EDUCATION: ☐ Do Not Return to PE class at this time. ☐ May Return to PE class.

SPORTS:

☐ Do not return to sports practice or competition at this time.

☐ May gradually return to sports practices under the supervision of the health care provider for your school or team.

☐ May be advanced back to competition after phone conversation with attending physician.

☐ Must return to Physician for final clearance to return to competition.

- OR -

☐ Cleared for full participation in all activities without restriction.

Medical Office Information (Please Print/Stamp)

Physician' Name _____ Physician's Office phone _____

Physician's Signature _____ Office Address _____

_____

<u>Gradual Return to Play Plan</u>

Return to play should occur in gradual steps beginning with light aerobic exercise only to increase your heart rate (e.g. stationary cycle); moving to increasing your heart rate with movement (e.g. running); then adding controlled contact if appropriate; and finally return to sports competition.

Pay careful attention to your symptoms and your thinking and concentration skills at each stage or activity. After completion of each step without recurrence of symptoms, you can move to the next level of activity the next day. Move to the next level of activity only if you do not experience any symptoms at the present level. If your symptoms return, let your health care provider know, return to the first level and restart the program gradually.

Day 1: Low levels of physical activity (i.e. symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, and light weightlifting (low weight – moderate reps, no bench, no squats).

Day 2: Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate intensity on the stationary cycle, moderate intensity weightlifting (reduce time and or reduced weight from your typical routine).

Day 3: Heavy non-contact physical activity. This includes sprinting/running, high intensity stationary cycling, completing the regular lifting routine, non-contact sport specific drills (agility – with 3 planes of movement).

Day 4: Sports Specific practice

Day 5: Full contact in a controlled drill or practice.

Day 6: Return to competition

RETURN TO PLAY POLICIES

South Dakota

SANFORD
ORTHOPEDICS
SPORTS MEDICINE

Dear Colleague

Recently, concussion management and return-to-play legislation has been enacted in our region. This important legislation is directly in line with, and responsive to, the most recognized authoritative guidelines on concussion management. The directives of the legislation are also consistent with the emerging accepted standard of care for concussion in youth sports as defined by similar laws already passed, or under consideration, in numerous other states. In order to assist all providers with implementing an appropriate and recognized standard of care for athletes who have incurred a sport-related concussion, we have developed a convenient collection of evaluation and return-to-play guidelines and materials. This new Sanford "Playbook" includes specific guidelines, office-based and sideline evaluation tools, patient home instruction, as well as explanations of the law pertaining to each state that will assist the provider in determining and implementing the best individualized sport concussion management plan, including progressive return to school and play.

What are the key elements of the new concussion-management and return-to-play legislation?

- Informing and educating coaches, youth athletes, and the athletes' parents or guardians of the nature and risks of concussion, including continuing to play after sustaining a concussion.
- Immediately removing a youth athlete who is suspected of sustaining a concussion in a game, practice or other training activity.
- Allowing a youth athlete who has been removed from any athletic activity for a suspected concussion to return only after the athlete is evaluated by a licensed health care provider trained and experienced in the evaluation and management of concussion.

Please take the time to carefully review all of the enclosed materials, and feel free to make copies for your use as needed. We are anxious to collaborate with you and answer any questions that you might have in the evaluation and care of your sport concussion patients.

Regards,


Verle Valentine, MD


Jeffrey Lystad, MD


Mark Carlson, MD


Michael Bergeron, PhD, FACSM

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100-11395-1972 11/11

SANFORD
ORTHOPEDICS
SPORTS MEDICINE

Explanation of Legislation

Background

- As many as 40 percent of youth athletes who sustain a concussion return to the field of play sooner than modern guidelines suggest.
- Athletes who are not fully recovered from an initial concussion are significantly more vulnerable to recurrent, cumulative, and potentially catastrophic consequences of a second concussive injury.
- Resting and avoiding physical and cognitive exertion are critical in the acute management of a sport-related concussion. No athlete should return to activity until asymptomatic at rest *and* with exertion.
- Concussions can occur in all athletes of any age and in any sport. Children and teens are more likely to get a concussion and take longer to recover than adults.
- To date, more than half of the states in the U.S. including SD, ND, MN, NE and IA, have enacted concussion legislation since 2009.
- Early anecdotal data suggest that the laws are having an immediate and positive impact, while helping to achieve the critical goal of preventing subsequent risk associated with brain injuries and making sports safer for youth.

The Law

- The primary goal of the law is getting youth athletes off the field of play after sustaining a concussion. It further provides any affected youth athlete proper time to heal from a concussion and significantly minimizes the risk for prolonged concussion symptoms, and the undue risk for further injury, including death.
- A student-athlete must sit out after receiving the concussion (or suspected concussion) and cannot return to athletic activity until s/he:
    1. No longer exhibit signs, symptoms or behaviors consistent with a concussion.
    2. Receives written clearance to return to play from a licensed health care provider trained in the evaluation and management of concussions.
- Other important features of the law include:
    1. The health care provider can be a volunteer.
    2. The law requires coaches to complete a short, concise, online training program, free of charge, to educate them on the nature and risk of concussion associated with athletic activity and how to recognize the signs, symptoms and behaviors consistent with a concussion.
    3. The law is intended to help educate parents and youth athletes about the nature and risk of concussions associated with athletic activity and how to recognize the signs, symptoms, and behaviors consistent with a concussion and how to appropriately respond and seek proper care.
    4. There is no liability attached to the legislation. It does not mandate any civil or criminal penalties, nor does it create greater liability for individuals and/or organizations. The education and awareness efforts, coupled with the requirement of medical clearance before return to play, have decreased the variability of care and overall liability.

Concussions in Youth Sports–Physician Guide

- South Dakota
- North Dakota
- Minnesota
- Nebraska
- Iowa

Resources

- Information regarding clinical services, concussion facts, and available resources can be viewed at sanfordhealth.org, enter keyword: concussion
- The Centers for Disease Control and Prevention (CDC) booklet of Facts for Physicians can be accessed at www.cdc.gov/concussion/HeadsUp/physicians_tool_kit.html
- A free tutorial is available on the CDC website at www.cdc.gov/concussion/HeadsUp/Training/HeadsUpConcussion.html

1 Center for Injury Research and Policy at Nationwide Children's Hospital, Columbus, Ohio.
2 American College of Sports Medicine – Youth Concussion Educational Awareness and Advocacy Packet.
3 2010 AAP clinical report "Sport-Related Concussion in Children and Adolescents"

100-11395-1972 11/11

South Dakota Concussion Legislation

1. Who Does The Law Apply To?

Every coach, youth athlete, and their parent(s) or guardian(s) who seek to compete in activities sanctioned by the South Dakota High School Activities Association (SDHSAA).

2. Educational and Training Opportunities

Legal Requirements	SDHSAA Sports	Youth Sports
Requires SDHSAA and the SD Department of Education to develop and distribute guidelines and information including protocols and content consistent with current medical knowledge to each member school, coach, athlete, and the athlete's parent(s) or guardian(s) regarding: the nature and risks of concussions; the signs, symptoms, and behaviors consistent with concussions; the need to alert appropriate medical professionals for diagnosis and treatment; and the need to follow proper medical direction and protocols for treatment and return-to-play after an athlete sustains a concussion.	X	
Requires each coach participating in athletic activities, sanctioned by the SDHSAA, to complete a training program each academic year, developed by the SDHSAA and SD Department of Education.	X	
Requires the parent(s) or guardian(s) of a youth athlete to sign a consent form each academic year allowing the youth athlete to participate in an athletic activity. The form must include information about the nature and risks of concussions.	X	

3. Removal Guidelines

An athlete shall be removed from participation in any athletic activity sanctioned by the SDHSAA at the time the athlete (a) exhibits signs, symptoms, or behaviors consistent with a concussion or (b) is suspected of sustaining a concussion.

4. Return-To-Play

Once an athlete has been removed from participation in an athletic activity sanctioned by the SDHSAA, the youth athlete may not return to athletic activities until (a) the athlete no longer exhibits signs, symptoms, or behavior consistent with a concussion and (b) receives an evaluation by a licensed health care provider trained in the evaluation and management of concussions and (c) receives written clearance to return-to-play from such health care provider.

5. Scope of Legal Coverage

Under this provision, "health care provider" means a person who is registered, certified, licensed, or otherwise recognized in law, by the State of South Dakota, to provide medical treatment and is trained and experienced in the evaluation, management, and care of concussions.

For a complete list of SD legislative details, please visit:
http://www.legis.state.sd.us/sessions/2011/Bills/SB149ENR.pdf.

SANFORD
ORTHOPEDICS
SPORTS MEDICINE

North Dakota Concussion Legislation

1. Who Does The Law Apply To?

Each school district and non-public school that sponsors or sanctions any athletic activity in ND and requires a participating student to regularly practice or train, and compete, is subject to the terms of a concussion management program.

2. Educational and Training Opportunities

Legal Requirements	Each School District and Non-public School	Youth Sports
The concussion management program must require that each official, coach, and athletic trainer receive biennial training regarding the nature and risk of concussion.	X	
The required information must be provided by the student's school district or non-public school and must be made available in a printed or verifiable electronic form.	X	
The concussion management program must set forth in clear and readily comprehensible language to signs and symptoms of concussion.	X	
The student and the student's parent shall document that they have viewed information regarding concussions incurred by students participating in athletic activities.	X	

3. Removal Guidelines

An official, coach, or athletic trainer must remove a student from competition, practice, or training if (a) the student shows any signs or symptoms of a concussion; (b) an official, coach, or athletic trainer determines that the student exhibits any signs or symptoms of a concussion; or (c) an official, coach, or athletic trainer is notified that the student has reported or exhibited any signs or symptoms of a concussion by a licensed, registered, or certified health care provider, whose scope of practice includes the diagnosis and treatment of concussion.

4. Return-To-Play

Any student who is removed from play must be examined as soon as practicable by a licensed, registered, or certified health care provider, whose scope of practice includes the diagnosis and treatment of concussion. A student who is removed from play may not be allowed to return to practice, training or competition until the student or the student's parent obtains written authorization from a licensed, registered, or certified health care provider, whose scope of practice includes diagnosis and treatment of concussion and provides that authorization to the student's coach or athletic trainer.

5. Scope of Legal Coverage

"Official" means an umpire, referee, judge, or any other individual formally officiating at an athletic event.

For a complete list of ND legislative details, please visit:
http://www.legis.nd.gov/assembly/62-2011/documents/11-0620-05000.pdf

Minnesota Concussion Legislation

1. Who Does The Law Apply To?

Coaches, officials, youth athletes and their parent(s) or guardian(s) involved in a youth athletic activity that are (a) organized by a city, business or nonprofit organization, and for which a fee is charged, or (b) an extracurricular activity sponsored by a public school, including charter schools.

2. Educational and Training Opportunities

Legal Requirements	School Sports	Organized Youth Sports
Make information accessible to all participating coaches, officials, youth athletes and their parent(s) or guardian(s) about the nature and risks of concussions; the signs and symptoms consistent with a concussion; the need to seek urgent medical care upon suspicion of a concussion; and the need for a concussed athlete to follow proper medical direction and treatment before returning to play.	X	X
Require all participating coaches and officials to receive initial online training and online training at least once every three calendar years thereafter, consistent with the Concussion in Youth Sports online training program available on the CDC's website.	X	X
If a parent of a youth athlete must sign a consent form to allow the youth athlete to participate in an athletic activity, the form must include information about the nature and risks of concussions.	X	

3. Removal Guidelines

A coach or official shall remove a youth athlete from participating in any youth athletic activity when the youth athlete (a) exhibits signs, symptoms, or behaviors consistent with a concussion or (b) is suspected of sustaining a concussion.

4. Return-To-Play

When a coach or official removes a youth athlete from participating in a youth athletic activity because of a concussion, the youth athlete may not again participate in the activity until the youth athlete (a) no longer exhibits signs, symptoms, or behaviors consistent with a concussion and (b) is evaluated by a provider trained and experienced in evaluating and managing concussions and (c) the provider gives the youth athlete written permission to again participate in the activity.

5. Scope of Legal Coverage

"Provider" means a health care provider who is registered, licensed, certified, or otherwise statutorily authorized by the state to provide medical treatment; trained and experienced in evaluating and managing pediatric concussions; and practicing within the person's medical training and scope of practice. "Youth athlete" means a young person, through age 18, who actively participates in an athletic activity, including a sport. "Youth athletic activity" means any sport or other activity related to competition, practice, or training exercises which is intended for youth athletes and at which a coach or official is present in an official capacity as a coach or official. This section is effective September 1, 2011.

For a complete list of MN legislative details, please visit:
https://www.revisor.mn.gov/data/revisor/law/2011/0/2011-090.pdf

Iowa Concussion Legislation

1. Who Does The Law Apply To?

Coaches, students, and parent(s) or guardian(s) of students involved in activities organized by the Iowa High School Athletic Association and/or the Iowa Girls High School Athletic Union.

2. Educational and Training Opportunities

Legal Requirements	Each School District and Non-public School	Youth Sports
Annually provide the parent(s) or guardian(s) of each student a concussion and brain injury information sheet as provided by the Iowa High School Athletic Association and the Iowa Girl's High School Athletic Union.	X	
The student and the student's parent(s) or guardian(s) shall sign, and return, the concussion and brain injury information sheet to the student's school prior to the student's participation in any extracurricular interscholastic activity for grades 7 – 12.	X	

3. Removal Guidelines

A student shall be immediately removed if a coach or contest official observes signs, symptoms, or behaviors consistent with a concussion or brain injury in an extracurricular interscholastic activity.

4. Return-To-Play

A student who has been removed from participation shall not recommence such participation until the student has been evaluated by a licensed health care provider, trained in the evaluation and management of concussions and other brain injuries, and the student has received written clearance to return to participation from the health care provider.

5. Scope of Legal Coverage

A "health care provider" means a physician, PA, chiropractor, advanced registered nurse practitioner, nurse, physical therapist, or athletic trainer licensed by a board. An "extracurricular interscholastic activity" means any extracurricular interscholastic activity, contest, or practice, including sports, dance, or cheerleading.

For a complete list of IA legislative details, please visit:
http://coolice.legis.state.ia.us/Cool-ICE/default.asp?category=billinfo&service=billbook&GA=84&hbill=SF367.

Nebraska Concussion Legislation

1. Who Does The Law Apply To?

Each approved or accredited public, private, denominational, or parochial schools, as well as any city, village, business, or nonprofit organization that organizes an athletic activity in which the athletes are 19 years of age or younger and are required to pay a fee to participate in the athletic activity or whose cost to participate in the athletic activity is sponsored by a business or nonprofit organization.

2. Educational and Training Opportunities

Legal Requirements	Each approved or accredited public, private, denominational, or parochial school	Youth Sports
Make available training approved by the chief medical officer on how to recognize the symptoms of a concussion or brain injury and how to seek proper medical treatment for a concussion or brain injury to all coaches.	X	X
Require that concussion and brain injury information be provided on an annual basis to students and the student's parent(s) or guardian(s) prior to such students initiating practice or competition.	X	X
Information provided to students and the student's parent(s) or guardian(s) shall include, but need not be limited to: the signs and symptoms of a concussion; the risks posed by sustaining a concussion; and the actions a student should take in response to sustaining a concussion, including the notification of his or her coaches.	X	X
If a student is reasonably suspected, after observation, of having sustained a concussion or brain injury and is removed from an athletic activity, the parent(s) or guardian(s) of the student shall be notified by the school of the date and approximate time of the injury suffered by the student, the signs and symptoms of a concussion or brain injury that were observed, and any actions taken to treat the student.	X	X

3. Removal Guidelines

Students who participate on a school athletic team shall be removed from a practice or game when he or she is reasonably suspected of having sustained a concussion or brain injury in such practice or game after observation by a coach or a licensed health care professional who is professionally affiliated with or contracted by the school.

4. Return-To-Play

Students shall not be permitted to participate in any school supervised team athletic activities involving physical exertion, including, but not limited to practices or games, until the student (a) has been evaluated by a licensed health care professional, (b) has received written and signed clearance to resume participation in athletic activities from the licensed health care professional, and (c) has submitted the written and signed clearance to resume participation in athletic activities to the school accompanied by written permission to resume participation from the student's parent(s) or guardian(s).

5. Scope of Legal Coverage

A "licensed health care professional" means a physician or licensed practitioner under the direct supervision of a physician, a certified athletic trainer, a neuropsychologist, or some other qualified individual who is (a) registered, licensed, certified, or otherwise statutorily recognized by the State of Nebraska to provide health care services and (b) is trained in the evaluation and management of traumatic brain injuries among a pediatric population. The chief medical officer shall be licensed to practice medicine and surgery in the State of Nebraska, shall serve at the pleasure of the Governor, and shall be subject to confirmation by a majority of the members of the Legislature. This act becomes operative on July 1, 2012.

For a complete list of NE legislative details, please visit:
http://www.legislature.ne.gov/FloorDocs/Current/PDF/Slip/LB260.pdf.

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Sports Concussion Algorithm

(Health Care Provider Information)

Athlete presents with signs, symptoms or behaviors of a concussion.

Performance Eval

Evaluation should include assessment for these **RED FLAGS**

- Headache that worsens
- Seizure
- Looks very drowsy or can't be awakened
- Repeated vomiting
- Slurred speech
- Can't recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms or legs
- Unusual behavioral change
- Loss of consciousness > 30 seconds

Does the athlete exhibit any "Red Flags?"

No → Based on clinical judgment, has the athlete sustained a concussion?

No → Monitor and/or treat as clinically indicated

Yes → 1. Recommend modifications in both school and personal activities
- Physical Rest (no running, biking, lifting, etc.)
- Cognitive Rest (no school work, video games, etc.)

2. Hand out patient information form and continue to monitor signs and symptoms

Yes → Consideration should be made for EMS, ED or Advanced Imaging.

Did Imaging or Emergency Department find evidence of an Intracranial Bleed?

No → Based on clinical judgment, has the athlete sustained a concussion?

Yes → Neurosurgery Referral

Follow-up Evaluation

1. Progression back to daily life and school activities as symptoms improve
2. Monitor signs and symptoms as activities increase

Continue to Monitor
Failure to resolve after 3-4 weeks should warrant consideration for referral to a Specialty Care Center

Is the athlete free of all Signs and Symptoms at Rest? (Also free of neurocognitive, balance & neurological changes?)

No → Continue to Monitor

Yes → Begin Graduated "Return-to-Play" Protocol*
(There should be a minimum of 24 hours between stages; however the speed of progression should be based on clinical judgment with consideration of the presence of any of the Concussion Modifiers)

If return of signs or symptoms during the protocol, then re-evaluation is warranted and athlete must wait 24 hours and be free of "Signs and Symptoms at Rest" before returning to Stage 1 of protocol.

- Stage 1–Light Aerobic Exercise (Exertion Level: HR range 100-140 / RPE range 3-4)
- Stage 2–Sport-Specific Exercise (Exertion Level: HR range 120-160 / RPE range 4-6)
- Stage 3–Non-Contact Training Drills (Exertion Level: HR range 140-180 / RPE range 6-8)
- Stage 4–Full Contact Practice (Exertion Level: HR range 160-200 / RPE range 8-10)

Has the athlete successfully completed all stages of the "Return-to-Play" Protocol without return of symptoms?

No → Is the athlete free of all Signs and Symptoms at Rest? (Also free of neurocognitive, balance & neurological changes?)

Yes → RETURN TO PLAY

Concussion Modifiers*

- Duration of symptoms
- Number of symptoms
- Severity of symptoms
- Prolonged LOC (>30 seconds)
- Presence of amnesia
- History of concussive convulsion
- Number of concussions
- Recent concussion
- History of two concussions in a short period of time
- Concussion caused by a lower threshold force
- Age (younger athlete takes longer to recover)
- History of migraine (personal or family)
- History of depression or other mental health disorder
- History of ADD/ADHD
- History of a learning disability
- History of a sleep disorder
- Psychoactive medication
- Dangerous style of play
- High-risk activity

*McCrory P., et al. *Br J Sports Med 2009*; 43 (suppl l):; 76-90.

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100-11395-1972 11/11

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Sports Concussion—Graduated "Return-to-Play" Protocol

(Guidelines for exercise progression from your Health Care Provider)

Complete rest from physical activity—until asymptomatic

↓

If asymptomatic after _____ day(s)

↓

Stage 1–Light Aerobic Exercise—walking, swimming, stationary cycling, etc.
Exertion Level: 30-40% of maximum exertion / HR range 100-140 / RPE range 3-4. Duration: 20 minutes

↓

If asymptomatic after _____ day(s)

↓

Stage 2–Sport-Specific Exercise—moderate running, skating, dribbling or weight training, etc.
Exertion Level: 40-60% of maximum exertion / HR range 120-160 / RPE range 4-6. Duration: 30 minutes

↓

If asymptomatic after _____ day(s)

↓

Stage 3–Non-Contact Training Drills—sprinting/running, full weight training, etc.
Exertion Level: 60-80% of maximum exertion / HR range 140-180 / RPE range 6-8. Duration: 30-60 minutes

↓

If asymptomatic after _____ day(s)

↓

Stage 4–Full Contact Practice—resume normal training activities.
Exertion Level: 80-100% of maximum exertion / HR range 160-200 / RPE range 8-10. Duration: full practice

↓

If asymptomatic after _____ day(s)

↓

CLEARED FOR RETURN-TO-PLAY.

Please note

- Each stage is to take at least 24 hours, but longer in recurrent or severe cases.
- Each stage should be completed without a return of concussive symptoms before proceeding to the next stage.
- If the athlete becomes symptomatic during the course of the protocol, he or she should be reevaluated by a health care provider for clearance before restarting the protocol.
  When the athlete restarts the protocol, he or she needs to begin again **at stage 1.**
- RPE is an abbreviation for Rating of Perceived Exertion. It should be measured on a scale from 1 to 10.

100-11395-1972 11/11

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Sports Concussion

(Office-based instructions from your Health Care Provider)

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to these instructions can also prevent a worsening condition or further injury.

Rest is the key. It is very important to limit all physical activity. Particularly, you should not participate in any high-risk activities (e.g., sports, physical education (PE), skateboarding, riding a bike, etc.) if you still have any of the signs and symptoms below.

It is also important to limit activities that require a lot of thinking or concentration (e.g., test taking, homework, job-related activities), as this can also make your symptoms worse and your recovery longer. If you no longer have any signs or symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. If you are a child or teenager, get help from your parents, teachers, coaches, and athletic trainers to help monitor your recovery and return to activities.

Common Signs & Symptoms

It is common for a concussed child or young adult to have one or many concussion signs or symptoms. Signs or symptoms present at time of evaluation are circled or checked.

PHYSICAL		THINKING	EMOTIONAL	SLEEP
Headache	Sensitivity to light	Feeling mentally foggy	Irritability	Drowsiness
Nausea	Sensitivity to noise	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/Tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Visual problems	Vomiting	Feeling more slowed down	Nervousness	Trouble falling asleep
Balance problems	Dizziness			Trouble staying asleep

Red Flags

Call your doctor or go to your emergency department if you suddenly experience any of the following:

Headache that worsens	Feel very drowsy or can't be awakened	Can't recognize people or places	Unusual behavior change
Seizure	Repeated vomiting	Increasing confusion	Increasing irritability
Neck pain	Slurred speech	Weakness or numbness in arms or legs	Loss of consciousness

Returning to Daily Activities

- Get lots of rest. Be sure to get enough sleep at night—no late nights. Keep the same bedtime weekdays and weekends.
- Drink lots of fluids and eat carbohydrates and protein to maintain appropriate blood sugar levels and caloric intake.
- During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
- Repeated evaluation of your signs and symptoms is recommended to help guide recovery.

Physical Exertion (check all that apply)

❒ No physical exertion/athletics/gym class
❒ Begin return-to-play protocol as indicated below
____Low levels of physical activity (only if symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, and light weight lifting. (lower weight, higher reps, no bench, and no squat)
____Moderate levels of physical activity with some non-rapid body/head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting. (reduced time and/or reduced weight from your typical routine)
____Heavy, non-contact physical activity. This includes sprinting/running, high-intensity stationary biking, regular weightlifting routine, non-contact sport-specific drills (in 3 planes of movement)
____Full contact in controlled practice
____Full contact in game play

Brain Exertion (check all that apply)

❒ No school, homework, or other after school academic activities
❒ No reading or texting
❒ No driving
❒ No computer time or video games
❒ Limit television time
❒ Avoid loud noise and bright lights
❒ Allow listening to low-volume music (i.e., iPod, book on tape, etc.)
❒ Allow light reading for _____ minutes at a time, for a total of _____ minutes per day
❒ Allow homework for _____ minutes at a time, for a total of _____ minutes per day
❒ Allow computer work for _____ minutes at a time, for a total of _____ minutes per day
❒ Allow texting for _____ minutes at a time, for a total of _____ minutes per day

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100-11395-1972 11/11

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Accommodations for Students

(Instructions from the Health Care Provider)

Patient Name: _____

Date of Evaluation: _____

Restrictions should be applied from ___/___/___ until ___/___/___

This patient had been diagnosed with a concussion and is currently under our care. It is recommended that the below accommodations be implemented to avoid increasing concussion symptoms and delaying recovery.

Physical Exertion (check all that apply)

- ❑ No physical exertion/athletics/gym class
- ❑ Begin return to play protocol as indicated below
  - _____ Low levels of physical activity (only if symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, and light weight lifting (lower weight, higher reps, no bench, and no squat)
  - _____ Moderate levels of physical activity with some non-rapid body/head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weight lifting (reduced time and/or reduced weight from your typical routine)
  - _____ Heavy, non-contact physical activity. This includes sprinting/running, high-intensity stationary biking, regular weight lifting routine, non-contact sport-specific drills (in 3 planes of movement)
  - _____ Full contact in controlled practice
  - _____ Full contact in game play

Brain Exertion (check all that apply)

- ❑ No school, homework, or other after-school academic activities
- ❑ No reading or texting
- ❑ No computer time or video games
- ❑ Limit television time
- ❑ Avoid loud noise and bright lights
- ❑ Allow listening to low-volume music (i.e. iPod, book on tape)
- ❑ Allow light reading for _____ minutes at a time, for a total of _____ minutes per day
- ❑ Allow homework for _____ minutes at a time, for a total of _____ minutes per day
- ❑ Allow computer work for _____ minutes at a time, for a total of _____ minutes per day
- ❑ Allow texting for _____ minutes at a time, for a total of _____ minutes per day

Academic Accommodations (check all that apply)

Attendance

- ❑ No school for _____ day(s)
- ❑ Part time attendance for _____ day(s), as tolerated
- ❑ Full school days, only as tolerated
- ❑ Tutoring homebound/in school, as tolerated
- ❑ No school until symptom free or significant decrease in symptoms
- ❑ Initiate homebound education

Academic Accommodations (continued)

Visual Stimulus

- ❑ Allow student to wear sunglasses in school (including in class)
- ❑ Permit pre-printed notes for class material or note taker
- ❑ Limit smart boards, projectors, computers, TV screens or other bright screens
- ❑ Enlarge font when possible
- ❑ Allow student to sit near the front of the classroom

Workload/Multi-tasking

- ❑ Reduce overall amount of make-up work, class work and homework when possible
- ❑ No homework
- ❑ Limit homework to _____ minutes a night
- ❑ Prorate workload when possible
- ❑ Limit backpack weight
- ❑ Limit stair use

Breaks

- ❑ Allow student to go to the nurse's office, if symptoms increase
- ❑ Allow student to go home, if symptoms do not subside

Audible Stimulus

- ❑ Allow student to leave class 5 minutes early to avoid noisy hallways
- ❑ Provide opportunity to have lunch in a quiet place
- ❑ Use audible learning (discussions, reading out loud, or if possible, text-to-speech programs or Kindle)

Testing

- ❑ No testing
- ❑ Extra time to complete tests
- ❑ No more than one test a day
- ❑ Oral testing only
- ❑ Open book testing
- ❑ Testing in a quiet environment

Work Restrictions

- ❑ No work at this time
- ❑ Limit work to _____ hours per day

Additional Instructions:

_____

_____

_____

_____

_____

Provider Signature: _____

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100-11395-1972 11/11

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Sports Concussion

(Sideline instructions from your Health Care Provider)

Athlete Name: _____ DOB: _____ Date: _____ Date of Injury: _____

When To Seek Care Urgently

Seek care quickly if symptoms worsen or if there are any behavioral changes. Also watch for any of the following serious signs/symptoms, which may not appear immediately following the trauma, but can develop hours after the injury itself.

Headache that worsens	Looks very drowsy or can't be awakened	Can't recognize people or places	Unusual behavior change
Seizure	Repeated vomiting	Increasing confusion	Increasing irritability
Neck pain	Slurred speech	Weakness or numbness in arms or legs	Loss of consciousness

Common Signs & Symptoms

It is common for a concussed child or young adult to have one or many concussion signs or symptoms. Signs or symptoms present at time of evaluation are circled or checked.

PHYSICAL		THINKING	EMOTIONAL	SLEEP
Headache	Sensitivity to light	Feeling mentally foggy	Irritability	Drowsiness
Nausea	Sensitivity to noise	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/Tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Visual problems	Vomiting	Feeling more slowed down	Nervousness	Trouble falling asleep
Balance problems	Dizziness			Trouble staying asleep

It is okay to:	There is no need to :	Do not:
Use acetaminophen (Tylenol) for headaches	Check eyes with flashlight	Drink alcohol
Use ice pack on head and neck as needed for comfort	Test reflexes	Take sleeping pills or sleeping aids
Eat a light diet	Stay in bed	Take products that contain ibuprofen (Advil, Motrin)
Go to sleep	Wake up every hour	Take products that contain aspirin or naproxen (Aleve)
Rest		Drive until medically cleared

Returning to Daily Activities

- Limit activities that require thinking or concentration (e.g., homework, job-related activity) as much as possible. These activities can make symptoms worse.
  1. Limit screen time (television and computer) as much as possible. Especially in the early stages of healing, a good rule of thumb is no screen time.
  2. Avoid reading, video games and text messaging as much as possible.
  3. Limit extra-curricular activities.
  4. Avoid loud noise and bright lights.
  5. As symptoms decrease, encourage frequent study breaks to avoid provoking symptoms (for example, studying for 15 minutes, then resting for 10-15 minutes, etc.)
- No physical activities until cleared by a medical professional. Physical activity includes PE, sports practices, weight training, running, exercising, heavy lifting, etc.
- Get lots of rest. Be sure to get enough sleep at night - no late nights. Keep the same bedtime weekdays and weekends.
- Take rest breaks when you feel tired or fatigued.
- Drink lots of fluids and eat carbohydrates and protein to maintain appropriate blood sugar levels and caloric intake.
- Under provider supervision, and as symptoms decrease, you may gradually return to your daily life activities. If symptoms worsen or return, lessen your activities, and follow-up with your health care provider.
- During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
- Repeated evaluation of your signs and symptoms is recommended to help guide recovery.

Comments: _____

_____

_____

Do not return to sports/vigorous physical activity until all your symptoms have completely cleared and you have been cleared by a medical professional.

Recommendations provided to: _____

Relationship: _____

Date: _____

Health Care Provider Name & Contact Information: _____

_____

Please feel free to contact me if you have any questions. I may be reached at: _____

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100-11395-1972 11/11

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Office-Based Concussion Evaluation

(For use in clinic setting)

Name:_____Referral Source: _____ N/A

DOB: _____Age: _____ Level of Education:_____School: _____

Date of Evaluation (Today's Date): _____Date of Injury: _____ Time Since Injury: _____

Person Reporting: ____ Patient ____Parent____ Spouse ____ ATC _____ Other _____

Cause: ____ MVA _____ Ped-MVA ____Fall ____Assault ____ Sport (specify) _____

___ Practice_____Game Position: _____ Mouthguard: Y / N Type: bite & boil custom

Mechanism of Injury: __Head to Head ___Head to Ground ____Head to Body Part _____ Other _____

Location of Contact:__ Frontal ____R / L Temporal____ R /L Parietal ___ Occipital____ Neck Other _____

Injury Description:_____

_____

Loss of Consciousness: Y / N Duration: _____

Amnesia (Retrograde): Loss of memory of events **before** the injury? Y / N Duration: _____

Amnesia (Anterograde): Loss of memory of events **after** the injury? Y / N Duration: _____

Early Signs: __Dazed or stunned___Confused or disoriented___ Answered questions slowly ___ Repeated questions __Forgetful

Seizures: Were seizures observed? Y / N **Same Day Return-to-Play** Y / N Describe:_____

Overall, how severe would you rate your problems with this injury? 0 1 2 3 4 5 6

Previous Provider: _____Date:_____ CT or MR Imaging ___ Yes___No Results: _____

Symptom Check List: Initial (day of injury) and Current (at the time of evaluation) – Rate severity on scale from 0-6

Physical (10)	Initial	Current
Headache		
Nausea		
Vomiting		
Balance problems		
Dizziness		
Visual problems		
Fatigue		
Sensitivity to light		
Sensitivity to noise		
Numbness/Tingling		
PHYS Total Score		
PHYS Total Symptoms		
TOTAL SCORE		

Cognitive(4)	Initial	Current
Feeling mentally foggy		
Feeling slowed down		
Difficulty concentrating		
Difficulty remembering		
COG Total Score		
COG Total Symptoms		
Emotional (4)	**Initial**	**Current**
Irritibility		
Sadness		
More emotional		
Nervousness		
EMO Total Score		
EMO Total Symptoms		
TOTAL SYMPTOMS		

Sleep (4)	Initial	Current	NA
Drowsiness			
Sleeping less than usual			
Sleeping more than usual			
Trouble falling asleep			
SLEEP Total Score			
SLEEP Total Symptoms			

Do these symptoms get worse with physical activity? Y / N / NA

Do these symptoms get worse with cognitive activity? Y / N / NA

Headache
Type: Throbbing/Pressure/Dull
Location: R or L Top/Frontal/Parietal/
Occipital/Generalized
Neck Pain? Y / N
Worse in AM / PM
Heachache worse with cognitive exertion? Y / N
Describe:

Headache worse with physical exertion? Y / N
Describe:

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100-11395-1972 11/11

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Risk Factors for Protracted Recovery (Check all that Apply)

Concussion history Y / N		Development history		Psychiatric history		Headache history	
Previous # 1 2 3 4 5 6+		Learning disabilities		Anxiety/Depression		Prior tx for HA	
Longest symptom duration Days_____ Weeks_____ Months_____ Years_____		Attention-Deficit/ Hyperactivity Disorder		Sleep Disorder		History of migranes	
If multiple concussions, did less force cause reinjury? Y / N		Other developmental disorder:		Other psychiatric disorder:		Family history of migraines or headache	

Medications: _____

Other medical history: _____

Immediate Memory (Circle 'C' if correct, 'I' if incorrect)
I am going to read to you a list of words and, when I am done, repeat as many words as you can remember in any order. (Repeat process for trial 2 and 3).

List	Trial 1		Trial 2		Trial 3		Alternative Word Lists		
Elbow	C	I	C	I	C	I	Candle	Baby	Finger
Apple	C	I	C	I	C	I	Paper	Monkey	Penny
Carpet	C	I	C	I	C	I	Sugar	Perfume	Blanket
Saddle	C	I	C	I	C	I	Sandwich	Sunset	Lemon
Bubble	C	I	C	I	C	I	Wagon	Iron	Insect

Concentration (Circle 'C' if correct, 'I' if incorrect)
I am going to read to you a string of numbers and, when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 719 you would say 917.

List	Trial		Alternative Number Lists		
4-9-3	C	I	6-2-9	5-2-6	4-1-5
3-8-1-4	C	I	3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1	C	I	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2	C	I	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6

	Normal	Abnormal
General appearance		
Describe:		

Pupil / Eye Exam

Pupil appearance		Eyes	Normal	Abnormal
Dilated		Reaction		
Constricted		Horizontal motion		
Nystagmus		Unequal		

Motor and Balance	Normal	Abnormal
Fine movement of hands		
Finger-to-nose task		
Gait		
Tandem walk		
Rhomberg test		
Advanced balance testing*		

*Have athlete stand heel-to-toe with eyes closed, and hands on hips, for 20 seconds while trying to maintain stability (Non-dominant foot in back)

Delayed Recall (Circle 'C' if correct, 'I' if incorrect)
Do you remember that list of five words I read earlier?
Tell me as many words from the list as you can remember, in any order

List	Trial		Alternative Word Lists		
Elbow	C	I	Candle	Baby	Finger
Apple	C	I	Paper	Monkey	Penny
Carpet	C	I	Sugar	Perfume	Blanket
Saddle	C	I	Sandwich	Sunset	Lemon
Bubble	C	I	Wagon	Iron	Insect

Follow-up Plan

___ No follow-up needed, unless signs or symptoms return
___ Follow-up in clinic: Time until next follow-up _____
___ Referral to Sports Concussion Clinic
___ Other Referral
- ___ Neuropsychology
- ___ Neurology
- ___ Physical Therapy
- ___ Other: _____
- ___ Neurosurgery
- ___ Physiatry
- ___ Speech Therapy

___ CT / MRI
___ Emergency Department

Report Completed by _____

Visit sanfordhealth.org, enter keyword: concussion

100-11395-1972 11/11

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Sanford Sports Concussion Program Pocket Card: Heath Care Provider

Concussion Symptom Inventory

Have the athlete rate each symptom from 0-6

	none	mild		moderate		severity	
Severity	0	1	2	3	4	5	6
Headache							
Nausea							
Balance problems/ dizziness							
Fatigue							
Drowsiness							
Feeling like "in a fog"							
Difficulty concentrating							
Difficulty remembering							
Sensitivity to light							
Sensitivity to noise							
Blurred vision							
Feeling slowed down							
Other symptoms evident since injury?							

Modified Maddocks Questions

Ask the athlete the following:

- Where are we playing today?
- Which half/period is it now?
- Who scored last in this game/match?
- What team did we play last week/game?
- Did we win the last game/match?

Retrograde Memory

Ask the athlete the following:

- What were you doing just prior to getting hit/injured?
- Do you remember what happened or how you got hit/injured?
- Do you recall how you got from the field/court to the sideline?

Immediate Memory

Ask the athlete to repeat 5 words:

- Elbow – Apple – Carpet – Saddle – Bubble
  or
- Candle – Paper – Sugar – Sandwich – Wagon

Concentration

Ask the athlete to repeat these numbers backwards:

- 4-9-3 (394 is correct), 3-8-1-4 (4183), 6-2-9-7-1 (17926)

Balance

Have athlete stand heel-to-toe with eyes closed, and hands on hips, for 20 seconds while trying to maintain stability (Non-dominant foot in back).

Delayed Recall

Ask the athlete to repeat the 5 words:

- Elbow – Apple – Carpet – Saddle – Bubble
  or
- Candle – Paper – Sugar – Sandwich – Wagon

RED FLAGS – If any of the following signs and/or symptoms are present, immediately activate Emergency Medical Service EMS (Dial 911), so the athlete can be promptly taken to the nearest Emergency Department.

- Headache that worsens
- Seizure
- Looks very drowsy or can't be awakened
- Repeated vomiting
- Slurred speech
- Can't recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms or legs
- Unusual behavior change
- Any loss of consciousness greater than 30 seconds

Any athlete with a suspected concussion should not be allowed to return to play on the same day!

500-55400-0178 11/11

SANFORD
ORTHOPEDICS
SPORTS MEDICINE

Sanford Sports Concussion Program Pocket Card: Coaches

Signs and Symptoms

Athletes who experience one or more of the signs and symptoms listed below after a bump, blow or jolt to the head or body may have a concussion.

Signs observed by coaching staff	Symptoms reported by athlete
Athlete appears dazed or stunned	Headache or "pressure" in head
Is confused about assignment or position	Nausea or vomiting
Forgets an instruction	Balance problems or dizziness
Is unsure of game, score or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness (even briefly)	Feeling sluggish, hazy, foggy or groggy
Shows mood, behavior or personality changes	Concentration and/or memory problems
Can't recall events prior to hit or fall	Confusion
Can't recall events after hit or fall	Does not "feel right"

Action Plan

If you suspect that an athlete has a concussion, you should take the following four steps:

1. Remove the athlete from play, practice or training.
2. Ensure that the athlete is evaluated by a health care professional experienced in evaluating for, and managing, concussion. Do not try to judge the seriousness of the injury or readiness to return to play yourself.
3. Inform the athlete's parent(s) or guardian(s) about the possible concussion.
4. Keep the athlete out of play the day of the injury and until they are symptom-free and cleared to return to play by a health care professional who is experienced in the evaluation and management of concussions.

RED FLAGS – If any of the following signs and/or symptoms are present, immediately activate Emergency Medical Service EMS (Dial 911), so the athlete can be promptly taken to the nearest Emergency Department.

- Headache that worsens
- Seizure
- Looks very drowsy or can't be awakened
- Repeated vomiting
- Slurred speech
- Can't recognize people or places
- Increasing confusion or irritability
- Weakness or numbness in arms or legs
- Unusual behavior change
- Any loss of consciousness greater than 30 seconds

Any athlete with a suspected concussion should not be allowed to return to play on the same day!

500-55400-0179 11/11

South Dakota Concussion Legislation

1. Who Does The Law Apply To?

Every coach, youth athlete, and their parent(s) or guardian(s) who seek to compete in activities sanctioned by the South Dakota High School Activities Association (SDHSAA).

2. Educational and Training Opportunities

Legal Requirements	SDHSAA Sports	Youth Sports
Requires SDHSAA and the SD Department of Education to develop and distribute guidelines and information including protocols and content consistent with current medical knowledge to each member school, coach, athlete, and the athlete's parent(s) or guardian(s) regarding: the nature and risks of concussions; the signs, symptoms, and behaviors consistent with concussions; the need to alert appropriate medical professionals for diagnosis and treatment; and the need to follow proper medical direction and protocols for treatment and return-to-play after an athlete sustains a concussion.	X	
Requires each coach participating in athletic activities, sanctioned by the SDHSAA, to complete a training program each academic year, developed by the SDHSAA and SD Department of Education.	X	
Requires the parent(s) or guardian(s) of a youth athlete to sign a consent form each academic year allowing the youth athlete to participate in an athletic activity. The form must include information about the nature and risks of concussions.	X	

3. Removal Guidelines

An athlete shall be removed from participation in any athletic activity sanctioned by the SDHSAA at the time the athlete (a) exhibits signs, symptoms, or behaviors consistent with a concussion or (b) is suspected of sustaining a concussion.

4. Return-To-Play

Once an athlete has been removed from participation in an athletic activity sanctioned by the SDHSAA, the youth athlete may not return to athletic activities until (a) the athlete no longer exhibits signs, symptoms, or behavior consistent with a concussion and (b) receives an evaluation by a licensed health care provider trained in the evaluation and management of concussions and (c) receives written clearance to return-to-play from such health care provider.

5. Scope of Legal Coverage

Under this provision, "health care provider" means a person who is registered, certified, licensed, or otherwise recognized in law, by the State of South Dakota, to provide medical treatment and is trained and experienced in the evaluation, management, and care of concussions.

For a complete list of SD legislative details, please visit:
http://www.legis.state.sd.us/sessions/2011/Bills/SB149ENR.pdf.

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Explanation of Legislation

Background

- As many as 40 percent of youth athletes who sustain a concussion return to the field of play sooner than modern guidelines suggest.
- Athletes who are not fully recovered from an initial concussion are significantly more vulnerable to recurrent, cumulative, and potentially catastrophic consequences of a second concussive injury.
- Resting and avoiding physical and cognitive exertion are critical in the acute management of a sport-related concussion. No athlete should return to activity until asymptomatic at rest *and* with exertion.
- Concussions can occur in all athletes of any age and in any sport. Children and teens are more likely to get a concussion and take longer to recover than adults.
- To date, more than half of the states in the U.S. including SD, ND, MN, NE and IA, have enacted concussion legislation since 2009.
- Early anecdotal data suggest that the laws are having an immediate and positive impact, while helping to achieve the critical goal of preventing subsequent risk associated with brain injuries and making sports safer for youth.

The Law

- The primary goal of the law is getting youth athletes off the field of play after sustaining a concussion. It further provides any affected youth athlete proper time to heal from a concussion and significantly minimizes the risk for prolonged concussion symptoms, and the undue risk for further injury, including death.
- A student-athlete must sit out after receiving the concussion (or suspected concussion) and cannot return to athletic activity until s/he:
    1. No longer exhibit signs, symptoms or behaviors consistent with a concussion.
    2. Receives written clearance to return to play from a licensed health care provider trained in the evaluation and management of concussions.
- Other important features of the law include:
    1. The health care provider can be a volunteer.
    2. The law requires coaches to complete a short, concise, online training program, free of charge, to educate them on the nature and risk of concussion associated with athletic activity and how to recognize the signs, symptoms and behaviors consistent with a concussion.
    3. The law is intended to help educate parents and youth athletes about the nature and risk of concussions associated with athletic activity and how to recognize the signs, symptoms, and behaviors consistent with a concussion and how to appropriately respond and seek proper care.
    4. There is no liability attached to the legislation. It does not mandate any civil or criminal penalties, nor does it create greater liability for individuals and/or organizations. The education and awareness efforts, coupled with the requirement of medical clearance before return to play, have decreased the variability of care and overall liability.

Concussions in Youth Sports–Physician Guide

- South Dakota
- North Dakota
- Minnesota
- Nebraska
- Iowa

Resources

- Information regarding clinical services, concussion facts, and available resources can be viewed at sanfordhealth.org, enter keyword: concussion
- The Centers for Disease Control and Prevention (CDC) booklet of Facts for Physicians can be accessed at www.cdc.gov/concussion/HeadsUp/physicians_tool_kit.html
- A free tutorial is available on the CDC website at www.cdc.gov/concussion/HeadsUp/Training/HeadsUpConcussion.html

1 Center for Injury Research and Policy at Nationwide Children's Hospital, Columbus, Ohio.
2 American College of Sports Medicine – Youth Concussion Educational Awareness and Advocacy Packet.
3 2010 AAP clinical report "Sport-Related Concussion in Children and Adolescents"

100-11395-1972 11/11

RETURN TO PLAY POLICIES

Tennessee

Tennessee Secondary School Athletic Association

P. O. BOX 319 · 3333 LEBANON ROAD · HERMITAGE, TENNESSEE 37076
615/889-6740 • Fax 615/889-0544 • www.tssaa.org

TENNESSEE SECONDARY SCHOOL ATHLETIC ASSOCIATION
CONCUSSION POLICY

Beginning with the 2010-11 school year, TSSAA implemented a new concussion policy that all member schools must follow. Every individual involved in athletics must become more proactive in identifying and treating athletes who show signs of concussions. In order to address this critical issue, the NFHS has drafted the following language and made it a part of every sport rule book publication:

> *Any player who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion or balance problems) shall be immediately removed from the game and shall not return to play until cleared by an appropriate health-care professional.*

Education is the key to identifying and treating student-athletes that show signs of a concussion during athletic participation. It is very important that every administrator, coach, parent, official, athlete, and health-care provider know the symptoms and steps to take when dealing with student-athletes that display signs of a possible concussion. Concussion can be a serious health issue and should be treated as such.

The TSSAA Board of Control approved the following "TSSAA Concussion Return to Play Form" that must be used in practice and games. The form was adapted from the Acute Concussion Evaluation (ACE) plan on the CDC website (www.cdc.gov/injury). It contains specific instructions that shall be followed before an athlete can return to sports. The form must be completed and signed by a licensed medical doctor (M.D.), Osteopathic Physician (D.O.), or a Clinical Neuropsychologist with Concussion Training before an athlete that has been removed from practice or a game may return to participate. A copy of the form must be kept on file at the school by an administrator.

TSSAA is asking the administration of every TSSAA/TMSAA member school to meet with their coaching staff and review this policy prior to the beginning of every sports season. The state office will distribute this information to as many officials, athletic trainers, and health-care providers as possible. We ask that school personnel do the same in their area. This information should also be given to all parents and student-athletes.

Following is a copy of "Signs/Symptoms of Concussion" to help with the educational process. Please make sure every individual involved in athletics at your school has and understands this information. **The NFHS has also developed a free 20-minute course online entitled "Concussion in Sport – What you Need to Know" that we encourage every individual to take. It can be accessed at www.nfhslearn.com. Athletic Directors at all member schools are asked to take the lead and require every coach in their school to complete the course and make the information available to parents.** Failure to do so is not an option. Our student-athletes' safety must come first.

If you have any questions regarding this, please feel free to contact our office.

REVISED 7/5/2014

PROTOCOL FOR REGISTERED TSSAA OFFICIALS DURING TSSAA/TMSAA CONTESTS

1. Determine prior to the start of the contest whether or not a school has access to a designated health care provider during the contest.

2. Continue to monitor players for possible signs of injury as usual.

3. Remove any player that shows signs, symptoms, or behaviors consistent with a concussion per NFHS rules.

4. Inform the head coach that the player is being removed for showing signs, symptoms, or behaviors consistent with a concussion.

5. The school shall have the player examined by their designated health care provider. If the designated health care provider determines that the student has not sustained a concussion, the head coach may so advise the officials during an appropriate stoppage of play and the athlete may re-enter competition pursuant to contest rules.

6. The head coach is in charge of getting clearance from the school's designated health-care provider.

7. If the school does not have access to a designated health care provider, or if the school's designated health care provider suspects that the athlete may have sustained a concussion, the only means for an athlete to return to practice or play is for the student to be evaluated and cleared by a licensed medical doctor (M.D.), Osteopathic Physician (D.O.) or a Clinical Neuropsychologist with Concussion Training.

8. If signs, symptoms and behaviors consistent with a concussion are observed by an official , and a designated health care provider is not available to evaluate the student athlete, the "TSSAA Concussion Return to Play" form MUST be completed and signed by a licensed medical doctor (M.D.), Osteopathic Physician (D. O.) or a Clinical Neuropsychologist with concussion training, and shown to the official(s) by the head coach prior to a student-athlete returning to participate in a contest the same day.

9. If a player that has been removed by an official for showing signs, symptoms, and behaviors consistent with a concussion is allowed to return to play during the contest, an "Unusual Occurrence Form" shall be filed with the state office by the official within 24 hours of the incident.

10. Officials have no role in the diagnosis of a concussion. NFHS Rules do require that the officials remove players from the contest when signs, symptoms, or behaviors consistent with a concussion are observed and the above written protocol must be followed.

Designated Health Care Providers – Certified Athletic Trainer, Certified Nurse Practitioner, Physicians Assistant, Doctor of Medicine, Osteopathic Physician

PROTOCOL FOR SCHOOLS WHEN PLAYERS E HIBIT SIGNS, SYMPTOMS, OR BEHAVIORS CONSISTENT WITH A CONCUSSION DURING PRACTICE OR COMPETITION

1. Continue to monitor players for possible signs of injury as usual.

2. Remove any player that shows signs, symptoms, or behaviors consistent with a concussion from the activity or competition.

3. The school shall have the player examined by the school's designated health care provider. If the designated health care provider determines that the student has not sustained a concussion, the player may return to the activity or competition.

4. The head coach shall be responsible for obtaining clearance from the school's designated health care provider.

5. If the school does not have access to a designated health care provider, or if the school's designated health care provider suspects that the athlete may have sustained a concussion, the only means for an athlete to return to practice or play is for the student to be evaluated and cleared by a licensed medical doctor (M.D.), Osteopathic Physician (D.O.) or a Clinical Neuropsychologist with Concussion Training. The person clearing the student must complete and sign the "TSSAA Concussion Return to Play" form. Schools must keep this form on file.

Designated Health Care Providers – Certified Athletic Trainer, Certified Nurse Practitioner, Physicians Assistant, Doctor of Medicine, Osteopathic Physician

Suggested Guidelines for Management of Concussion

A concussion is a traumatic brain injury that interferes with normal brain function. An athlete does not have to lose consciousness (be "knocked out") to have suffered a concussion.

Common Symptoms of Concussion Include:

- Headache
- Fogginess
- Difficulty concentrating
- Easily confused
- Slowed thought processes
- Difficulty with memory
- Nausea
- Lack of energy, tiredness
- Dizziness, poor balance
- Blurred vision
- Sensitive to light and sounds
- Mood changes – irritable, anxious, or tearful

Suggested Concussion Management:

1. No athlete should return to play (RTP) or practice on the same day of a concussion

2. Any athlete suspected of having a concussion should be evaluated by an appropriate heath-care professional that day.

3. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.

4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

For more information, the NFHS has also developed a free 20-minute course online entitled "Concussion in Sport – What You Need to Know" that we encourage every individual to take. It can be accessed at www.nfhslearn.com.

TSSAA CONCUSSION RETURN TO PLAY FORM

This form is adapted from the Acute Concussion Evaluation (ACE) care plan on the CDC web site (www.cdc.gov/injury). All medical providers are encouraged to review this site if they have questions regarding the latest information on the evaluation and care of the scholastic athlete following a concussion injury. **Please initial any recommendations that you select.**

Athlete's Name: _____ Date of Birth: _____

Date of Injury: _____

This return to play plan is based on today's evaluation. Date of Evaluation: _____

Care plan completed by: _____ Return to this office Date/Time: _____

Return to school on (date): _____

RETURN TO SPORTS:

1. **Athletes should not return to practice or play the same day that their head injury occurred.**
2. **Athletes should never return to play or practice if they still have <u>ANY symptoms</u>.**
3. Athletes, be sure that your coach and/or athletic trainer are aware of your injury, symptoms, and has the contact information for the treating health care provider.

The following are the return to sports recommendations at the present time:

PHYSICAL EDUCATION: _____ Do <u>Not</u> Return to PE class at this time. _____ May Return to PE class.

SPORTS: _____ Do not return to sports practice or competition at this time.

_____ May gradually return to sports practices under the supervision of the health care provider for your school or team.

_____ May be advanced back to competition after phone conversation with treating health care provider.

_____ Must return to the treating health care provider for final clearance to return to competition.

-OR- _____ Cleared for full participation in all activities without restriction.

Treating Health Care Provider Information (Please Print/Stamp)

Please check:

_____ Medical Doctor (M.D.) _____ Osteopathic Physician (D.O.) _____ Clinical Neuropsychologist w/ Concussion Training

Provider's Name: _____ Provider's Office Phone: _____

Provider's Signature: _____ Office Address: _____

_____

<u>Gradual Return to Play Plan</u>

Return to play should occur in gradual steps beginning with light aerobic exercise only to increase your heart rate (e.g. stationary cycle); moving to increasing your heart rate with movement (e.g. running); then adding controlled contact if appropriate; and finally return to sports competition.

Pay careful attention to your symptoms and your thinking and concentration skills at each stage or activity. After completion of each step without recurrence of symptoms, you can move to the next level of activity the next day. <u>Move to the next level of activity only if you do not experience any symptoms at the present level</u>. If your symptoms return, let your health care provider know, return to the first level and restart the program gradually.

Day 1: Low levels of physical activity (i.e. symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking, and light weightlifting (low weight – moderate reps, no bench, no squats).
Day 2: Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate intensity on the stationary cycle, moderate intensity weightlifting (reduce time and or reduced weight from your typical routine).
Day 3: Heavy non-contact physical activity. This includes sprinting/running, high intensity stationary cycling, completing the regular lifting routine, non-contact sport specific drills (agility – with 3 planes of movement).
Day 4: Sports Specific practice.
Day 5: Full contact in a controlled drill or practice.
Day 6: Return to competition.

Formulario de TSSAA Para Regresar a Competir en Deportes

Este formulario es una adaptación del Plan de Cuidado para Conmociones Cerebrales (Brain Concussions) que aparaece en el sitio web del CDC (www.cdc.gov/injury). Se recomienda que todos los profesionales de la salud visiten este sitio web si tienen preguntas sobre la información más reciente para la evaluación y cuidado del atleta escolar con una lesión de conmoción cerebral. **Favor de poner sus iniciales en cualqier recomendaci n que usted escoja.**

Nombre del atleta:_____Fecha de nacimiento:_____

Fecha en que la lesión ocurrió:_____

Este plan para regresar a competir en deportes est basado en la evaluaci n de hoy.

Fecha de la evaluación:_____Este Plan de asistencia fue llenado por:_____

Por favor, devuelva este formulario a esta oficina, Fecha/Hora:_____

Regrese a la escuela en esta fecha:_____

REGRESAR A LOS DEPORTES: 1. El atleta no debe volver a practicar, ni a jugar el mismo d a que sufri la contusi n cerebral.

2. El atleta no debe volver a jugar o a practicar mientras tenga ALGUN s ntoma.

3. Atleta, asegúrate de que tu entrenador atlético sepa que tienes una conmoción cerebral y los síntomas que tienes. Además, asegúrate que el entrenador tiene la información correcta para contactar tu profesional de la salud.

Las siguientes son las recomendaciones para regresar a jugar los deportes en este momento:

EDUCACION FISICA: _____ No resumas la clase de educación física todavía.
_____ Sí, puedes resumir la clase de educación física.

DEPORTES: _____ No debes resumir la práctica o competencia de los deportes todavía.
_____ Puedes resumir la práctica de los deportes gradualmente y bajo la supervisión del profesional de la salud de la escuela o de tu equipo.
_____ Puedes resumir la competencia deportiva después de una conversación telefónica con tu profesional de la salud.
_____ Debes volver a tu profesional de la salud para recibir confirmación final de que puedes resumir la competencia de deportes.
_____ Puedes participar completamente en todas las actividades sin restricciones.

Informaci n sobre el profesional de la salud (Favor de imprimir/usar sello)
Favor de marcar:

_____ Médico (MD) _____ Médico Osteópata (DO) _____ Neuropsicólogo clínico con entrenamiento en conmociones

Nombre del profesional de la salud:_____

Teléfono del profesional de la salud:_____

Firma del profesional de la salud:_____

Dirección del profesional de la salud:_____

Continua…

Plan para el Regreso Gradual a las Competencias Deportivas

El proceso para que el atleta regrese a jugar debe ocurrir en pasos graduales empezando con ejercicio moderado s lo para aumentar la velocidad del coraz n (e.g. bicicleta estacionaria); moviendose para aumentar la velocidad del coraz n con movimiento (e.g. corriendo); luego a adiendo contacto f sico controlado si fuera apropiado; y finalmente regresando a las competencias deportivas.

Presta atenci n a tus s ntomas y a tus pensamientos y a tu habilidad para concentrar en cada nivel o actividad. Despu s de completar cada nivel sin recurrir los s ntomas, puedes pasar al pr ximo nivel de actividad el d a siguiente. Puedes pasar al pr ximo nivel de actividad solo si no tienes ning n s ntoma en el nivel actual. Si tus s ntomas regresan, avisa a tu proveedor, regresa al primer nivel y empieza el programa de nuevo gradualmente.

D a 1: Bajos niveles de actividad física (i.e. síntomas no regresan durante o después de la actividad). Esto incluye caminando, corriendo a velocidad moderada, correr en la bicicleta estacionaria , y levantar pesas (de peso moderado y repeticiones moderadas, sin banco de pesas, sin agacharse)
D a 2: Niveles moderados de actividad física con movimiento del cuerpo y la cabeza. Esto incluye trotando moderadamente, corriendo brevemente, intensidad moderada en la bicicleta estacionaria, intensidad moderada en levantamiento de pesas (bajar el tiempo y/o bajar las pesas de tu rutina típica)
D a 3: Fuerte actividad física sin contacto físico. Esto incluye esprintando/corriendo, alta intensidad en la bicicleta estacionaria, completando la rutina regular de levantamiento de pesas, entrenamiento en deportes sin contacto físico (agilidad- con 3 planos de movimiento)
D a 4: Práctica específica para los deportes.
D a 5: Contacto físico completo durante entrenamiento o práctica controlada.
D a 6: Regresa a la competencia deportiva.

Concussion Signs and Symptoms

Checklist

Heads Up to Schools:
KNOW YOUR CONCUSSION ABCs

Assess the situation | **B**e alert for signs and symptoms | **C**ontact a health care professional

Student's Name: _____ **Student's Grade**: _____ **Date/Time of Injury:** _____

Where and How Injury Occurred: *(Be sure to include cause and force of the hit or blow to the head.)* _____

_____

Description of Injury: *(Be sure to include information about any loss of consciousness and for how long, memory loss, or seizures following the injury, or previous concussions, if any. See the section on Danger Signs on the back of this form.)* _____

_____

_____

DIRECTIONS:

Use this checklist to monitor students who come to your office with a head injury. Students should be monitored for a minimum of 30 minutes. Check for signs or symptoms when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes.

Students who experience *one or more* of the signs or symptoms of concussion after a bump, blow, or jolt to the head should be referred to a health care professional with experience in evaluating for concussion. For those instances when a parent is coming to take the student to a health care professional, observe the student for any new or worsening symptoms right before the student leaves. Send a copy of this checklist with the student for the health care professional to review.

OBSERVED SIGNS	0 MINUTES	15 MINUTES	30 MINUTES	☐ MINUTES Just prior to leaving
Appears dazed or stunned				
Is confused about events				
Repeats questions				
Answers questions slowly				
Can't recall events *prior* to the hit, bump, or fall				
Can't recall events *after* the hit, bump, or fall				
Loses consciousness (even briefly)				
Shows behavior or personality changes				
Forgets class schedule or assignments				
PHYSICAL SYMPTOMS				
Headache or "pressure" in head				
Nausea or vomiting				
Balance problems or dizziness				
Fatigue or feeling tired				
Blurry or double vision				
Sensitivity to light				
Sensitivity to noise				
Numbness or tingling				
Does not "feel right"				
COGNITIVE SYMPTOMS				
Difficulty thinking clearly				
Difficulty concentrating				
Difficulty remembering				
Feeling more slowed down				
Feeling sluggish, hazy, foggy, or groggy				
EMOTIONAL SYMPTOMS				
Irritable				
Sad				
More emotional than usual				
Nervous				

To download this checklist in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta lista de síntomas en español, por favor visite: www.cdc.gov/Concussion.

May 2010

→ More

Danger Signs:

Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if s/he has:

- ❒ One pupil (the black part in the middle of the eye) larger than the other
- ❒ Drowsiness or cannot be awakened
- ❒ A headache that gets worse and does not go away
- ❒ Weakness, numbness, or decreased coordination
- ❒ Repeated vomiting or nausea
- ❒ Slurred speech
- ❒ Convulsions or seizures
- ❒ Difficulty recognizing people or places
- ❒ Increasing confusion, restlessness, or agitation
- ❒ Unusual behavior
- ❒ Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Additional Information About This Checklist:

This checklist is also useful if a student appears to have sustained a head injury outside of school or on a previous school day. In such cases, be sure to ask the student about possible sleep symptoms. Drowsiness, sleeping more or less than usual, or difficulty falling asleep may indicate a concussion.

To maintain confidentiality and ensure privacy, this checklist is intended only for use by appropriate school professionals, health care professionals, and the student's parent(s) or guardian(s).

For a free tear-off pad with additional copies of this form, or for more information on concussion, visit: www.cdc.gov/Concussion.

Resolution of Injury:

__ Student returned to class
__ Student sent home
__ Student referred to health care professional with experience in evaluating for concussion

SIGNATURE OF SCHOOL PROFESSIONAL COMPLETING THIS FORM: _____

TITLE: _____

COMMENTS:

For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: **www.cdc.gov/Concussion**.

U.S. Department of Health and Human Services
centers for disease control and prevention

CONCUSSION

INFORMATION AND SIGNATURE FORM FOR COACHES

(Adapted from CDC Heads Up Concussion in Youth Sports)

Read and keep this page.
Sign and return the signature page.

THE FACTS

- A concussion is a **brain injury.**
- All concussions are **serious**.
- Concussions can occur **without** loss of consciousness.
- Concussion can occur **in any sport.**
- Recognition and proper management of concussions when they **first occur** can help prevent further injury or even death.

WHAT IS A CONCUSSION

Concussion is a type of traumatic brain injury caused by a bump, blow or jolt to the head. Concussions can also occur from a blow to the body that causes the head and brain to move quickly back and forth, causing the brain to bounce around or twist within the skull.

This sudden movement of the brain can cause stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain.

HOW CAN I RECOGNI E A POSSIBLE CONCUSSION

To help spot a concussion, you should watch for and ask others to report the following two things:

1. A forceful bump, blow or jolt to the head or body that results in rapid movement of the head.

2. Any concussion signs or symptoms such as a change in the athlete's behavior, thinking or physical functioning.

Signs and symptoms of concussion generally show up soon after the injury. But the full effect of the injury may not be noticeable at first. For example, in the first few minutes the athlete might be slightly confused or appear a little bit dazed, but an hour later he or she can't recall coming to the practice or game.

You should repeatedly check for signs of concussion and also tell parents what to watch out for at home. Any worsening of concussion signs or symptoms indicates a medical emergency.

SIGNS AND SYMPTOMS

SIGNS OBSERVED BY COACHING STAFF	SYMPTOMS REPORTED BY ATHLETE
• Appears dazed or stunned • Is confused about assignment or position • Forgets an instruction • Is unsure of game, score or opponent • Moves clumsily • Answers questions slowly • Loses consciousness, even briefly • Shows mood, behavior or personality changes • Can't recall events prior to hit or fall • Can't recall events after hit or fall	• Headache or "pressure" in head • Nausea or vomiting • Balance problems or dizziness • Double or blurry vision • Sensitivity to light • Sensitivity to noise • Feeling sluggish, hazy, foggy or groggy • Concentration or memory problems • Confusion • Just "not feeling right" or "feeling down"

WHAT ARE CONCUSSION DANGER SIGNS

In rare cases, a dangerous blood clot may form on the brain in an athlete with a concussion and crowd the brain against the skull. Call 9-1-1 or take the athlete to the emergency department right away if after a bump, blow or jolt to the head or body the athlete exhibits one or more of the following danger signs:

- One pupil larger than the other
- Is drowsy or cannot be awakened
- A headache that gets worse
- Weakness, numbness or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Cannot recognize people or places
- Becomes increasingly confused, restless or agitated
- Has unusual behavior
- Loses consciousness (*even a brief loss of consciousness should be taken seriously*)

WHY SHOULD I BE CONCERNED ABOUT CONCUSSIONS

Most athletes with a concussion will recover quickly and fully. But for some athletes, signs and symptoms of concussion can last for days, weeks or longer.

If an athlete has a concussion, his or her brain needs time to heal. A repeat concussion that occurs before the brain recovers from the first – usually within a short time period (hours, days, weeks) – can slow recovery or increase the chances for long-term problems. In rare cases, repeat concussion can result in brain swelling or permanent brain damage. It can even be fatal.

HOW CAN I HELP ATHLETES TO RETURN TO PLAY GRADUALLY

An athlete should return to sports practices under the supervision of an appropriate health care professional. When available, be sure to work closely with your team's certified athletic trainer.

Below are five gradual steps you and the health care professional should follow to help safely return an athlete to play. Remember, this is a gradual process. These steps should not be completed in one day, but instead over days, weeks or months.

BASELINE: Athletes should not have any concussion symptoms. Athletes should only progress to the next step if they do not have any symptoms at the current step.

STEP 1: Begin with light aerobic exercise only to increase an athlete's heart rate. This means about five to 10 minutes on an exercise bike, walking or light jogging. No weightlifting at this point.

STEP 2: Continue with activities to increase an athlete's heart rate with body or head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).

STEP 3: Add heavy non-contact physical activity such as sprinting/running, high-intensity stationary biking, regular weightlifting routine and/or non-contact sport-specific drills (in three planes of movement).

STEP 4: Athlete may return to practice and full contact (if appropriate for the sport) in controlled practice.

STEP 5: Athlete may return to competition.

If an athlete's symptoms come back or she or he gets new symptoms when becoming more active at any step, this is a sign that the athlete is pushing himself or herself too hard. The athlete should stop these activities and the athlete's health care provider should be contacted. After more rest and no concussion symptoms, the athlete should begin at the previous step.

PREVENTION AND PREPARATION

Insist that safety comes first. To help minimize the risks for concussion or other serious brain injuries:

- Ensure athletes follow the rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Wearing a helmet is a must to reduce the risk of severe brain injury and skull fracture. However, helmets are not designed to prevent concussion. There is no "concussion-proof" helmet. So even with a helmet, it is important for kids and teens to avoid hits to the head.

Check with your league, school or district about concussion policies. Concussion policy statements can be developed to include:

- The school or league's commitment to safety
- A brief description of concussion
- Information on when athletes can safely return to school and play.

Parents and athletes should sign the Parent Information and Signature Form at the beginning of the season.

ACTION PLAN

WHAT SHOULD I DO WHEN A CONCUSSION IS SUSPECTED

No matter whether the athlete is a key member of the team or the game is about to end, an athlete with a suspected concussion should be immediately removed from play. To help you know how to respond, follow the Heads Up four-step action plan:

1. REMOVE THE ATHLETE FROM PLAY.
Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. When in doubt, sit them out!

2. ENSURE THE AHTLETE IS EVALUATED BY AN APPROPRIATE HEALTH CARE PROFESSIONAL.
Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods they can use to assess the severity of concussions. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:

- Cause of the injury and force of the hit or blow to the head or body
- Any loss of consciousness (passed out/knocked out) and if so, for how long
- Any memory loss immediately following the injury
- Any seizures immediately following the injury
- Number of previous concussions (if any)

3. INFORM THE ATHLETE'S PARENTS OR GUARDIANS.
Let them know about the possible concussion and give them the Heads Up fact sheet for parents. This fact sheet can help parents monitor the athlete for signs or symptoms that appear or get worse once the athlete is at home or returns to school.

4. KEEP THE ATHLETE OUT OF PLAY.
An athlete should be removed from play the day of the injury and until an appropriate health care provider* says he or she is symptom-free and it's OK to return to play. After you remove an athlete with a suspected concussion from practice or play, the decision about return to practice or play is a medical decision.

* Health care provider means a Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training.

REFERENCES

1. Lovell MR, Collins MW, Iverson GL, Johnston KM, Bradley JP. Grade 1 or "ding" concussions in high school athletes. *The American Journal of Sports Medicine* 2004; 32(1):47-54.

2. Institute of Medicine (US). Is soccer bad for children's heads? Summary of the 10M Workshop on Neuropsychological Consequences of Head Impact in Youth Soccer. Washington (DC): National Academies Press, 2002.

3. Centers for Disease Control and Prevention. Sports-related recurrent brain injuries-United States. *Morbidity and Mortality Weekly Report* 1997; 46(10):224-27. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/00046702.htm

If you think your athlete has a concussion
take him/her out of play and seek the advice of a health care professional experienced in evaluating for concussion.

For more information, visit www.cdc.gov/Concussion.

CONCUSSION

INFORMATION AND SIGNATURE FORM FOR COACHES

Public Chapter 148, effective January 1, 2014, requires that school and community organizations sponsoring youth athletic activities establish guidelines to inform and educate coaches, youth athletes and other adults involved in youth athletics about the nature, risk and symptoms of concussion and head injury.

(Adapted from CDC Heads Up Concussion in Youth Sports)

Sign and return this page.

____ I have read the *Concussion Information and Signature Form for Coaches*
Initial

____ I should not allow any student-athlete exhibiting signs and symptoms consistent with concussion to
Initial return to play or practice on the same day.

After reading the Information Sheet, I am aware of the following information:

_____ A concussion is a brain injury.
Initial

_____ I realize I cannot see a concussion, but I might notice some of the signs in a student-athlete right
Initial away. Other signs/symptoms can show up hours or days after the injury.

_____ If I suspect a student-athlete has a concussion, I am responsible for removing him/her from activity
Initial and referring him/her to a medical professional trained in concussion management.

_____ Student-athletes need written clearance from a health care provider* to return to play or practice
Initial after a concussion. * (Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training)

_____ I will not allow any student-athlete to return to play or practice if I suspect that he/she has received
Initial a blow to the head or body that resulted in signs or symptoms consistent with concussion.

_____ Following concussion the brain needs time to heal. I understand that student-athletes are much
Initial more likely to sustain another concussion or more serious brain injury if they return to play or practice before symptoms resolve.

_____ In rare cases, repeat concussion can cause serious and long-lasting problems.
Initial

_____ I have read the signs/symptoms listed on the *Concussion Information and Signature Form for*
Initial *Coaches.*

_____ _____
Signature of Coach Date

_____
Printed name of Coach

CONCUSSION

INFORMATION AND SIGNATURE FORM
FOR STUDENT-ATHLETES & PARENTS/LEGAL GUARDIANS
(Adapted from CDC "Heads Up Concussion in Youth Sports")

Public Chapter 148, effective January 1, 2014, requires that school and community organizations sponsoring youth athletic activities establish guidelines to inform and educate coaches, youth athletes and other adults involved in youth athletics about the nature, risk and symptoms of concussion/head injury.

Read and keep this page.
Sign and return the signature page.

A concussion is a type of traumatic brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow or jolt to the head or body that causes the head and brain to move rapidly back and forth. Even a "ding," "getting your bell rung" or what seems to be a mild bump or blow to the head can be serious.

Did You Know?

- Most concussions occur *without* loss of consciousness.
- Athletes who have, at any point in their lives, had a concussion have an increased risk for another concussion.
- Young children and teens are more likely to get a concussion and take longer to recover than adults.

WHAT ARE THE SIGNS AND SYMPTOMS OF CONCUSSION?

Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury.

If an athlete reports **one or more** symptoms of concussion listed below after a bump, blow or jolt to the head or body, s/he should be kept out of play the day of the injury and until a health care provider* says s/he is symptom-free and it's OK to return to play.

SIGNS OBSERVED BY COACHING STAFF	SYMPTOMS REPORTED BY ATHLETES
Appears dazed or stunned	Headache or "pressure" in head
Is confused about assignment or position	Nausea or vomiting
Forgets an instruction	Balance problems or dizziness
Is unsure of game, score or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness, even briefly	Feeling sluggish, hazy, foggy or groggy
Shows mood, behavior or personality changes	Concentration or memory problems
Can't recall events *prior* to hit or fall	Confusion
Can't recall events *after* hit or fall	Just not "feeling right" or "feeling down"

**Health care provider means a Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training*

CONCUSSION DANGER SIGNS

In rare cases, a dangerous blood clot may form on the brain in a person with a concussion and crowd the brain against the skull. An athlete should receive immediate medical attention after a bump, blow or jolt to the head or body if s/he exhibits any of the following danger signs:

- One pupil larger than the other
- Is drowsy or cannot be awakened
- A headache that not only does not diminish, but gets worse
- Weakness, numbness or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Cannot recognize people or places
- Becomes increasingly confused, restless or agitated
- Has unusual behavior
- Loses consciousness (*even a brief loss of consciousness should be taken seriously*)

WHY SHOULD AN ATHLETE REPORT HIS OR HER SYMPTOMS

If an athlete has a concussion, his/her brain needs time to heal. While an athlete's brain is still healing, s/he is much more likely to have another concussion. Repeat concussions can increase the time it takes to recover. In rare cases, repeat concussions in young athletes can result in brain swelling or permanent damage to their brains. *They can even be fatal.*

Remember:

Concussions affect people differently. While most athletes with a concussion recover quickly and fully, some will have symptoms that last for days, or even weeks. A more serious concussion can last for months or longer.

WHAT SHOULD YOU DO IF YOU THINK YOUR ATHLETE HAS A CONCUSSION

If you suspect that an athlete has a concussion, remove the athlete from play and seek medical attention. Do not try to judge the severity of the injury yourself. Keep the athlete out of play the day of the injury and until a health care provider* says s/he is symptom-free and it's OK to return to play.

Rest is key to helping an athlete recover from a concussion. Exercising or activities that involve a lot of concentration such as studying, working on the computer or playing video games may cause concussion symptoms to reappear or get worse. After a concussion, returning to sports and school is a gradual process that should be carefully managed and monitored by a health care professional.

* Health care provider means a Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training.

Student-athlete & Parent/Legal Guardian Concussion Statement

Must be **signed and returned** to school or community youth athletic activity prior to participation in practice or play.

Student-Athlete Name: _____

Parent/Legal Guardian Name(s): _____

After reading the information sheet, I am aware of the following information:

Student-Athlete initials		Parent/Legal Guardian initials
	A concussion is a brain injury which should be reported to my parents, my coach(es) or a medical professional if one is available.	
	A concussion cannot be "seen." Some symptoms might be present right away. Other symptoms can show up hours or days after an injury.	
	I will tell my parents, my coach and/or a medical professional about my injuries and illnesses.	N/A
	I will not return to play in a game or practice if a hit to my head or body causes any concussion-related symptoms.	N/A
	I will/my child will need written permission from a *health care provider** to return to play or practice after a concussion.	
	Most concussions take days or weeks to get better. A more serious concussion can last for months or longer.	
	After a bump, blow or jolt to the head or body an athlete should receive immediate medical attention if there are any danger signs such as loss of consciousness, repeated vomiting or a headache that gets worse.	
	After a concussion, the brain needs time to heal. I understand that I am/my child is much more likely to have another concussion or more serious brain injury if return to play or practice occurs before the concussion symptoms go away.	
	Sometimes repeat concussion can cause serious and long-lasting problems and even death.	
	I have read the concussion symptoms on the Concussion Information Sheet.	

* *Health care provider* means a Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training

_____ _____

Signature of Student-Athlete Date

_____ _____

Signature of Parent/Legal guardian Date

Hoja informativa para los deportistas y sus padres acerca de las conmociones cerebrales

Una conmoción es un tipo de lesión cerebral traumática que ocasiona cambios en la forma en que funciona el cerebro normalmente. Una conmoción es causada por un golpe, impacto o sacudida en la cabeza o el cuerpo que hace que la cabeza y el cerebro se muevan rápida y repentinamente hacia adelante y hacia atrás. Hasta un "chichoncito" o lo que pareciera ser tan solo un golpe o una sacudida leve en la cabeza pueden ser algo grave.

¿Sabía usted que...?

- La mayoría de las conmociones cerebrales ocurren sin pérdida del conocimiento.
- Los deportistas que han sufrido una conmoción cerebral en algún momento de sus vidas, tienen un mayor riesgo de sufrir otra.
- Los niños pequeños y los adolescentes tienen más probabilidad de sufrir una conmoción cerebral y de que les tome más tiempo recuperarse que los adultos.

¿CUÁLES SON LOS SIGNOS Y SÍNTOMAS DE UNA CONMOCIÓN CEREBRAL?

Los signos y síntomas de una conmoción cerebral pueden aparecer justo después de una lesión o puede que no aparezcan o se noten sino hasta días o semanas después de ocurrida la lesión.

Si un deportista presenta ***uno o más*** de los síntomas de una conmoción cerebral indicados a continuación, luego de un golpe, impacto o sacudida en la cabeza o el cuerpo, no se le debe permitir continuar jugando el día de la lesión y no debe volver a jugar hasta que un profesional médico con experiencia en evaluación de conmociones cerebrales indique que ya no presenta síntomas y que puede volver a jugar.

SIGNOS OBSERVADOS POR EL PERSONAL DE ENTRENAMIENTO	SÍNTOMAS REPORTADOS POR LOS DEPORTISTAS
Parece aturdido o desorientado	Dolor de cabeza o "presión" en la cabeza
Está confundido en cuanto a su posición de juego	Náuseas o vómitos
Olvida las instrucciones	Problemas de equilibrio o mareo
No está seguro del juego, de la puntuación o de adversarios	Visión borrosa o doble
Se mueve con torpeza	Sensibilidad a la luz
Responde a las preguntas con lentitud	Sensibilidad al ruido
Pierde el conocimiento (aunque sea por poco tiempo)	Sentirse débil, desorientado, aturdido, atontado o grogui
Muestra cambios de ánimo, comportamiento o personalidad	Problemas de concentración o de memoria
No puede recordar lo ocurrido antes del golpe o caída	Confusión
No puede recordar lo ocurrido después del golpe o caída	No "sentirse bien" o "con ganas de no hacer nada"

SIGNOS DE PELIGRO POR UNA CONMOCIÓN CEREBRAL

En casos poco frecuentes, en las personas que sufren una conmoción cerebral puede formarse un coágulo de sangre peligroso que podría hacer que el cerebro ejerza presión contra el cráneo. Un deportista debe recibir atención médica de inmediato si luego de sufrir un golpe, impacto o sacudida en la cabeza o el cuerpo presenta alguno de los siguientes signos de peligro:

- Una pupila está más grande que la otra
- Está mareado o no se puede despertar
- Dolor de cabeza que es persistente y además empeora
- Debilidad, entumecimiento o menor coordinación
- Náuseas o vómitos constantes
- Dificultad para hablar o pronunciar las palabras
- Convulsiones o ataques
- No puede reconocer a personas o lugares
- Se siente cada vez más confundido, inquieto o agitado
- Se comporta de manera poco usual
- Pierde el conocimiento (las pérdidas del conocimiento deben considerarse como algo serio aunque sean breves)

¿POR QUÉ DEBE UN DEPORTISTA NOTIFICAR A ALGUIEN SI TIENE SÍNTOMAS?

Si un deportista sufre una conmoción, su cerebro necesitará tiempo para sanar. Cuando el cerebro de un deportista se está curando, tiene una mayor probabilidad de sufrir una segunda conmoción. Las conmociones repetidas (o secundarias) pueden aumentar el tiempo que toma la recuperación. En casos poco frecuentes, repetidas conmociones cerebrales en los jóvenes deportistas pueden ocasionar inflamación del cerebro o daño cerebral permanente. Incluso pueden ser mortales.

Recuerde

Las conmociones cerebrales afectan a las personas de manera diferente. Si bien la mayoría de los deportistas que sufren una conmoción cerebral se recuperan en forma completa y rápida, algunos tienen síntomas que duran días o incluso semanas. Una conmoción cerebral más grave puede durar por meses o aún más.

¿QUÉ DEBE HACER SI CREE QUE SU DEPORTISTA HA SUFRIDO UNA CONMOCIÓN CEREBRAL?

Si considera que un deportista tiene una conmoción cerebral, sáquelo del juego y busque atención médica de inmediato. No intente juzgar usted mismo la seriedad de la lesión. No permita que el deportista regrese a jugar el mismo día de la lesión y espere a que un profesional médico con experiencia en la evaluación de conmociones cerebrales indique que ya no presenta síntomas y que puede volver a jugar.

El descanso es la clave para ayudar a un deportista a recuperarse después de una conmoción cerebral. Durante el ejercicio o las actividades que requieran de mucha concentración, como estudiar, trabajar en la computadora o los juegos de video, pueden causar que los síntomas de la conmoción cerebral reaparezcan o empeoren. Después de una conmoción cerebral, volver a practicar deportes y regresar a la escuela debe ser un proceso gradual que tiene que ser controlado y observado cuidadosamente por un profesional médico.

Mejor perder un juego que toda la temporada. Para más información sobre la conmoción cerebral, visite: **www.cdc.gov/Concussion**.

Nombre del estudiante o deportista	Firma del estudiante o deportista	Fecha
Nombre del padre o tutor legal	Firma del padre o tutor legal	Fecha

Versión en español aprobada por CDC Multilingual Services – Order # 231263-2.

RETURN TO PLAY POLICIES

Texas

CONCUSSION ACKNOWLEDGEMENT FORM

Name of Student _____

Definition of Concussion - means a complex pathophysiological process affecting the brain caused by a traumatic physical force or impact to the head or body, which may: (A) include temporary or prolonged altered brain function resulting in physical, cognitive, or emotional symptoms or altered sleep patterns; and (B) involve loss of consciousness.

Prevention – Teach and practice safe play & proper technique.
– Follow the rules of play.
– Make sure the required protective equipment is worn for all practices and games.
– Protective equipment must fit properly and be inspected on a regular basis.

Signs and Symptoms of Concussion – The signs and symptoms of concussion may include but are not limited to: Head ache, appears to be dazed or stunned, tinnitus (ringing in the ears), fatigue, slurred speech, nausea or vomiting, dizziness, loss of balance, blurry vision, sensitive to light or noise, feel foggy or groggy, memory loss, or confusion.

Oversight - Each district shall appoint and approve a Concussion Oversight Team (COT). The COT shall include at least one physician and an athletic trainer if one is employed by the school district. Other members may include: Advanced Practice Nurse, neuropsychologist or a physician's assistant. The COT is charged with developing the Return to Play protocol based on peer reviewed scientific evidence.

Treatment of Concussion - The student-athlete shall be removed from practice or competition immediately if suspected to have sustained a concussion. Every student-athlete suspected of sustaining a concussion shall be seen by a physician before they may return to athletic participation. The treatment for concussion is cognitive rest. Students should limit external stimulation such as watching television, playing video games, sending text messages, use of computer, and bright lights. When all signs and symptoms of concussion have cleared and the student has received written clearance from a physician, the student-athlete may begin their district's Return to Play protocol as determined by the Concussion Oversight Team.

Return to Play - According to the Texas Education Code, Section 38.157:
A student removed from an interscholastic athletics practice or competition under Section 38.156 may not be permitted to practice or compete again following the force or impact believed to have caused the concussion until:
(1) the student has been evaluated, using established medical protocols based on peer-reviewed scientific evidence, by a treating physician chosen by the student or the student 's parent or guardian or another person with legal authority to make medical decisions for the student;
(2) the student has successfully completed each requirement of the return-to-play protocol established under Section 38.153 necessary for the student to return to play;
(3) the treating physician has provided a written statement indicating that, in the physician 's professional judgment, it is safe for the student to return to play; and
(4) the student and the student 's parent or guardian or another person with legal authority to make medical decisions for the student:
(A) have acknowledged that the student has completed the requirements of the return-to-play protocol necessary for the student to return to play;
(B) have provided the treating physician 's written statement under Subdivision (3) to the person responsible for compliance with the return-to-play protocol under Subsection (c) and the person who has supervisory responsibilities under Subsection (c); and
(C) have signed a consent form indicating that the person signing:
(i) has been informed concerning and consents to the student participating in returning to play in accordance with the return-to-play protocol;
(ii) understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return-to-play protocol;
(iii) consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician 's written statement under Subdivision (3) and, if any, the return-to-play recommendations of the treating physician; and
(iv) understands the immunity provisions under Section 38.159.

_____ _____
Parent or Guardian Signature *Date*

_____ _____
Student Signature *Date*

Concussion Management Protocol Return to Play Form

This form must be completed and submitted to the athletic trainer or other person (who is not a coach) responsible for compliance with the Return to Play protocol established by the school district Concussion Oversight Team, as determined by the superintendent or their designee (see Section 38.157 (c) of the Texas Education Code).

_____ _____

Student Name (Please Print) *School Name (Please Print)*

Designated school district official verifies:

Please Check

☐ The student has been evaluated by a treating physician selected by the student, their parent or other person with legal authority to make medical decisions for the student.

☐ The student has completed the Return to Play protocol established by the school district Concussion Oversight Team.

☐ The school has received a written statement from the treating physician indicating, that in the physician's professional judgment, it is safe for the student to return to play.

_____ _____

School Individual Signature *Date*

_____

School Individual Name (Please Print)

Parent, or other person with legal authority to make medical decisions for the student signs and certifies that he/she:

Please Check

☐ Has been informed concerning and consents to the student participating in returning to play in accordance with the return to play protocol established by the Concussion Oversight Team.

☐ Understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return to play protocol.

☐ Consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement under Subdivision (3) and, if any, the return to play recommendations of the treating physician.

☐ Understands the immunity provisions under Section 38.159 of the Texas Education Code.

_____ _____

Parent/Responsible Decision-Maker Signature *Date*

_____

Parent/Responsible Decision-Maker Name (Please Print)

RETURN TO PLAY POLICIES

Utah

UHSAA Sports Concussion Management Policy

(Updated and Revised 8/17/2011)

1. Overview

1.1. In response to the growing concern over concussion in athletics there is a need for High Schools to develop and utilize a "Concussion Management Policy". While regional limitations in availability of specifically trained school and medical personnel are acknowledged, the following document serves as a standard for concussion management.

1.2. The following components will be outlined as part of a comprehensive concussion management policy:

1.2.1. Concussion Overview (section 2)

1.2.2. Concussion Education for Student-Athletes and Parent(s)/Guardian(s)(section 3)

1.2.3. Concussion Education for Coaches (section 4)

1.2.4. Pre-season concussion assessment (section 5)

1.2.5. Concussion action plan (section 6)

1.2.6. Appendix A: Statement Acknowledging Receipt of Concussion Education

1.2.7. Appendix B: Post Concussion Instructions

1.2.8. Appendix C: Return to School Recommendations

1.2.9. Appendix D: Return to Play Protocol

1.2.10. Appendix F: Memo- Implementation of NFHS Playing Rules Changes Related to Concussion and Concussed Athletes

2. What is a Concussion

2.1. Concussion, or mild traumatic brain injury (mTBI), has been defined as "a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces." Although concussion most commonly occurs after a direct blow to the head, it can occur after a blow elsewhere that is transmitted to the head.

2.2. Signs and symptoms of concussions include but are not limited to:

Note: A student/athlete may experience any of the following signs and symptoms

Confusion	Disequilibrium
Post-traumatic Amnesia (PTA)	Feeling 'in a fog', 'zoned out'
Retrograde Amnesia (RGA)	Vacant stare, 'glassy eyed'
Disorientation	Emotional lability
Delayed verbal and motor responses	Dizziness
Inability to focus	Slurred/incoherent speech
Headache	Excessive Drowsiness
Nausea/Vomiting	Loss of consciousness (LOC)
Visual Disturbances, including light sensitivity, blurry vision, or double vision	

3. Concussion Education for Student Athletes and Parent(s)/Guardian(s)

3.1. At the beginning of individual sport seasons, student-athletes shall be presented with a discussion about concussions and given a copy of the CDC's "Heads Up: Concussion in High School Sports – A fact sheet for Athletes"

3.1.1. If the school has medical coverage in place for their athletes (i.e. physician or licensed athletic trainer), this person shall provide the discussion and educational handout

3.1.2. If no such coverage exists, the coach or other designated school personnel shall be responsible for providing the fact sheets to the student athletes.

3.2. At the beginning of individual sport seasons, parent/guardian(s) shall be presented with a copy of the CDC's "Heads Up: Concussion in High School Sports – A Fact sheet for parents"

3.3. These materials are available free of charge from the CDC. To order or download go to the CDC concussion web-page or use the following link: http://www.cdc.gov/concussion

3.4. All student-athletes and their parents/guardians will sign a statement in which the student-athlete accepts the responsibility for reporting their injuries and illnesses to the coaching/athletic training staff, parents, or other health care personnel including signs and symptoms of concussion. This statement will also acknowledge having received the above mentioned educational handouts. **See Appendix A**

3.5. All student-athletes shall be **required** to participate in the above education prior to their participation in any sport governed by the UHSAA.

3.5.1. Club sports sponsored by high schools do not fall under the jurisdiction of the UHSAA. UHSAA member high schools are nonetheless encouraged to adopt similar policies to properly manage concussion in the club sports they support.

4. Concussion Education for Coaches

4.1. It is required that each year coaches, staff and athletic trainers shall review the UHSAA Concussion management policy, and a copy of the CDC's "Heads Up: Concussion in High School Sports – A Guide for Coaches" http://www.cdc.gov/concussion

4.2. All coaches, coaching staff, athletic trainers and administrative personnel shall complete a course dealing with concussion, its signs, symptoms and management. This course shall be completed prior to working with student-athletes. The CDC, in partnership with the National Federation of State High School Associations, has developed a free web based course, "Concussion in Sports: What you need to know", to be used for this purpose.

4.2.1. As determined by the UHSAA, repetition of the course may be required in subsequent years.

4.2.2. The "Concussion in Sports: What You Need to Know" on-line course is available free of charge after registering at http://www.nfhslearn.com

5. Pre-season concussion assessment

5.1. Optimally a concussion history should be included as part of all of a student/athlete's pre-participation physical health examinations with their health care professional.

5.2. It is recommended that every two years, student-athletes complete a baseline assessment prior to the beginning of the school year or their individual sports seasons as appropriate. Baseline assessments may consist of any or all of the following:

5.2.1. Standardized Symptom Checklist

5.2.2. Neuropsychological Testing. Generally, pre-season neuropsychological testing is accomplished through a computerized system. While several computer based programs are available, one program widely used within the State of Utah is, ImPACT (ImPACT Inc.). When used, it is to be completed through a consultant trained in concussion assessment, management and test administration.

5.2.2.1. Neuropsychological testing programs are designed to measure specific brain functions that may be altered after a concussion. The program is designed in such a way as to allow athletes to be tested pre-season so that post injury performance may be compared to the athlete's own baseline.

5.2.2.2. Neuropsychological testing may be administered by a licensed athletic trainer or other designated school personnel trained in test administration in a controlled computer lab environment.

5.2.2.2.1.1. Neuropsychological testing baseline data shall be reviewed by an individual certified in administration and interpretation of such results, or under the supervision of or in consultation with a qualified neuropsychologist.

5.2.3. Standardized Balance Assessment with the Balance Error Scoring Scale (BESS)

5.2.3.1. BESS is an easily performed measure of balance that has been validated as an effective means to grade postural stability and is a useful part of objective concussion assessment.

5.2.3.2. BESS may be administered during the pre-season by a licensed athletic trainer or other qualified health care professional.

6. Concussion Action Plan

6.1. When a student-athlete shows any signs, symptoms or behaviors consistent with a concussion, the athlete shall be removed immediately from practice or competition and evaluated by a qualified health care professional with specific training in the evaluation and management of concussion. The decision regarding removal from practice or competition may be made by school designated medical personnel or a designated school representative.

6.1.1. School personnel, including coaches are encouraged to utilize a pocket guide on the field to assist them in recognizing a possible concussion. An example pocket guide is available as part of the CDC toolkit "Heads Up: Concussion in High School Sports" available at http://www.cdc.gov/concussion

6.2. Where possible, the athlete shall be evaluated on the sideline by a licensed athletic trainer or other appropriate health care professional. Ideally, the sideline evaluation will be completed using the Sports Concussion Assessment Tool ver. 2 (SCAT 2).

6.2.1. The SCAT 2 is comprised of a symptom checklist, standard and sport specific orientation questions, the Standardized Assessment of Concussion (SAC), and an abbreviated form of the Balance Error Scoring Scale (BESS)

6.3. A student-athlete diagnosed with a concussion shall be withheld from the competition or practice and shall not return to activity for the remainder of that day. The student-athlete's parent/guardian(s) shall be notified of the situation.

6.4. The student-athlete should receive serial monitoring for deterioration. Student-athletes and their parent/guardian shall be provided with written instructions upon dismissal from practice/game. **See Appendix B or page 1 of the *"Post Concussion Instructions and Return to Play Clearance Form"* http://www.uhsaa.org/new/images/forms/ConcussionReleaseForm.pdf for a copy of discharge instructions.**

6.5. In accordance with district/school emergency action plans, immediate referral to Emergency Medical Services should be provided for any of the following "Red Flag Signs or Symptoms".

6.5.1. Prolonged Loss of Consciousness

6.5.2. Seizure like activity

6.5.3. Slurring of speech

6.5.4. Paralysis of limb(s)

6.5.5. Unequal pupils or dilated and non-reactive pupils

6.5.6. At any point where the severity of the injury exceeds the comfort level of the on-site medical personnel

6.6. Consultation with a qualified health care professional shall occur for all student-athletes sustaining a suspected concussion. Health care professionals with limited experience or training in recognition and treatment of concussion are encouraged to seek consultation with professionals who have expertise in understanding, recognizing and treating concussion and related symptoms. This consultation may occur by telephone between the local health care professional and concussion expert.

6.7. For the purposes of this document, a qualified health care professional is defined as one who is trained in management of concussion and who:

6.7.1. is licensed under Utah Code, Title 58, Division of Occupational and Professional Licensing Act; and

6.7.2. may evaluate and manage a concussion within the health care provider's scope of practice; and

6.7.3. has, within three years, successfully completed a continuing education course in the evaluation and management of concussion.

6.8. Subsequent management of the student-athlete's concussion shall be under the discretion of the treating health care professional, but may include the following:

6.8.1. Referral to a Concussion Care Clinic

6.8.2. When possible, repeat neuropsychological testing.

6.8.3. Clinical assessment of balance and symptoms, with comparison to baseline data when available.

6.8.4. Medication management of symptoms, where appropriate

6.8.5. Provision of recommendations for adjustment of academic coursework, including the possible need to be withheld from coursework obligations while still symptomatic. **See Appendix C for a list of possible accommodations required.**

6.8.6. Direction of return to play protocol, to be coordinated with the assistance of a licensed athletic trainer or designated school personnel **(see Appendix D for return to play protocol)**

6.8.7. Final authority for Return-to-Play shall reside with the local health care professional (see 6.7), their designee or by a recognized concussion management program. Prior to returning to competition, the concussed student athlete shall have a *"UHSAA Concussion Return to Play Clearance Form"* signed by their managing health care professional.

6.9. The incident, evaluation, continued management, and clearance of the student-athlete with a concussion shall be documented.

APPENDIX A: Statement Acknowledging Receipt of Education and Responsibility to report signs or symptoms of concussion to be included as part of the "Participant and Parental Disclosure and Consent Document".

I, _____, of _____ High School
Student/Athlete Name *School*
hereby acknowledge having received education about the signs, symptoms, and risks of sport related concussion. I also acknowledge my responsibility to report to my coaches, parent(s)/guardian(s) any signs or symptoms of a concussion.

_____ _____
signature and printed name of student/athlete *Date*

I, the parent/guardian of the student athlete named above, hereby acknowledge having received education about the signs, symptoms, and risks of sport related concussion.

_____ _____
signature and printed name of parent/guardian *Date*

APPENDIX B: Immediate Post Concussion Instructions

The following instructions are to be given to each athlete and their parent/guardian after sustaining a concussion, as identified in section 6.4 of the UHSAA Concussion Management Policy, These instructions are included with the "Return to Play Clearance Form" http://www.uhsaa.org/new/images/forms/ConcussionReleaseForm.pdf

Head Injury Precautions

During the first 24 hours:

1. Diet – drink only clear liquids for the first 8-12 hours and eat reduced amounts of foods thereafter for the remainder of the first 24 hours.

2. Pain Medication – do not take any pain medication except Tylenol. Dosing instructions provided with pain medications should be followed.

3. Activity – activity should be limited for the first 24 hours, this would involve no school, video games, extracurricular or physical activities or work when applicable.

4. Observation – several times during the first 24 hours:

    a. Check to see that the pupils are equal. Both pupils may be large or small, but the right should be the same size as the left.
    b. Check the athlete to be sure that he/she is easily aroused; that is, responds to shaking or being spoken to, and when awakened, reacts normally.
    c. Check for and be aware of any significant changes. (See #5 below)

5. Significant changes
   Conditions may change significantly within the next 24 hours. Immediately obtain emergency care for any of the following signs or symptoms:

    a. Persistent or projectile vomiting
    b. Unequal pupil size (see 4a above)
    c. Difficulty in being aroused
    d. Clear or bloody drainage from the ear or nose
    e. Continuing or worsening headache
    f. Seizures
    g. Slurred speech
    h. Can't recognize people or places – increasing confusion
    i. Weakness or numbness in the arms or legs
    j. Unusual behavior change – increasing irritability
    k. Loss of consciousness

6. Improvement
   The best indication that an athlete who has suffered a significant head injury is progressing satisfactorily, is that he/she is alert and behaving normally.

Licensed Athletic Trainer/School Designee Phone

Local ER Phone

APPENDIX C: Return to School Recommendations

In the early stages of recovery after a concussion, increased cognitive demands, such as academic coursework, as well as physical demands may worsen symptoms and prolong recovery. Accordingly, a comprehensive concussion management plan will provide appropriate provisions for adjustment of academic coursework on a case by case basis.

The following provides a framework of possible recommendations that may be made by the managing health care professional:

Inform teacher(s) and administrator(s) about your injury and symptoms. School personnel should be instructed to watch for:

- Increased problems with paying attention, concentrating, remembering, or learning new information
- Longer time needed to complete tasks or assignments
- Greater irritability, less able to cope with stress
- Symptoms worsen (e.g., headache, tiredness) when doing schoolwork

Injured Student_____ Date_____

Until fully recovered, the following supports are recommended: *(check all that apply)*

__May return immediately to school full time.

__Not to return to school. May return on (date) _____

__Return to school with supports as checked below. Review on (date) _____

__Shortened day. Recommend ___ hours per day until (date) _____

__Shortened classes (i.e., rest breaks during classes). Maximum class length: _____ minutes.

__Allow extra time to complete coursework/assignments and tests.

__Reduce homework load by _____%.
Maximum length of nightly homework: _____ minutes.

__No significant classroom or standardized testing at this time.

__No more than one test per day.

__Take rest breaks during the day as needed.

__Other: List:_____

_____

_____

Managing Health Care Professional
Please write legibly

Name_____ Office Phone_____

E-mail_____ Alt. Phone_____

Health Care Professional Signature_____ Date_____

APPENDIX D: Return to Play Protocol, to be included in "Return to Play Clearance Form".

- Recovery from concussion and progression through the Return-to-Play stages is individualized and determined on a case by case basis. Many factors influence the rate of progression and include previous concussion history, duration and types of symptoms, age and sport/activity that the athlete participates in. Athletes with history of prior concussion, extended duration of symptoms, or participation in collision or contact sports may progress more slowly.
- The following table is adapted from the 3rd International Conference on Concussion in Sport and provides the framework for the return to play protocol.
- It is expected that student-athletes will start in stage 1 and remain in stage 1 until symptom free.
- The patient may, under the direction of the health care professional, and the guidance of the licensed athletic trainer or recognized concussion management program, progress to the next stage only when assessment battery has normalized, including symptom assessment, cognitive assessment with computerized or other appropriate neuropsychological assessment, and/or balance assessment with the BESS.
- It is anticipated that at least 24 hours will be required, at a minimum, of being asymptomatic with each stage before progressing to the next stage.
- Utilizing this framework, in a **best case scenario**, a patient sustaining a concussion and being asymptomatic by the next day will start in Rehabilitation Stage 1 at post injury day 1 and progress through to stage 6, 'Return to Play' by post injury day 6.
- There may be circumstances, based on an individual's concussion severity, where the return to play protocol may take longer. Under all circumstances the progression through this protocol shall be overseen by the managing health care professional, licensed athletic trainer or recognized concussion management program.
- Each student-athlete with a concussion shall be personally evaluated by a health care professional at least one time during this process.
- When the athlete has successfully passed through stage 5 (Full Contact Practice) and has previously been evaluated by a health care professional or recognized concussion management program, a verbal clearance may be obtained by the licensed athletic trainer or designated school personnel. Otherwise, a visit with a health care professional is required before such clearance to return to play will be granted.
- A completed "Return to Play Clearance Form" indicating the student is medically released to return to full competition shall be provided to school officials prior to a student's being allowed to resume competition after suffering a concussion.

GRADUATED RETURN TO PLAY PROTOCOL[1]		
Stage	**Functional Exercise or Activity**	**Objective**
1. No structured physical or cognitive activity.	Only Basic Activities of Daily Living (ADLs). When indicated, complete cognitive rest followed by gradual reintroduction of schoolwork.	**Rest and recovery, avoidance of overexertion**
2. Light Aerobic Physical Activity.	Non-impact aerobic activity (e.g. swimming, stationary biking) at <70% estimated maximum heart rate for up to 30 minutes as symptoms allow.	**Increase heart rate, maintain condition, assess tolerance of activity**
3. Moderate aerobic physical activity and Non-contact training drills at half speed.	Non-contact sport specific drills at reduced speed; Aerobic activity at 70-85% estimated maximum heart rate; light resistance training (e.g. weights at <50% previous max ability)	**Begin assimilation into team dynamics, introduce more motion and non-impact jarring**
4. Non-contact training drills at full speed.	Regular Non-contact training drills; aerobic activity at maximum capacity including sprints; regular weight lifting routine.	**Ensure tolerance of all regular activities short of physical contact.**
5. Full Contact Practice.	Full Contact Practice.	**Assess functional skills by coaching staff, ensure tolerance of contact activities**
6. Return to Play.	**Regular game competition.**	

1. McCrory P, Meeuwisse W, Johnston K, et al. Consensus statement on Concussion in Sport 3rd International Conference on Concussion in Sport held in Zurich, November 2008. *Clin J Sport Med.* May 2009;19(3):185-200.

APPENDIX E: Memo - Implementation of NFHS Playing Rules Related to Concussion and Concussed Athletes

In its various sports playing rules, the National Federation of State High School Associations (NFHS) has implemented a standard rule in all sports dealing with suspected concussions in student athletes. The basic rule in all sports (the rule may be worded slightly differently in each to reflect the language of the sport) states:

> *Any athlete who exhibits signs, symptoms or behaviors consistent with a concussion (such as loss of consciousness, headache, dizziness, confusion, or balance problems) shall be immediately removed from the contest and shall not return to play until cleared by an appropriate health-care professional. (Please see NFHS Suggested Guidelines for Management of Concussion in the Appendix of each NFHS Rules Book)*

The responsibility for observing signs, symptoms, and behaviors that are consistent with a concussion rests with school personnel and sports officials. In conjunction with the *UHSAA Concussion Management Policy* http://uhsaa.org/SportsMed/ConcussionManagementPlan.pdf and the rule stated above the following guidelines are given:

Role of the contest official in administering the rule:

- Officials are to review and know the signs, symptoms and behaviors consistent with a concussion.
- Officials are to direct the removal an athlete who demonstrates signs, symptoms or behaviors consistent with concussion from the contest according the rules and protocol regarding injured contestants for the specific sport.
- Officials have no other role in the process. The official does not need to receive clearance for an athlete to re-enter the contest.

Role of school personnel in administering the rule:

- All coaches, athletic trainers, and administrative personnel are required to complete a course dealing with concussion prior to working with student/athletes. The NFHS course *Concussion in Sport* available free of charge at www.nfhslearn.com satisfies this requirement.
- All coaches and athletic trainers are required to annually review the *UHSAA Concussion Management Policy* http://uhsaa.org/SportsMed/ConcussionManagementPlan.pdf and the CDC publication *Heads Up: Concussion in High School Sports – A Guide for Coaches* available at http://www.cdc.gov/concussion/HeadsUp/high_school.html.
- A student athlete who has demonstrated signs, symptoms or behaviors consistent with concussion shall be removed immediately from the contest or practice and shall not return to play or practice until cleared by an appropriate health-care professional. The student/athlete and their parent/guardian shall be provided with the *"UHSAA Post Concussion Instructions and Return to Play Clearance Form"*. http://uhsaa.org/new/images/forms/ConcussionReleaseForm.pdf

Appropriate health-care professional:

- An appropriate health-care professional is one who is trained in the management of concussion and who:
  - is licensed under Utah Code, Title 58, Division of Occupational and Professional Licensing Act; and
  - may evaluate and manage a concussion within the health care provider's scope of practice; and
  - has, within three years, successfully completed a continuing education course in the evaluation and management of concussion.
- The UHSAA Sports Medicine Advisory Committee has developed a form for the school to receive written clearance from an appropriate health-care professional for return to play of a concussed student athlete. The form is available on the "Forms" page and the "Sports Medicine" page of the UHSAA web-site or directly at http://uhsaa.org/new/images/forms/ConcussionReleaseForm.pdf.

Links to resources:

- UHSAA Concussion Management Policy: http://uhsaa.org/SportsMed/ConcussionManagementPlan.pdf
- NFHS "Concussion in Sports" course: www.nfhslearn.com
- Center for Disease Control & Prevention (CDC) concussion materials: www.cdc.gov/concussion
- UHSAA "Post Concussion Instructions and Return to Play Clearance Form": http://uhsaa.org/new/images/forms/ConcussionReleaseForm.pdf

To: Parent/Guardian:

From: _____ **, at** _____ **High School**
*Name of School Representative** *Name of School*

_____ , _____
*Position of School Representative** *Phone Number of School Representative**

Your child/ward may have sustained a concussion, and by policy has been removed from play until he/she has been medically cleared to return to play by a qualified health care professional.

It is not within our purview to dictate how or by whom your child/ward should be managed medically. The following have been adapted from guidelines published by the National Athletic Trainer's Association and serve as general guidelines only for immediate management during the first 24 hours:

It is OK to
- Use acetaminophen (Tylenol) for headaches
- Use ice pack on head and neck as needed for comfort
- Eat a carbohydrate-rich diet
- Go to sleep
- Rest (no strenuous activity or sports)

There is NO need to
- Check eyes with flashlight
- Wake up frequently (unless otherwise instructed)
- Test reflexes
- Stay in bed

Do NOT
- Drink alcohol
- Drive a car or operate machinery
- Engage in physical activity (eg, exercise, weight lifting, physical education, sport participation) that makes symptoms worse
- Engage in mental activity (eg, school, job, homework, computer games) that makes symptoms worse

Do Monitor for Significant Changes:
Conditions may change significantly within the next 24 hours. Immediately obtain emergency care for any of the following signs or symptoms:

Persistent or projectile vomiting
Unequal pupil size
Difficulty in being aroused
Clear or bloody drainage from the ear or nose
Continuing or worsening headache
Seizures
Slurred speech or inability to speak
Can't recognize people or places – increasing confusion
Weakness or numbness in the arms or legs
Unusual behavior change – increasing irritability
Loss of consciousness

Improvement
The best indication that an athlete who has suffered a significant head injury is progressing satisfactorily, is that he/she is alert and behaving normally.

Contact your health care provider
Before returning to physical activities, contact your health care provider for evaluation. If he or she diagnoses a concussion, use the attached form to help your health care provider determine when your child/ward is fully recovered and able to resume normal activities, including sports.

Talk to your health care provider about the following:
- Management of symptoms
- Appropriate levels of school activity or the need for reducing academic coursework for a temporary period of time
- Appropriate levels of physical activity

Return clearance form prior to returning your child to play
Before your child will be allowed to return to play, you will need to return the attached "Concussion Return to Play Clearance Form" signed by your care provider to the school.

UHSAA Concussion Return to Play Clearance Form

To: Health Care Provider

This form has been developed in order to provide a uniform method for health care professionals to provide a written release for student/athletes to return to play after having suffered a concussion or having demonstrated signs, symptoms or behaviors consistent with a concussion and having been removed from competition or practice as a result.

As of May 2011, Utah State Law requires that a child suspected of having sustained a concussion be removed from sporting events and prohibited from returning to play until that child has been evaluated by an appropriate health care provider.

The law requires the following of the health care provider:

- Provide the amateur sports organization with a written statement, stating that within 3 years before the day on which the written statement is made that they have successfully completed a continuing education course in the evaluation and management of concussion.
- Provide the amateur sports organization written clearance that the child is cleared to resume participation in the sporting event of the amateur sports organization

While this form does not presume to dictate to professionals how to practice medicine, the guidelines for return to play from a concussion do represent consensus expert opinion from national and world leaders in sport concussion management.[1,2] The components of this form are intended to address concerns of coaches, parents, student/athletes, administrators, and healthcare professionals regarding written clearance from a health care professional for a concussed student/athlete to return to play.

In order to maintain compliance with the law, our organization requests that the healthcare provider utilize this form in granting medical clearance to return to sporting events.

SUGGESTED PRINCIPLES IN CLEARING A STUDENT/ATHLETE TO RETURN TO PLAY

- *Recovery from concussion and progression through the Return-to-Play stages is individualized and determined on a case by case basis.* Many factors influence the rate of progression and include previous concussion history, duration and types of symptoms, age and sport/activity in which the student/athlete participates. Student/athletes with a history of prior concussion, extended duration of symptoms, or participation in collision or contact sports may progress more slowly.
- The following table is adapted from the 4th International Conference on Concussion in Sport[1] and provides the framework for the return to play protocol.
- It is expected that student/athletes will start in stage 1 and remain in stage 1 until symptom free.
- The patient may, under the direction of a health care professional, progress to the next stage only when the assessment battery has normalized. The assessment battery may include any or all of the following:
    a. Symptom assessment
    b. Cognitive assessment with computerized or other appropriate neuropsychological assessment
    c. Balance assessment along with general neurologic examination.
- It is anticipated that at least 24 hours will be required, at a minimum, of being asymptomatic with each stage before progressing to the next stage.
- Utilizing this framework, in a **best case scenario**, a patient sustaining a concussion and being asymptomatic by the next day will start in Rehabilitation Stage 1 at post injury day 1 and progress through to stage 6, 'Return to Play' by post injury day 6.

UHSAA Concussion Return to Play Clearance Form

- There may be circumstances, based on an individual's concussion severity, where the return to play protocol may take longer. Under all circumstances the progression through this protocol shall be overseen by the managing health care professional.
- Each athlete with a concussion shall be personally evaluated by an appropriate health care professional at least one time during this process.
- When the athlete has successfully passed through stage 5 (Full Contact Practice) and has previously been evaluated by an appropriate health care professional or recognized concussion management program, a clearance may be obtained from the individual designated on this form if authorized by the managing health care professional.
- A completed *Concussion Return to Play Clearance Form* indicating the student is medically released to return to full competition shall be provided to school officials prior to a student who has been removed from a contest or practice for a suspected concussion, being allowed to return to play.

GRADUATED RETURN TO PLAY PROTOCOL[1]		
Stage	**Functional Exercise or Activity**	Objective
1. No structured physical or cognitive activity Date Tested:_____	Only Basic Activities of Daily Living (ADLs). When indicated, complete cognitive rest followed by gradual reintroduction of schoolwork.	**Rest and recovery, avoidance of overexertion.** Date Cleared:_____Initial_____
2. Light Aerobic Physical Activity Date Tested:_____	Non-impact aerobic activity (e.g. swimming, stationary biking) at <70% estimated maximum heart rate for up to 30 minutes as symptoms allow.	**Increase heart rate, maintain condition, assess tolerance of activity.** Date Cleared:_____Initial_____
3. Moderate aerobic physical activity and Non-contact training drills at half speed Date Tested:_____	Non-contact sport specific drills at reduced speed; Aerobic activity at 70-85% estimated maximum heart rate; light resistance training (e.g. weights at <50% previous max ability)	**Begin assimilation into team dynamics, introduce more motion and non-impact jarring.** Date Cleared:_____Initial_____
4. Non-contact training drills at full speed Date Tested:_____	Regular Non-contact training drills; aerobic activity at maximum capacity including sprints; regular weight lifting routine	**Ensure tolerance of all regular activities short of physical contact.** Date Cleared:_____Initial_____
5. Full Contact Practice Date Tested:_____	Full Contact Practice	**Assess functional skills by coaching staff, ensure tolerance of contact activities.** Date Cleared:_____Initial_____
6. Return to Play	**Regular game competition**	

References

1. McCrory P, Meeuwisse W, Aubry M, et al. Consensus Statement on Concussion in Sport-the 4th International Conference on Concussion in Sport Held in Zurich, November 2012. Clin J Sport Med. 2013;23(2):89-117.
2. Broglio SP, Cantu RC, Gioia GA, et al. National Athletic Trainers' Association position statement: management of sport concussion. J Athl Train. 2014;49(2):245-265.

Form Revised & Updated MM/DD/YYYY

UHSAA Concussion Return to Play Clearance Form

Student/Athlete Name | *School* | *Date of Birth*

*Name of School Representative** | *Position of School Representative** | *Phone Number of School Representative**

Date of Injury | *Date of Initial Exam*

**The school representative is the individual from the school who provided this form to the student athlete and is familiar with the student/athlete and this incidence of injury.*

❑ The above named athlete sustained a concussion on the date of injury noted and has been evaluated by me. **The athlete has completed the return to play protocol and is cleared to return to competitive play as of this date.**

❑ The above named athlete sustained a concussion on the date of injury noted and has been evaluated by me. **This athlete is not medically released for participation. Athlete must advance through return to play protocol (see table on page 3) under supervision of school designated personnel.**

❑ The above named athlete did sustain a concussion on the date of injury noted, **has recovered but has not progressed through the return to play protocol.** The athlete is therefore medically released to continue to advance activities per the graduated return to play protocol (see table on page 3). Ideally, the student-athlete's progress through the stages will be monitored by a licensed athletic trainer. When a licensed athletic trainer is not available the athlete is to be monitored in their progress through each stage by a responsible adult who at a minimum:

a. has been trained in the recognition of signs and symptoms of concussion
b. will have consistent contact with the student/athlete
c. and is familiar with the *Return to Play Protocol* and stages

The individual responsible for monitoring the progress of the student-athlete through the stages of the *Return to Play Protocol* should consult with the managing health care professional when necessary and shall consult (may be in person, by phone or e-mail) with the managing health care professional prior to the release of the student/athlete to return to play.

Person responsible for monitoring progress | *Date graduated return to play may begin*

I certify that I have consulted with the managing health care professional named on this form and have received a medical release from the managing health care professional for the athlete named herein to return to play in the sport indicated.

Signature of person responsible for monitoring progress | *Date step 5 completed asymptomatically*

By signing this form the health care professional is certifying that, per Utah code, they are a licensed health care provider practicing within their scope of practice, and have within 3 years of this date completed a continuing education course in the evaluation and management of concussion. The signature invokes the condition checked above.

Health Care Professional Signature | *Date of medical clearance* | *Date signed*

Health Care Professional Name (printed or typed) | *Office phone*

Health Care Professional Office Address

RETURN TO PLAY POLICIES

Vermont

Fletcher Allen HEALTH CARE
In alliance with The University of Vermont

Gradual Return to Play Following a Concussive Injury

- This return to play plan should start only when you have been without any symptoms for 24 hours.
- It is important to wait for 24 hours between steps because symptoms may develop several hours after completing a step.
- Do not take any pain medications while moving through this plan (no ibuprofen, aspirin, Aleve, or Tylenol).
- Make a follow up appointment with your provider if symptoms develop during this progression.
- Intensity levels: 1 = very easy; 10 = very hard.

Step 1: Aerobic conditioning - Walking, swimming, or stationary cycling.
- Intensity: 4 out of 10.
- Duration: no more than 30 minutes.
- If symptoms return, wait until you are symptom free for 24 hours then repeat Step 1.
- No symptoms for 24 hours, move to Step 2.

Step 2: Sports specific drills – skating drills in hockey, running drills in soccer/basketball.
- Intensity: 5 or 6 out of 10.
- Duration: no more than 60 minutes.
- No head impact activities. No scrimmages/potential for contact.
- If symptoms return, wait until you are symptom free for 24 hours then repeat Step 1.
- No symptoms for 24 hours, move to Step 3.

Step 3: Non-contact training drills – include more complex training drills (passing in soccer/ice hockey/basketball. Running specific pattern plays, etc).
- No head contact, or potential for body impact.
- OK to begin resistance training.
- Intensity: 7 out of 10.
- Duration: no more than 90 minutes.
- If symptoms return, wait until you are symptom free for 24 hours then repeat Step 2.
- No symptoms for 24 hours, move to Step 4.

Step 4: Full contact practice.
- **Only after medical clearance!**
- No intensity/duration restrictions.
- If symptoms return, wait until you are symptom free for 24 hours and repeat Step 3.
- No symptoms for 24 hours, move to Step 5

Step 5: Full clearance for return to play.

VERMONT
AGENCY OF EDUCATION
219 North Main Street, Suite 402
Barre, VT 05641 (p) 802-479-1030 | (f) 802-479-1835

Concussion Guidelines

Act No. 58, § 40of 2011, Act No. 171, § 39a of 2011 , and Act No. 68, § 2 of 2013 which are codified in 16 V.S.A. § 1431, direct the AOE to develop guidelines to assist schools in taking reasonable steps to prevent, and to minimize the effects of, school athletic team-related concussions. In the creation of these guidelines, the AOE has consulted with the Vermont Department of Health, the Vermont Principals' Association, and the Vermont School Boards Insurance Trust; we gratefully acknowledge their assistance.

The law requires that schools educate their coaches, their youth athletes, and the youth athletes' parents and guardians regarding the prevention and mitigation concussion-related injuries.

Under 16 V.S.A. § 1431, responsibility to ensure compliance with these guidelines falls on principals of public schools, and on heads of approved independent schools.

Section 1431 is set forth below, along with the rest of the relevant portions of S.100:

* * * * *

- **§ 1431. Concussions and other head injuries**

(a) Definitions. As used in this subchapter:

(1) "Coach" means a person who instructs or trains students on a school athletic team.

(2) "Collision sport" means football, hockey, lacrosse, or wrestling.

(3) "Contact sport" means a sport, other than football, hockey, lacrosse, or wrestling, defined as a contact sport by the American Academy of Pediatrics.

(4) "Health care provider" means an athletic trainer, or other health care provider, licensed pursuant to Title 26, who has within the preceding five years been specifically trained in the evaluation and management of concussions and other head injuries. Training pursuant to this subdivision shall include training materials and guidelines for practicing physicians provided by the Centers for Disease Control and Prevention, if available.

(5) "School athletic team" means an interscholastic athletic team or club sponsored by a public or approved independent school for elementary or secondary students.

(6) "Youth athlete" means an elementary or secondary student who is a member of a school athletic team.

(b) Guidelines and other information. The Secretary of Education or designee, assisted by members of the Vermont Principals' Association selected by that association, members of the Vermont School Boards Insurance Trust, and others as the Secretary deems appropriate, shall develop statewide guidelines, forms, and other materials, and update them when

necessary, that are designed to educate coaches, youth athletes, and the parents and guardians of youth athletes regarding:

(1) the nature and risks of concussions and other head injuries;

(2) the risks of premature participation in athletic activities after receiving a concussion or other head injury;

(3) the importance of obtaining a medical evaluation of a suspected concussion or other head injury and receiving treatment when necessary;

(4) effective methods to reduce the risk of concussions occurring during athletic activities; and

(5) protocols and standards for clearing a youth athlete to return to play following a concussion or other head injury, including treatment plans for such athletes.

(c) Notice and training. The principal or headmaster of each public and approved independent school in the State, or a designee, shall ensure that:

(1) the information developed pursuant to subsection (b) of this section is provided annually to each youth athlete and the athlete's parents or guardians;

(2) each youth athlete and a parent or guardian of the athlete annually sign a form acknowledging receipt of the information provided pursuant to subdivision (1) of this subsection and return it to the school prior to the athlete's participation in training or competition associated with a school athletic team;

(3)(A) each coach of a school athletic team receive training no less frequently than every two years on how to recognize the symptoms of a concussion or other head injury, how to reduce the risk of concussions during athletic activities, and how to teach athletes the proper techniques for avoiding concussions; and

(B) each coach who is new to coaching at the school receive training prior to beginning his or her first coaching assignment for the school; and

(4) each referee of a contest involving a high school athletic team participating in a collision sport receive training not less than every two years on how to recognize concussions when they occur during athletic activities.

(d) Participation in athletic activity.

(1) Neither a coach nor a health care provider shall permit a youth athlete to continue to participate in any training session or competition associated with a school athletic team if the coach or health care provider knows or should know that the athlete has sustained a concussion or other head injury during the training session or competition.

(2) Neither a coach nor a health care provider shall permit a youth athlete who has been prohibited from training or competing pursuant to subdivision (1) of this subsection to

train or compete with a school athletic team until the athlete has been examined by and received written permission to participate in athletic activities from a health care provider.

(e) Action plan.

(1) The principal or headmaster of each public and approved independent school in the State or a designee shall ensure that each school has a concussion management action plan that describes the procedures the school shall take when a student athlete suffers a concussion. The action plan shall include policies on:

(A) who makes the initial decision to remove a student athlete from play when it is suspected that the athlete has suffered a concussion;

(B) what steps the student athlete must take in order to return to any athletic or learning activity;

(C) who makes the final decision that a student athlete may return to athletic activity; and

(D) who has the responsibility to inform a parent or guardian when a student on that school's athletic team suffers a concussion.

(2) The action plan required by subdivision (1) of this subsection shall be provided annually to each youth athlete and the athlete's parents or guardians.

(3) Each youth athlete and a parent or guardian of the athlete shall annually sign a form acknowledging receipt of the information provided pursuant to subdivision (2) of this subsection and return it to the school prior to the athlete's participation in training or competition associated with a school athletic team.

Subsection (f) effective July 1, 2015.

(f) Health care providers; presence at athletic events.

(1) The home team shall ensure that a health care provider is present at any athletic event in which a high school athletic team participates in a collision sport. If an athlete on the visiting team suffers a concussion during the athletic event, the health care provider shall notify the visiting team's athletic director within 48 hours after the injury occurs.[1]

(2) Home teams are strongly encouraged to ensure that a health care provider is present at any athletic event in which a high school athletic team participates in a contact sport.

(3) A school shall notify a parent or guardian within 24 hours of when a student participating on that school's athletic team suffers a concussion. (Added 2011, No. 58, § 40, eff. May 31, 2011; amended 2011, No. 171 (Adj. Sess.), § 39a; 2013, No. 68, § 2.)

[1] See Appendix B – Recommended "Possible Concussion Notification" form for sending and receiving athletic directors.

* * * * *

For the purpose of carrying out the mandates of 16 V.S.A. § 1431, it is recommended that schools require their coaches to follow the U. S. Department of Health and Human Services Center for Disease Control and Prevention (CDC) guidance and training materials regarding concussions. Those resources, which include resources for coaches, student athletes and parents, are available online at: http://www.cdc.gov/headsup/youthsports/index.html. In addition, hard copies of those resources are included at the end of these guidelines.

Each new coach shall complete the concussion education course (offered by the CDC or NFHS) before their first date of practice and should thoroughly review 16 V.S.A. § 1431 and all of the CDC's concussion-related materials prior to the commencement of coaching activities, and all coaches should thoroughly review 16 V.S.A. § 1431 and all of the CDC's concussion-related materials no less frequently than every year, prior to the commencement of coaching activities. It is also recommended that all coaches complete the CDC's online coaches' concussion training which can be found at: http://www.cdc.gov/headsup/youthsports/training/index.html. This on-line training is intended to augment, and not to substitute for, a thorough review of the other coach-focused CDC training materials which are recommended herein and attached hereto.

It is the duty of all coaches to ensure that the student athlete materials and the parent/guardian materials are distributed in accordance with the statute, and that the signed forms that are required by the statute are collected before the student athlete may participate in training or competition.

Copies of the recommended coach, athlete and parent materials are attached to these guidelines, but all coaches, student athletes and parents are encouraged to go to the CDC website and to delve in greater depth into its broad array of resources. See Appendix C -E.

Principals and Heads of School shall ensure that parents receive the concussion-related information required by the statute, that all students receive meaningful age-appropriate exposure to concussion-related information, and that students suspected of having suffered concussions are disqualified from engaging in school-related athletic activity until they have been cleared to return to such activity by a properly qualified individual.

Health Care Provider Requirement, Presence at Athletic Events

Pursuant to Act 68 of 2013, as codified at Section 1431(f) of Title 16, the home team at any athletic event in which a high school athletic team participates in a collision sport (as defined by Section 1431(a)(2) of Title 16), shall ensure that a health care provider (as defined by Section 1431(a)(4) of Title 16) is present. A home team can rely on a signed assurance that the health care provider meets all of the statutory qualifications to serve in this capacity. A suggested form shall be prepared by the Secretary of Education and made available on the website of the Agency of Education. See Appendix A.

Appendix A

ASSURANCE FORM FOR HEALTH CARE PROVIDERS AT ATHLETIC EVENTS

I hereby assure _____School District that I am an athletic trainer, or other health care provider, licensed pursuant to Title 26 of the Vermont Statutes Annotated, who has within the preceding five years been specifically trained in the evaluation and management of concussions and other head injuries.

The license number assigned to me by the State of Vermont, Office of Professional Regulation is _____.

I further assure _____School District that the requisite training I have received has included applicable training materials and guidelines for practicing physicians provided by the Centers for Disease Control and Prevention.

_____
(Signature of Health Care Provider)

STATE OF VERMONT
COUNTY OF _____, SS.

Subscribed and sworn to before me this_____day of_____, 20__.

_____
Notary Public

My Commission Expires: _____

Appendix B

Possible Concussion Notification

On _____, 20___, at the _____[insert name of event], _____ [insert student athlete's name] may have sustained a concussion. We encourage you to bring your child to a physician for diagnosis and any necessary treatment.

Common signs and symptoms for concussion include:

- Memory difficulties
- Headaches that worsen
- Vomiting
- Focus issues
- Seizures
- Weakness/numbness in arms/legs
- Neck pain
- Odd behavior
- Fatigued
- Irregular sleep Patterns
- Slurred speech
- Delicate to light or noise
- Repeats the same answer or question
- Slow reactions
- Irritability
- Less responsive than usual

If you are unclear and have questions about the above symptoms, please contact an appropriate health care provider (as defined by Section 1431(a)(4) of Title 16). A player who we conclude may have sustained a concussion may not return to play until there is provided a signed clearance from a medical doctor. A copy of this notification will be sent [provided] to your school principal.

Student Athlete Name: _____

Student Athlete's Team: _____

Player Signature: _____ Date: _____

Parent/Legal Guardian Signature: _____ Date: _____

Team Official (Coach) Signature: _____ Date: _____

Receiving Athletic Director Signature: _____ Date: _____

Sending Athletic Director Signature:_____ Date: _____

By signing, dating, and returning this Notification Form, I confirm that I have been provided with, and acknowledge that, I have read the information contained in the Form.
If returning the signed Form by mail, send it to _____. If returning this Form by email, send it to the following address: _____

Appendix C

CONCUSSION FACT SHEET FOR ATHLETES

CONCUSSION FACTS

- A concussion is a brain injury that affects how your brain works.
- A concussion is caused by a bump, blow, or jolt to the head or body.
- A concussion can happen even if you haven't been knocked out.
- If you think you have a concussion, you should not return to play on the day of the injury and until a health care professional says you are OK to return to play.

[INSERT YOUR LOGO]

CONCUSSION SIGNS AND SYMPTOMS

Concussion symptoms differ with each person and with each injury, and may not be noticeable for hours or days. Common symptoms include:

- Headache
- Confusion
- Difficulty remembering or paying attention
- Balance protblems or dizziness
- Feeling sluggish, hazy, foggy, or groggy
- Feeling irritable, more emotional, or "down"
- Nausea or vomiting
- Bothered by light or noise
- Double or blurry vision
- Slowed reaction time
- Sleep problems
- Loss of consciousness

During recovery, exercising or activities that involve a lot of concentration (such as studying, working on the computer, or playing video games) may cause concussion symptoms to reappear or get worse.

WHY SHOULD I REPORT MY SYMPTOMS?

- Unlike with some other injuries, playing or practicing with concussion symptoms is dangerous and can lead to a longer recovery and a delay in your return to play.
- While your brain is still healing, you are much more likely to have another concussion.
- A repeat concussion in a young athlete can result in permanent damage to your brain. They can even be fatal.

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?

DON'T HIDE IT. REPORT IT.

Ignoring your symptoms and trying to "tough it out" often makes symptoms worse. Tell your coach, parent, and athletic trainer if you think you or one of your teammates may have a concussion. Don't let anyone pressure you into continuing to practice or play with a concussion.

GET CHECKED OUT.

Only a health care professional can tell if you have a concussion and when it's OK to return to play. Sports have injury timeouts and player substitutions so that you can get checked out and the team can perform at its best. The sooner you get checked out, the sooner you may be able to safely return to play.

TAKE CARE OF YOUR BRAIN.

A concussion can affect your ability to do schoolwork and other activities. Most athletes with a concussion get better and return to sports, but it is important to rest and give your brain time to heal. A repeat concussion that occurs while your brain is still healing can cause long-term problems that may change your life forever.

"IT'S BETTER TO MISS ONE GAME, THAN THE WHOLE SEASON."

HEADS UP

JOIN THE CONVERSATION AT www.facebook.com/CDCHeadsUp

TO LEARN MORE GO TO >> WWW.CDC.GOV/CONCUSSION

Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the National Operating Committee on Standards for Athletic Equipment (NOCSAE).

Appendix D

CONCUSSION FACT SHEET FOR PARENTS

WHAT IS A CONCUSSION?

A concussion is a type of traumatic brain injury. Concussions are caused by a bump or blow to the head. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF CONCUSSION?

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs of a concussion:

SYMPTOMS REPORTED BY ATHLETE:

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just not "feeling right" or is "feeling down"

SIGNS OBSERVED BY PARENTS/ GUARDIANS:

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes

[INSERT YOUR LOGO]

DANGER SIGNS

Be alert for symptoms that worsen over time. Your child or teen should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

1. SEEK MEDICAL ATTENTION RIGHT AWAY
   A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to regular activities, including sports.
2. KEEP YOUR CHILD OUT OF PLAY.
   Concussions take time to heal. Don't let your child return to play the day of the injury and until a health care professional says it's OK. Children who return to play too soon - while the brain is still healing - risk a greater chance of having a second concussion. Repeat or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.
3. TELL YOUR CHILD'S COACH ABOUT ANY PREVIOUS CONCUSSION.
   Coaches should know if your child had a previous concussion. Your child's coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION OR OTHER SERIOUS BRAIN INJURY?

- Ensure that they follow their coach's rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity. Protective equipment should fit properly and be well maintained.
- Wearing a helmet is a must to reduce the risk of a serious brain injury or skull fracture.
  - However, helmets are not designed to prevent concussions. There is no "concussion-proof" helmet. So, even with a helmet, it is important for kids and teens to avoid hits to the head.

HOW CAN I HELP MY CHILD RETURN TO SCHOOL SAFELY AFTER A CONCUSSION?

Children and teens who return to school after a concussion may need to:

- Take rest breaks as needed
- Spend fewer hours at school
- Be given more time to take tests or complete assignments
- Receive help with schoolwork
- Reduce time spent reading, writing, or on the computer

Talk with your child's teachers, school nurse, coach, speech-language pathologist, or counselor about your child's concussion and symptoms. As your child's symptoms decrease, the extra help or support can be removed gradually.

HEADS UP

JOIN THE CONVERSATION www.facebook.com/CDCHeadsUp

TO LEARN MORE GO TO >> WWW.CDC.GOV/CONCUSSION

Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the National Operating Committee on Standards for Athletic Equipment (NOCSAE).

Appendix E

HEADS UP

CONCUSSION IN HIGH SCHOOL SPORTS

GUIDE FOR COACHES

U.S. Department of Health and Human Services
centers for disease control and prevention

The Facts

- A concussion is a brain injury.
- All concussions are serious.
- Most concussions occur without loss of consciousness.
- Concussions can occur in any sport or recreation activity.
- Recognition and proper response to concussions when they first occur can help prevent further injury or even death.

A bump, blow, or jolt to the head can cause a concussion, a type of traumatic brain injury (TBI). Concussions can also occur from a blow to the body that causes the head and brain to move rapidly back and forth. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

During sports and recreation activities, concussions may result from a fall or from players colliding with each other, the ground, or with obstacles, such as a goalpost. The potential for concussions is greatest in athletic environments where collisions are common.[1] Concussions can occur, however, in any organized or unorganized sport or recreational activity, as well as outside of sports from events such as a motor vehicle crash.

Sometimes people do not recognize that a bump, blow, or jolt to the head or body can cause a concussion. As a result, athletes may not receive medical attention at the time of the injury, but they may later report symptoms such as a headache, dizziness, or difficulty remembering or concentrating. These symptoms can be a sign of a concussion.[2]

For a full list of concussion symptoms, see page 5.

DID YOU KNOW?

* Athletes who have ever had a concussion are at increased risk for another concussion.

* Young children and teens are more likely to get a concussion and take longer to recover than adults.[3-6]

* A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems.[7,8]

Recognizing a Possible Concussion

To help recognize a concussion, you should watch for and ask others to report the following two things among your athletes:

1. A forceful bump, blow, or jolt to the head or body that results in rapid movement of the head.

--and--

2. Any concussion symptoms or change in the athlete's behavior, thinking, or physical functioning.

Athletes who experience ***one or more*** of the signs and symptoms listed on page 5 after a bump, blow, or jolt to the head or body should be kept out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says they are symptom-free and it's OK to return to play.[9,10]

SIGNS OBSERVED BY COACHING STAFF
Appears dazed or stunned
Is confused about assignment or position
Forgets an instruction
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness *(even briefly)*
Shows mood, behavior, or personality changes
Can't recall events *prior* to hit or fall
Can't recall events *after* hit or fall

SYMPTOMS REPORTED BY ATHLETE
Headache or "pressure" in head
Nausea or vomiting
Balance problems or dizziness
Double or blurry vision
Sensitivity to light
Sensitivity to noise
Feeling sluggish, hazy, foggy, or groggy
Concentration or memory problems
Confusion
Just not "feeling right" or is "feeling down"

When a Concussion is Suspected

If you suspect that an athlete has a concussion, implement your four-step "Heads Up" action plan:

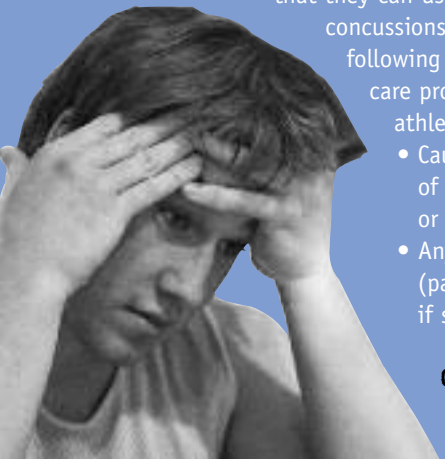
1. Remove the athlete from play. Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. *When in doubt, sit them out.*

2. Ensure that the athlete is evaluated by a health care professional experienced in evaluating for concussion. Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods that they can use to assess the severity of concussions. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:

- Cause of the injury and force of the hit or blow to the head or body
- Any loss of consciousness (passed out/knocked out) and if so, for how long
- Any memory loss immediately following the injury
- Any seizures immediately following the injury
- Number of previous concussions (*if any*)

3. Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussion. Make sure they know that the athlete should be seen by a health care professional experienced in evaluating for concussion.

4. Keep the athlete out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage, and even death.



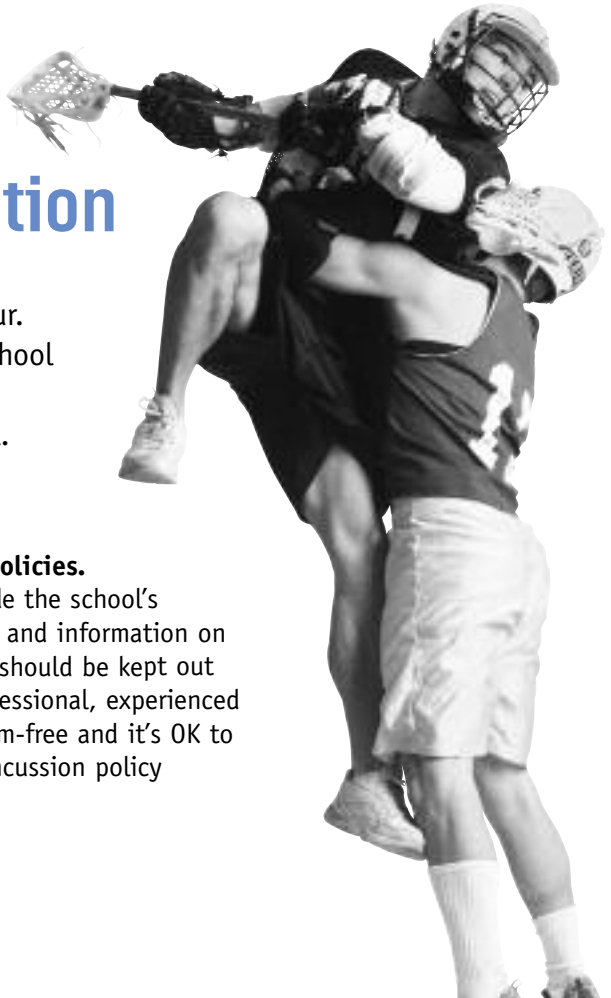
Remember, you can't see a concussion and some athletes may not experience and/or report symptoms until hours or days after the injury. Most people with a concussion will recover quickly and fully. But for some people, signs and symptoms of concussion can last for days, weeks, or longer. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. After a concussion, physical ***and*** cognitive activities—such as concentrating and learning—should be carefully managed and monitored by a health care professional.

It is normal for athletes to feel frustrated, sad, and even angry because they cannot return to sports right away or cannot keep up with their school work. Talk with athletes about these issues and offer support and encouragement.

Danger Signs

In rare cases, a dangerous blood clot may form on the brain in a person with a concussion and crowd the brain against the skull. An athlete should receive immediate medical attention if after a bump, blow, or jolt to the head or body s/he exhibits any of the following danger signs:

One pupil larger than the other
Is drowsy or cannot be awakened
A headache that not only does not diminish, but gets worse
Weakness, numbness, or decreased coordination
Repeated vomiting or nausea
Slurred speech
Convulsions or seizures
Cannot recognize people or places
Becomes increasingly confused, restless, or agitated
Has unusual behavior
Loses consciousness (a brief loss of consciousness should be taken seriously).



Prevention and Preparation

As a coach, you can play a key role in preventing concussions and responding properly when they occur. Here are some steps you can take throughout the school year to help prevent concussion and ensure the best outcome for your athletes, the team, and the school.

Preseason

Check with your school or district about concussion policies. Concussion policy statements can be developed to include the school's commitment to safety, a brief description of concussion, and information on when athletes can safely return to play (i.e., an athlete should be kept out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says the student is symptom-free and it's OK to return to play). Parents and athletes should sign the concussion policy statement at the beginning of each sports season.

Involve and get support from other school officials—such as principals, certified athletic trainers, other coaches, school nurses, and parent-teacher associations—to help ensure that school rules and concussion policies are in place before the first practice.

Create a concussion action plan. To ensure that concussions are identified early and managed correctly, have an action plan in place before the season starts. You can use the four-step "Heads Up" action plan included on page 6. This plan can be included in your school or district's concussion policy. To start:

- Identify a health care professional to respond to injuries during practice or competition.
- Fill out the "Heads Up" pocket card or clipboard sticker and keep it with you so that information about signs, symptoms, and emergency contacts is readily available.
- Be sure that other appropriate athletic and school staff and health care professionals know about the plan and have been trained to use it.

Learn about concussion. Take the free online training course available at **www.cdc.gov/Concussion**. Review the signs and symptoms of concussion and keep the four-step action plan with you at games and practices.

Educate athletes, parents, and other coaches about concussion. Before the first practice, talk to athletes, parents, and other coaches and school officials about the dangers of concussion and potential long-term consequences of concussion. Explain your concerns about

concussion and your expectations of safe play. Show the videos, available online at: **www.cdc.gov/Concussion/Resources.html**, and pass out the concussion fact sheets for athletes and for parents at the beginning of the season and again if a concussion occurs. Remind athletes to tell the coaching staff right away if they suspect that they have a concussion or that a teammate has a concussion.

Monitor the health of your athletes. Make sure to ask if an athlete has ever had a concussion and insist that your athletes be medically evaluated and in good condition to participate. Some schools conduct preseason baseline testing (also known as neurocognitive tests) to assess brain function—learning and memory skills, ability to pay attention or concentrate, and how quickly someone can think and solve problems.

These tests can be used again during the season if an athlete has a concussion to help identify the effects of the injury. Prior to the first practice, determine whether your school would consider conducting baseline testing.

During the Season: Practices and Games

Insist that safety comes first. Teach athletes safe playing techniques and encourage them to follow the rules of play. Encourage athletes to practice good sportsmanship at all times and make sure they wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.

Prevent long-term problems. If one of your athletes has a concussion, her/his brain needs time to heal. Don't let the student return to play the day of the injury and until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems.

Teach your athletes it's not smart to play with a concussion. Rest is key after a concussion. Sometimes athletes, parents, and other school officials wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Some athletes may also try to hide their symptoms. Don't let your athlete convince you that s/he is "just fine" or that s/he can "tough it out."

Emphasize to athletes and parents that playing with a concussion is dangerous.

Work closely with other school officials. Be sure that appropriate staff are available for injury assessment and referrals for further medical care. Enlist school nurses and teachers to monitor any changes in the athlete's behavior or school work that could indicate that the student has a concussion. Ask them to report concussions that occurred during the school year. This will help in monitoring injured athletes who participate in multiple sports throughout the school year.

Postseason

Keep track of concussion. Work with school nurses and other school staff to review injuries that occurred during the season. Discuss with other staff any needs for better concussion prevention or response preparations.

Review your concussion policy and action plan. Discuss any need for improvements in your concussion policy or action plan with appropriate health care professionals and school staff.

Communicating Effectively about Concussions

It's important to raise awareness about concussion throughout the school community and to educate athletes, parents, and others about how to prevent, recognize, and respond to concussions. Enlist the help of other school staff, including school nurses, and pass out the "Heads Up" fact sheets, shows the videos, and/or make presentations to each group.

Talking to Athletes

Pass out the "Heads Up" fact sheet for athletes and show the videos on concussion found online at: **www.cdc.gov/Concussion/Resources**. Emphasize that you take the issue seriously and that you expect them to do so as well. Devote a regular team meeting to this topic and invite the school nurse or other health care professional to speak to your team. Here are some things you can discuss with your athletes:

- "Every bump, blow, or jolt to the head or body can potentially cause a concussion."
- "Playing injured does not show courage or strength. Do not play through symptoms of concussion. You can increase your chances of having a repeat concussion and more serious long-term problems."
- "Tell coaching staff right away if you receive a bump, blow, or jolt to the head or body and have signs and symptoms of concussion or just don't 'feel right.'"
- "Signs and symptoms of concussion can appear right away or may not be noticed for days or weeks after the injury. Tell your coach if you think you have a concussion or if you think a teammate has one."

- "You can get a concussion even if you are not 'knocked out.'"
- "Concussions can happen during drills, practices, and games. Injuries that happen during practice should be taken just as seriously as those that happen during competition."
- "Tell your coach if you have *ever* had a concussion."
- "If you think you have a concussion, don't hide it, report it. Take time to recover. It's better to miss one game than the whole season."

Talking with Parents

Send a copy of the concussion policy and action plan to each athlete's family during the preseason, along with the "Heads Up" fact sheet for parents. Parents should sign the concussion policy statement at the beginning of each sports season and be informed that if an athlete has a concussion s/he will be kept out of play until a health care professional, experienced in evaluating for concussion, says the student is symptom-free and it's OK to return to play. Here are some things you can discuss with your athletes' parents:

- "Your teen's safety is our first priority. Every concussion should be taken seriously."
- "Let your teen know that it's not smart to play injured. Don't let your teen convince you that s/he is 'just fine.'"

- "We know you care about your teen's health. That is why it is so important that you talk with her/him about the potential dangers of concussion and to how to prevent it."
- "Learn about and watch for any signs and symptoms of concussion if your teen has a bump, blow, or jolt to the head or body. Signs and symptoms can appear right away or may not be noticed for days after the injury."
- "Help look for signs of concussion. Carry the list of symptoms and the action plan with you to practices and games."
- "Alert your teen's coach to any known or suspected concussion. To help prevent the possibility of long-term problems, don't let your teen return to play until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play."

Talking with School Staff

Enlist support from and look for opportunities to meet with your school nurse, principal, athletic director, or other school staff. Explain your concerns, the seriousness of the issue, and the impact that concussions in high school sports can have on an athlete, the team, and the school. Discuss the school or district's concussion policy and action plan and ask for support to implement them. Here are some things you can discuss with school staff:

- "A concussion can happen in any sport or recreational activity. All concussions are serious."
- "School staff, working as a team with health care professionals and parents, are key to preventing, recognizing, and correctly responding to concussions."
- "Keeping students safe and healthy helps enhance the reputation of the school and provides a positive and supportive environment for learning."
- "A monitoring and communication plan should be established among coaches of different sports, so that an athlete does not go from one sport to another with a concussion."
- "It's ideal to have a health care professional available during athletic activities—both practices and competitions."
- "Coaches of all sports should be encouraged to distribute educational materials about concussion to athletes and parents."

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Additional Resources

"Heads Up: Concussion in High School Sports" initiative

Resources for high school coaches, administrators, parents, and athletes

Along with this Guide, additional concussion resources for high school coaches, administrators, parents, and athletes, in English and Spanish, including videos, fact sheets, and Podcasts, are available at: **www.cdc.gov/Concussion**.

"Heads Up: Concussion in Youth Sports" initiative

Resources for youth sports coaches, administrators, parents, and athletes

Concussion resources for youth sports coaches, administrators, parents, and athletes, in English and Spanish, including fact sheets, videos, e-cards, a clipboard, magnet, poster, and quiz, are available at: **www.cdc.gov/Concussion**.

"Heads Up to Schools: Know Your Concussion ABCs" initiative

Resources for school nurses, administrators, counselors, teachers, parents, and students

Concussion resources for school professionals, parents, and students, in English and Spanish, including a concussion symptom checklist, fact sheets, a magnet, and poster, are available at: **www.cdc.gov/Concussion**.

How Can I Order a Large Number of CDC's Concussion Resources?

To order bulk quantities of CDC's concussion resources ***free-of-charge*** and/or to learn how you can get involved to help keep kids and teens safe from concussion, visit **www.cdc.gov/Concussion** or contact CDC by email (**CDC-INFO@cdc.gov**) or toll-free at **1-800-CDC-INFO** (1-800-232-4636).

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for their participation in this project:

American Academy of Pediatrics
American Association for Health Education
American College of Sports Medicine
American School Health Association
Association of State and Territorial Health Officials
Brain Injury Association of America
Children's National Medical Center
Institute for Preventive Sports Medicine
National Association for Sport and Physical Education
National Athletic Trainers Association
National Federation of State High School Associations
National Football League
National Safety Council
North American Brain Injury Society
Sports Legacy Institute
University of Pittsburgh Medical Center, Sports Medicine Concussion Program
U.S. Department of Education

"Helping all people live to their full potential"

www.cdc.gov/Concussion

June 2010

RETURN TO PLAY POLICIES

Virginia

Virginia Board of Education
Guidelines For Policies on Concussions in Students

Senate Bill 652, the 2010 General Assembly
Code of Virginia § 22.1-271.5

House Bill 410 & Senate Bill 172, the 2014 General Assembly
Code of Virginia § 22.1-271.5

House Bill 1096, the 2014 General Assembly
Code of Virginia § 22.1-271.6

and

House Bill 954, the 2016 General Assembly
Code of Virginia §§ 22.1-271.5 and 22.1-271.6

Virginia Board of Education
Guidelines for Policies on Concussions in Students

Introduction

Pursuant to Senate Bill 652, (2010), House Bills 410 and 1096, and Senate Bill 172 (2014), and House Bill 954 (2016), the *Code of Virginia* was amended to include § 22.1-271.5 and § 22.1-271.6 directing the Board of Education to develop and distribute to school divisions by July 1, 2016, guidelines for policies dealing with concussions in students, and requiring each school division to develop policies and procedures regarding the identification and handling of suspected concussions in students. The full text of the 2010, 2014, and 2016 legislation is available at the end of this document.

The goals of the Student-Athlete Protection Act (SB 652, SB 172, HB 410, HB 1096, and HB 953) are to ensure that students who sustain concussions are properly diagnosed, given adequate time to heal, and are comprehensively supported until they are symptom free. According to the Consensus Statement on Concussion in Sport (4th International Conference on Concussion in Sport, Zurich, November 2012), "The cornerstone of concussion management is physical and cognitive rest until symptoms resolve and then a graded program of exertion prior to medical clearance and return to play."

The Brain Injury Association of Virginia notes that it is important for all education professionals to be aware of the issues surrounding brain injuries and how they can affect the student's abilities in the educational setting. When a child is known or suspected to have sustained a concussion, either from a sports injury, motor-vehicle crash, fall, or other cause, the resulting impairments can be multidimensional and may include cognitive, behavioral, and/or physical deficits. Impairments can be mild or severe, temporary or prolonged. Because no two concussions are alike, it is difficult to determine the period of recovery.

Concussions are a medical and educational issue and are considered to be among the most complex injuries in medicine to assess, diagnose, and manage. The concussed brain requires mental and physical rest to recover. Developing brains are highly variable and concurrent issues may affect cognitive recovery. Every concussion is different, and each student will have unique symptoms and recovery times. Facilitating/managing a student's recovery from a concussive injury includes awareness of current symptoms, the pre-injury status of physical and cognitive function, and the student's sensitivity to physical and cognitive exertion.

Concussion symptoms may have a significant impact on learning and academic achievement. A concussion may interfere with a student's ability to focus, concentrate, memorize, and process information. This cognitive impairment may cause frustration, nervousness, anxiety, and/or irritability, and further affect mood or previously existing irritability or anxiety. The "return to learn" academic concussion management plan is divided into graduated phases to promote recovery, considering all factors in this complex injury. Some students may need a short period of rest with a gradual return to school, while others will be able to continue academic work with minimal instructional support.
The "return-to-play" protocols following a concussion are also a stepwise process in which the

students will progress to the next level when physical exertion does not exacerbate symptoms or cause the re-emergence of previously resolved symptoms. If any post-concussion symptoms reoccur while in the stepwise process, the student-athlete would revert back to the previous level, rest, and try to progress again after a period of rest is completed. Most students who experience a concussion can recover completely as long as they do not "return-to-learn" or "return-to-play" prematurely. *Premature return to learn/play may delay and/or impede recovery.* Return-to-play should not occur before the student-athlete has managed to return to a full day of academic activities.

The effects of repeated concussions can be cumulative, and after a concussion, there is a period in which the brain is particularly vulnerable to further injury. If a student sustains a second concussion during this period, the risk of prolonged symptoms increases significantly, and the consequences of a seemingly mild second concussion can actually be very severe and potentially catastrophic (i.e., "second impact syndrome").

Definitions

A *concussion* is a traumatic brain injury and is defined by the 4th International Conference on Concussion in Sports (2012) as a complex pathophysiological process affecting the brain and induced by biomechanical forces. Several common features that incorporate clinical, pathologic, and biomechanical injury constructs that may be utilized in defining the nature of a concussive head injury include the following:

- Concussion may be caused either by a direct blow to the head, face, neck, or elsewhere on the body with an "impulsive" force transmitted to the head.
- Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously. However, in some cases, symptoms and signs may evolve over a number of minutes, hours, or days.
- Concussion may result in neuropathological changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury with no abnormality seen on standard structural neuroimaging studies.
- Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course. It is important to note, however, that symptoms may be prolonged in some cases.

Appropriate licensed health care provider means a physician, physician assistant, osteopath physician, or athletic trainer licensed by the Virginia Board of Medicine; a neuropsychologist licensed by the Board of Psychology; or a nurse practitioner licensed by the Virginia State Board of Nursing.

Cognitive rest means limiting cognitive exertion and careful management of neurometabolic demands on the brain during recovery.

Return-to-learn refers to instructional modifications that support a controlled, progressive increase in cognitive activities while the student recovers from a brain injury (i.e., concussion)

allowing the student to participate in classroom activities and learn without worsening symptoms and potentially delaying healing.

Return-to-play means participate in a nonmedically supervised practice or athletic competition.

Non-interscholastic youth sports program means a program organized for recreational athletic competition or recreational athletic instruction for youth.

Virginia Board of Education Guidelines

A. Policies and Procedures

1. Each school division shall develop policies and procedures regarding the identification and handling of suspected concussions in students. Consideration should also be given to addressing the academic needs and gradual reintroduction of cognitive demands for *all* students who have been determined to have a concussion. The Brain Injury Association of Virginia offers resources on strategies for educators to consider when working with a student with a brain injury.
2. In order to participate in any extracurricular athletic activity, each student-athlete and the student-athlete's parent or guardian shall review, on an annual basis (every 12 months), information on concussions provided by the school division. After having reviewed materials describing the short- and long-term health and academic effects of concussions, each student-athlete and the student-athlete's parent or guardian shall sign a statement acknowledging receipt, review, and understanding of such information. The local school division will determine procedures for ensuring, annually, that statements are distributed to and collected from each student-athlete and his or her parent or guardian with appropriate signatures.
3. A student-athlete suspected by the coach, athletic trainer, or team physician of sustaining a concussion or brain injury in a practice or game shall be removed from the activity at that time. A student-athlete who has been removed from play, evaluated, and suspected to have a concussion or brain injury shall not return to play that same day nor until (i) evaluated by an appropriate licensed health care provider as defined by the Board of Education and (ii) in receipt of written clearance to return to play from such licensed health care provider. The licensed health-care provider evaluating student-athletes suspected of having concussions or brain injuries may be a volunteer.
4. Appropriate licensed health care providers or properly trained individuals evaluating student-athletes at the time of injury will utilize a standardized concussion sideline assessment instrument. Sideline Concussion Assessment Tool (SCAT-II, SCAT III, ChildSCAT3), the Standardized Assessment of Concussion (SAC), and the Balance Error Scoring System (BESS) are examples of sideline concussion assessment tools that test cognitive function and postural stability. A list of assessment tools is located in the Resources section of these guidelines.
5. The school division's concussion policy team may include a school administrator, teacher, school counselor, school psychologist, school nurse, athletic administrator, appropriate licensed health care provider, coach, parent/guardian, and student and shall refine and review local concussion management policies on an annual basis.

B. Protocol for return to learn

School personnel shall be alert to cognitive and academic issues that may be experienced by a student who has suffered a concussion or other head injury, including (i) difficulty with concentration, organization, and long-term and short-term memory; (ii) sensitivity to bright lights and sounds; and (iii) short-term problems with speech and language, reasoning, planning, and problem solving. Local school boards shall accommodate the gradual return to full participation in academic activities as appropriate, based on the recommendation of the student's licensed health care provider as to the appropriate amount of time that such student needs to be away from the classroom, and would benefit from these accommodations to promote recovery following a concussion.

1. A student recovering from a brain injury shall gradually increase cognitive activities progressing through *some or all* of the following phases. Some students may need total rest with a gradual return to school, while others will be able to continue doing academic work with minimal instructional modifications. The decision to progress from one phase to another should reflect the absence of any relevant signs or symptoms, and should be based on the recommendation of the student's appropriate licensed health-care provider in collaboration with school staff, including teachers, school counselors, school administrators, psychologists, nurses, clinic aides, or others as determined by local school division concussion policy.
    a. Home: Rest

    Phase 1: Cognitive and physical rest may include
    - minimal cognitive activities – limit reading, computer use, texting, television, and/or video games;
    - no homework;
    - no driving; and
    - minimal physical activity.

    Phase 2: Light cognitive mental activity may include
    - up to 30 minutes of sustained cognitive exertion;
    - no prolonged concentration;
    - no driving; and
    - limited physical activity.

    Student will progress to part-time school attendance when able to tolerate a minimum of 30 minutes of sustained cognitive exertion without exacerbation of symptoms or re-emergence of previously resolved symptoms.

    b. School: Part-time

    Phase 3: Maximum instructional modifications including, but not limited to
    - shortened days with built-in breaks;
    - modified environment (e.g., limiting time in hallway, identifying quiet and/or dark spaces);
    - established learning priorities;
    - exclusion from standardized and classroom testing;
    - extra time, extra assistance, and/or modified assignments;
    - rest and recovery once out of school; and
    - elimination or reduction of homework.

Student will progress to the moderate instructional modification phase when able to tolerate part-time return with moderate instructional modifications without exacerbation of symptoms or re-emergence of previously resolved symptoms.

Phase 4: Moderate instructional modifications including, but not limited to

- established priorities for learning;
- limited homework;
- alternative grading strategies;
- built-in breaks;
- modified and/or limited classroom testing, exclusion from standardized testing; and
- reduction of extra time, assistance, and/or modification of assignments as needed.

Student will progress to the minimal instructional modification phase when able to tolerate full-time school attendance without exacerbation of existing symptoms or re-emergence of previously resolved symptoms.

c. School: Full-time

Phase 5: Minimal instructional modification - instructional strategies may include, but are not limited to

- built-in breaks;
- limited formative and summative testing, exclusion from standardized testing;
- reduction of extra time, assistance, *and* modification of assignments; and
- continuation of instructional modification and supports in academically challenging subjects that require cognitive overexertion and stress.

Student will progress to nonmodified school participation when able to handle sustained cognitive exertion without exacerbation of symptoms or re-emergence of previously resolved symptoms.

Phase 6: Attends all classes; maintains full academic load/homework; requires no instructional modifications.

2. Progression through the above phases shall be governed by the presence or resolution of symptoms resulting from a concussion experienced by the student including, but are not limited to
    a. difficulty with attention, concentration, organization, long-term and short-term memory, reasoning, planning, and problem solving;
    b. fatigue, drowsiness, difficulties handling a stimulating school environment (e.g., sensitivity to light and sound);
    c. inappropriate or impulsive behavior during class, greater irritability, less able to cope with stress, more emotional than usual; and
    d. physical symptoms (e.g., headache, nausea, dizziness).

3. Progression through gradually increasing cognitive demands should adhere to the following guidelines:
    a. increase the amount of time in school;

b. increase the nature and amount of work, the length of time spent on the work, or the type or difficulty of work (change only one of these variables at a time);
c. if symptoms do not worsen, demands may continue to be gradually increased;
d. if symptoms do worsen, the activity should be discontinued for at least 20 minutes and the student allowed to rest
    1) if the symptoms are relieved with rest, the student may reattempt the activity at or below the level that produced symptoms; and
    2) if the symptoms are not relieved with rest, the student should discontinue the current activity for the day and reattempt when symptoms have lessened or resolved (such as the next day).

4. If symptoms persist or fail to improve over time, additional in-school support may be required with consideration for further evaluation. If the student is three to four weeks post injury without significant evidence of improvement, a 504 plan should be considered.

5. A student shall progress to a stage where he or she no longer requires instructional modifications or other support before being cleared to return to full athletic participation (return-to-play).

   The American Academy of Pediatrics (AAP) Return to Learn Following a Concussion Guidelines (October 2013), and the American Medical Society for Sports Medicine (AMSSM) Position Statement (2013), are available online to assist healthcare providers, students, their families, and school divisions, as needed.

C. Protocol for return to play

1. No member of a school athletic team shall participate in any athletic event or practice the same day he/she is injured and:
    a. exhibits signs, symptoms, or behaviors attributable to a concussion; or
    b. has been diagnosed with a concussion.
2. No member of a school athletic team shall return to participate in an athletic event or training on the days after he/she experiences a concussion unless all of the following conditions have been met:
    a. the student attends all classes, maintains full academic load/homework, and requires no instructional modifications;
    b. the student no longer exhibits signs, symptoms, or behaviors consistent with a concussion, at rest or with exertion;
    c. the student is asymptomatic during, or following periods of supervised exercise that is gradually intensifying; and
    d. the student receives a written medical release from an appropriate licensed health-care provider.

   The Zurich Consensus Statement (November 2012) return-to-play guidelines and the American Academy of Pediatrics (AAP) Concussion Guidelines (August 2010), are available online to assist healthcare providers, student-athletes, their families, and school divisions, as needed.

D. Helmet replacement and reconditioning policies and procedures

1. Helmets must be National Operating Committee on Standards for Athletic Equipment (NOCSAE) certified by the manufacturer at the time of purchase.
2. Reconditioned helmets must be NOCSAE recertified by the reconditioner.
3. Regular training on proper helmet fitting and maintenance is recommended for coaches of all sports wearing protective headgear.

E. Require training for personnel and volunteers

1. The concussion policy management team shall ensure training is current and consistent with best practice protocols. Each school division shall develop policies and procedures to ensure school staff, coaches, athletic trainers, team physicians, and volunteers receive current training annually on:
   a. how to recognize the signs and symptoms of a concussion;
   b. strategies to reduce the risk of concussions;
   c. how to seek proper medical treatment for a person suspected of having a concussion; and
   d. when the student-athlete may safely return to the event or training.
2. School divisions shall maintain documentation of compliance with the annual training requirement.
3. Annual training on concussion management shall use a reputable program such as, but not limited to, the following:
   a. The Centers for Disease Control's (CDC) tools for youth and high school sports coaches, parents, athletes, and health-care professionals provide important information on preventing, recognizing, and responding to a concussion, and are available at http://www.cdc.gov/concussion/HeadsUp/online_training.html. These include *Heads Up to Schools: Know Your Concussion ABCs*; *Heads Up: Concussion in Youth Sports;* and *Heads Up: Concussion in High School Sports*.
   b. The National Federation of State High School Associations' (NFHS) online coach education course – *Concussion in Sports – What You Need to Know*. This CDC-endorsed program provides a guide to understanding, recognizing and properly managing concussions in high school sports. It is available at www.nfhslearn.com.
   c. The Oregon Center for Applied Science (ORCAS) ACTive® course, an online training and certification program that gives sports coaches the tools and information to protect players from sports concussions. Available at http://activecoach.orcasinc.com/, ACTive® is funded by the National Institutes of Health, developed by leading researchers, and validated in a clinical trial.

Community Involvement

Non-interscholastic youth sports programs utilizing public school property shall establish policies and procedures regarding the identification and handling of suspected concussions in students, consistent with either the local school division's policies or procedures developed in compliance with this section, or the Board of Education's Guidelines for Policies on Concussions in Students.

In addition, local school divisions may provide the guidelines to organizations sponsoring athletic activity for student-athletes on school property. Including the provision of the guidelines in the facility joint use agreements is strongly encouraged. Local school divisions shall not be required to enforce compliance with such policies.

Code of Virginia, as amended by the 2014 General Assembly

§ 22.1-271.5. Policies on concussions in student-athletes.

A. The Board of Education shall develop and distribute to each local school division guidelines on policies to inform and educate coaches, student-athletes, and their parents or guardians of the nature and risk of concussions, criteria for removal from and return to play, risks of not reporting the injury and continuing to play, and the effects of concussions on student-athletes' academic performance.

B. Each local school division shall develop policies and procedures regarding the identification and handling of suspected concussions in student-athletes. Such policies shall require:

1. In order to participate in any extracurricular physical activity, each student-athlete and the student-athlete's parent or guardian shall review, on an annual basis, information on concussions provided by the local school division. After having reviewed materials describing the short- and long-term health effects of concussions, each student-athlete and the student-athlete's parent or guardian shall sign a statement acknowledging receipt of such information, in a manner approved by the Board of Education; and

2. A student-athlete suspected by that student-athlete's coach, athletic trainer, or team physician of sustaining a concussion or brain injury in a practice or game shall be removed from the activity at that time. A student-athlete who has been removed from play, evaluated, and suspected to have a concussion or brain injury shall not return to play that same day nor until (i) evaluated by an appropriate licensed health care provider as determined by the Board of Education and (ii) in receipt of written clearance to return to play from such licensed health care provider.

The licensed health care provider evaluating student-athletes suspected of having a concussion or brain injury may be a volunteer.

C. Each non-interscholastic youth sports program utilizing public school property shall either (i) establish policies and procedures regarding the identification and handling of suspected concussions in student-athletes, consistent with either the local school division's policies and procedures developed in compliance with this section or the Board's Guidelines for Policies on Concussions in Student-Athletes, or (ii) follow the local school division's policies and procedures as set forth in subsection B. In addition, local school divisions may provide the guidelines to organizations sponsoring athletic activity for student-athletes on school property. Local school divisions shall not be required to enforce compliance with such policies.

D. As used in this section, "non-interscholastic youth sports program" means a program organized for recreational athletic competition or recreational athletic instruction for youth.

3. That the Board of Education, in developing the policies pursuant to subsection A of § 22.1-271.5, shall work with the Virginia High School League, the Department of Health, the Virginia Athletic Trainers Association, representatives of the Children's Hospital of the King's Daughters and the Children's National Medical Center, the Brain Injury Association of Virginia, the American Academy of Pediatrics, the Virginia College of Emergency Physicians and other interested stakeholders.

4. That the policies of the Board of Education developed pursuant to subsection A of § 22.1-271.5 shall become effective on July 1, 2011.

2010, c. 483; 2014, cc. 746, 760.

§ 22.1-271.6. School division policies and procedures on concussions in student-athletes.
The Board of Education shall amend its guidelines for school division policies and procedures on concussions in student-athletes to include a "Return to Learn Protocol" with the following requirements:

1. School personnel shall be alert to cognitive and academic issues that may be experienced by a student-athlete who has suffered a concussion or other head injury, including (i) difficulty with concentration, organization, and long-term and short-term memory; (ii) sensitivity to bright lights and sounds; and (iii) short-term problems with speech and language, reasoning, planning, and problem solving; and

2. School personnel shall accommodate the gradual return to full participation in academic activities by a student-athlete who has suffered a concussion or other head injury as appropriate, based on the recommendation of the student-athlete's licensed health care provider as to the appropriate amount of time that such student-athlete needs to be away from the classroom.
2014, c. 349.

Code of Virginia, as amended by the 2016 General Assembly

Be it enacted by the General Assembly of Virginia:
1. That §§ 22.1-271.5 and 22.1-271.6 of the Code of Virginia are amended and reenacted as follows:

§ 22.1-271.5. Guidelines and policies and procedures on concussions in student-athletes.

A. The Board of Education shall develop and distribute to each local school division guidelines on policies to inform and educate coaches, student-athletes, and their parents or guardians of the

nature and risk of concussions, criteria for removal from and return to play, risks of not reporting the injury and continuing to play, and the effects of concussions on student-athletes' academic performance.

B. Each local school division shall develop policies and procedures regarding the identification and handling of suspected concussions in student-athletes. Such policies shall ~~require~~:

1. ~~In~~ *Require that in* order to participate in any extracurricular physical activity, each student-athlete and the student-athlete's parent or guardian shall review, on an annual basis, information on concussions provided by the local school division. After having reviewed materials describing the short- and long-term health effects of concussions, each student-athlete and the student-athlete's parent or guardian shall sign a statement acknowledging receipt of such information, in a manner approved by the Board of Education; ~~and~~

2. ~~A~~ *Require a* student-athlete suspected by that student-athlete's coach, athletic trainer, or team physician of sustaining a concussion or brain injury in a practice or game ~~shall~~ *to* be removed from the activity at that time. A student-athlete who has been removed from play, evaluated, and suspected to have a concussion or brain injury shall not return to play that same day nor until (i) evaluated by an appropriate licensed health care provider as determined by the Board of Education and (ii) in receipt of written clearance to return to play from such licensed health care provider.

The licensed health care provider evaluating student-athletes suspected of having a concussion or brain injury may be a volunteer~~.~~*; and*

3. Include a "Return to Learn Protocol" with the following requirements:

a. School personnel shall be alert to cognitive and academic issues that may be experienced by a student who has suffered a concussion or other head injury, including (i) difficulty with concentration, organization, and long-term and short-term memory; (ii) sensitivity to bright lights and sounds; and (iii) short-term problems with speech and language, reasoning, planning, and problem solving; and

b. School personnel shall accommodate the gradual return to full participation in academic activities of a student who has suffered a concussion or other head injury as appropriate, based on the recommendation of the student's licensed health care provider as to the appropriate amount of time that such student needs to be away from the classroom.

C. Each non-interscholastic youth sports program utilizing public school property shall either (i) establish policies and procedures regarding the identification and handling of suspected concussions in student-athletes, consistent with either the local school division's policies and procedures developed in compliance with this section or the Board's Guidelines for Policies on Concussions in Student-Athletes, or (ii) follow the local school division's policies and procedures as set forth in subsection B. In addition, local school divisions may provide the guidelines to organizations sponsoring athletic activity for student-athletes on school property. Local school divisions shall not be required to enforce compliance with such policies.

D. As used in this section, "non-interscholastic youth sports program" means a program organized for recreational athletic competition or recreational athletic instruction for youth.

§ 22.1-271.6. School division policies and procedures on concussions in students.

The Board of Education shall amend its guidelines for school division policies and procedures on concussions in student-athletes to include a "Return to Learn Protocol" with the following requirements:

1. School personnel shall be alert to cognitive and academic issues that may be experienced by a ~~student-athlete~~ *student* who has suffered a concussion or other head injury, including (i) difficulty with concentration, organization, and long-term and short-term memory; (ii) sensitivity to bright lights and sounds; and (iii) short-term problems with speech and language, reasoning, planning, and problem solving; and

2. School personnel shall accommodate the gradual return to full participation in academic activities ~~by~~ *of* a ~~student-athlete~~ *student* who has suffered a concussion or other head injury as appropriate, based on the recommendation of the ~~student-athlete's~~ *student's* licensed health care provider as to the appropriate amount of time that such ~~student-athlete~~ *student* needs to be away from the classroom.

Resources

A. Organizations and agencies that provide resources related to concussions

1. American Academy of Pediatrics, http://www.aap.org
2. American Medical Society for Sports Medicine, http://www.amssm.org/
3. Brain Injury Association of Virginia, http://www.biav.net
4. Centers for Disease Control and Prevention, http://www.cdc.gov/
5. Children's Hospital of the King's Daughters, http://www.chkd.org
6. Children's National Medical Center, http://www.childrensnational.org
7. Consensus Statement on Concussion in Sport (4th International Conference on Concussion in Sport, Zurich, November 2012), http://www.ncbi.nlm.nih.gov/pubmed/23479479
8. National Academy of Neuropsychology, http://www.nanonline.org
9. Virginia Athletic Trainers' Association**,** http://www.vata.us
10. Virginia College of Emergency Physicians, https://www.acep.org
11. Virginia Department of Health, http://www.vdh.state.va.us
12. Virginia High School League, http://www.vhsl.org
13. Virginia Recreation and Park Society, www.vrps.com

B. Concussion assessment tools

1. Sports Concussion Assessment Tool (SCAT), Concussion in Sport Group, http://bjsm.bmj.com/content/47/5/259.full.pdf, http://bjsm.bmj.com/content/47/5/263.full.pdf
2. Sports-Related Concussions in Children and Adolescents, Pediatrics, http://pediatrics.aappublications.org/cgi/content/abstract/peds.2010-2005v1?rss=1

C. Educational strategies for working with students who have concussions

1. Brain Injury and the Schools: A Guide for Educators, Brain Injury Association of Virginia, http://www.biav.net
2. "Importance of 'Return-to-Learn' in Pediatric and Adolescent Concussion," Master, Gioia et.al.; Pediatric Annals, September 2012.
3. "Returning to Learning Following a Concussion," Halstead, McAvoy, et.al.; Pediatrics, November 2013.
4. ACHIEVES PROACTIVE Concussion Recovery Toolkit, http://concussiontoolkit.gmu.edu.
5. BrainSTEPS, https://www.brainsteps.net.
6. Virginia Department of Education: Traumatic Brain Injury, http://doe.virginia.gov/special_ed/disabilities/traumatic_brain_injury/index.shtml

RETURN TO PLAY POLICIES

Washington

Concussion Management Guidelines

Policies for the management of concussion and head injury in youth sports

An act relating to requiring the adoption of policies for the management of concussion and head injury in youth sports; amending RCW 4.24.660 and adding a new section to chapter 28A.600 RCW.

Each school district's board of directors shall work in concert with the Washington Interscholastic Activities Association (WIAA) to develop the guidelines and other pertinent information and forms to inform and educate coaches, youth athletes, and their parent(s)/guardian(s) of the nature and risk of concussion and head injury including continuing to play after concussion or head injury. On a yearly basis, a concussion and head injury information sheet shall be signed and returned by the youth athlete and the athlete's parent and/or guardian prior to the youth athlete's initiating practice or competition.

A youth athlete who is suspected of sustaining a concussion or head injury in a practice or game shall be removed from competition at that time. A youth athlete who has been removed from play may not return to play until the athlete is evaluated by a licensed health care provider trained in the evaluation and management of concussion and receives written clearance to return to play from that health care provider.

Concussion Training Video

This video was made possible by Harborview Medical Center and The University of Washington.

Read Full Text of Law

RETURN TO PLAY POLICIES

West Virginia

127-2-14. Concussion.

14.1. Member schools are to provide information in the format approved by the WVSSAC Board of Directors to appropriate school administrators, coaches, interscholastic athletes and their parents or guardians describing the nature and risk of concussion and head injury, including the risks of continuing to play or practice after a concussion or head injury. Annually, all interscholastic athletes and their parents are required to sign and return a statement that they have read the information provided to them prior to the interscholastic athlete beginning practice or competition for that scholastic year. (See, WVSSAC, Sports Medicine tab, Sports Medicine Packet: Athletic Participation/Parental Consent/Physician's Certificate Form (Physical Exam Form), A Parent's Guide to Concussions (Information to parents), available on the WVSSAC website at http://www.wvssac.org.)

14.2. Each head coach of member schools is required annually to complete a concussion and head injury recognition and return-to-play protocol course approved by the WVSSAC. (See, WVSSAC, Sports Medicine tab, Sports Medicine Packet: Coach's Course, available on the WVSSAC website at http://www.wvssac.org.)

14.3. An interscholastic athlete suspected of a concussion or head injury by a licensed health care professional or by the head coach or athletic trainer shall be removed from play or practice may not return-to-play or practice until the athlete is evaluated by a licensed health care professional trained in the evaluation and management of concussions and receives written clearance to return-to-play and practice from the licensed health care professional. (See, WVSSAC, Sports Medicine tab, Sports Medicine Packet: available on the WVSSAC website at http://www.wvssac.org.)

14.4. Any of the following who have appropriate training in the evaluation and management of head injuries shall be considered as the licensed health care professional enumerated in this rule:

14.4.a. Medical Doctor (MD)
14.4.b. Doctor of Osteopathy (DO)
14.4.c. Doctor of Chiropractic (DC)
14.4.d. Advanced Registered Nurse Practitioner (ARNP)
14.4.e. Physician Assistant (PA-C)
14.4.f. Registered Certified Athletic Trainer (ATC/R).

14.5. Member schools must submit the concussion report form to the WVSSAC within 30 days of an interscholastic athlete suffering or being suspected of suffering a concussion or head injury in a practice or game. (See, WVSSAC, Sports Medicine tab, Sports Medicine Packet, available on the WVSSAC website at http://www.wvssac.org.)

14.6. The West Virginia Board of Education shall be notified if any of the documents referred to in this section of the rule are revised, amended, or altered as to form or content. The documents shall include but not be limited to: Athletic Participation/Parental Consent/Physician's Certificate Form (Physical Exam Form); A Parent's Guide to Concussions (Information to Parents), Coach's Course, Return to Play Protocol, Concussion Report form. All forms are found in the WVSSAC Sports Medicine Packet and are available under the Sports Medicine tab, Sports Medicine Packet on the WVSSAC website at http://www.wvssac.org .

RETURN TO PLAY POLICIES

Wisconsin

CONCUSSION INFORMATION
When in Doubt, Sit Them Out!

A concussion is a type of traumatic brain injury that interferes with normal function of the brain. All concussions are brain injuries. The WIAA recommends avoiding the use of nicknames like “ding” or “bell ringer” to describe concussion because those terms minimize the seriousness of concussion.

A concussion can be caused by blow to the head or even a blow to the body alone. The force moves or twists the brain in the skull. It is important to know that loss of consciousness is not required to have a concussion. In fact, less than 10% of athletes lose consciousness. A concussion is a very complex physiologic event that causes a problem with brain function not brain structure. Therefore, CT/CAT scan and MRI are usually normal in athletes with concussion. Imaging studies are not indicated for most concussions, but may be needed to rule out brain bleeds or more serious injuries.

Even what appears to be a mild blow to the head or body can cause the brain to suddenly shift or move. This motion can injure and damage brain cells. Research has shown that this damage may take up to 2 weeks to heal, but it can take longer with estimates of nearly 20% of high school athletes taking over 4 weeks to fully recover.

There are unique concerns surrounding concussion in high school sports:

1) Adolescents are more vulnerable and get concussions more often
2) Adolescents take longer than adults to heal from concussion, unlike muscular-skeletal injuries
3) Most high schools may not have access to a team physician or an athletic trainer for all of their teams & activities, thus the responsibility for identifying a possible concussion falls on athletes, coaches and parents
4) High school players can be reluctant to admit their symptoms for fear of removal from the contest

Concussion affects people in four areas of function:

1) Physical – This describes how they feel: headache, nausea, vomiting, dizziness, tired and loss of consciousness (which is uncommon in concussion).
2) Thinking – Poor memory and concentration, responds to questions more slowly and asks repetitive questions. Concussion can cause an altered state of awareness and thinking.
3) Emotions – A concussion can make a person more irritable or sad and cause mood swings.
4) Sleep – Concussions frequently cause trouble falling asleep and may wake athletes up overnight, which can make them more fatigued throughout the day.

Recent high school injury surveillance information has shown that the following sports have the highest risk of concussion (based on athletic exposures: practice + competition). Concussions occur most frequently in the following sports (in order): football, boys & girls ice hockey, girls lacrosse, girls soccer, boys lacrosse, wrestling, girls basketball, girls field hockey, boys soccer, softball and boys basketball.

Noticeable in this data is that the risk for girls is much higher than boys in the same sports; in fact, soccer & basketball carry twice the risk for concussion in girls than boys.

Most importantly, concussion can happen to anyone in any sport. Concussions also occur away from organized sports in physical education class, on the playground, while skiing or snowboarding, and when involved in a motor vehicle collision.

Everyone involved with high school athletics must be alert for potential injuries on the field and be able to recognize signs and symptoms of concussion. While coaches are not expected to make a diagnosis of concussion, it is expected for coaches to be aware that their athletes <u>may</u> have a concussion and then hold them out of all activity until they are medically cleared by a healthcare provider. “Signs” are what can be seen by others, like clumsiness, while “symptoms” are what the injured player feels, like a headache.

Remember, athletes should report their symptoms, but they may not unless they are asked and even then it is important to consider that athletes may not be telling the truth. Thus, it is important for schools to educate their athletes, coaching staff and parents in the preseason about the seriousness of concussion and the importance of athletes honestly reporting their symptoms and injuries.

These are some SIGNS of concussion (what others can see in an injured athlete):

- Dazed or stunned appearance
- Change in the level of consciousness or awareness
- Confused about assignment
- Forgets plays
- Unsure of score, game, opponent
- Clumsy
- Answers more slowly than usual
- Shows behavior changes
- Loss of consciousness
- Asks repetitive questions or memory concerns

These are some of the more common SYMPTOMS of concussion (what an injured athlete feels):

- Headache
- Nausea
- Dizzy or unsteady
- Sensitive to light or noise
- Feeling mentally foggy
- Problems with concentration and memory
- Confused
- Slow

Injured athletes can exhibit many or just a few of the signs and/or symptoms of concussion. However, if a player exhibits any signs or symptoms of concussion, the responsibility is simple: remove them from participation. **"When in doubt sit them out."**

It is important to notify a parent or guardian when an athlete is thought to have a concussion. Any athlete with a concussion must be seen by an appropriate health care provider before returning to practice (including conditioning and weight lifting) or competition.

While all concussions are serious injuries, some injured athletes will require emergency care. Anytime you are uncomfortable with an athlete on the sideline, it is reasonable to activate the Emergency Medical System (911). The following are reasons to activate the EMS, as any worsening signs or symptoms may represent a medical emergency:

1) Loss of consciousness, this may indicate more serious head injury
2) Decreasing level of alertness
3) Unusually drowsy
4) Severe or worsening headache
5) Seizure
6) Persistent vomiting
7) Difficulty breathing

If you suspect a player may have a concussion, that athlete should be immediately removed from play. The injured athlete should be kept out of play until they are cleared to return by an appropriate health care provider. If the athlete has a concussion, that athlete should never be allowed to return to activity (conditioning, practice or competition) that day.

All athletes are individually assessed and some athletes may be able to begin gentle, non-contact aerobic exercise prior to full recovery. The level of exercise should not cause an increase of symptoms. The athlete should do this exercise under the guidance of the treating healthcare provider (who has experience with concussion management). The athlete should be at full academics (full days of school and doing homework/tests) before allowing this degree of exercise and the exercise should not be associated with practice, but instead independent aerobic fitness. No weight lifting/resistance training until medical clearance. No return to practice without medical clearance.

A player with a concussion must be carefully observed throughout the practice or competition to be sure they are not feeling worse. Even though the athlete is not playing, never send a concussed athlete to the locker room alone and never allow the injured athlete to drive home.

Most concussions are temporary and they resolve without causing residual problems. In the adolescent population, around 20% of athletes with concussion have symptoms that persist beyond 4 weeks. These symptoms of headache, difficulty concentrating, poor memory and sleep disturbances can lead to academic troubles among other problems. Concussion symptoms may even last weeks to months (post-concussion syndrome).

Allowing an injured athlete to return too quickly increases the risk for repeat concussion. Repeat concussion may cause Second Impact Syndrome. Second Impact Syndrome is a rare phenomenon which happens only in young athletes that causes rapid brain swelling and death. Repeat concussions may increase the chance of long term problems, such as decreased brain function, persistent symptoms and potentially chronic traumatic encephalopathy (a disorder that cause early degeneration of the brain similar to what is seen with Alzheimer's disease).

A major concern with concussion in the high school athlete is that it can interfere with school performance. Symptoms (headache, nausea, etc.), poor short-term memory, poor concentration and organization may temporarily turn a good student into a problem student. The best way to address this is to decrease the academic workload, and potentially taking time off from school or going partial days (although the time missed should nearly always be less than 5 days). Injured athletes should have extra time to complete homework and tests, and they should be given written instructions for homework. New information should be presented slowly and repeated. Injured athletes will need time to catch up and may benefit from tutoring. If an athlete develops worsening symptoms at school, he/she should be allowed to visit the school nurse. The school and coaches should maintain regular contact with the injured athlete's parents to update progress.

Athletes with a concussion should return to full speed academics without accommodations before returning to sports (practice and competition).

Relative rest remains an essential component of concussion treatment. Further contact is to be avoided at all costs due to risk of repeat concussion and Second Impact Syndrome. Physical exertion can also worsen symptoms and prolong concussion recovery – this includes aerobic conditioning and resistance training. Physical activity should not be started without authorization by an appropriate health care provider.

It is also important to remember that the athlete's concussion can interfere with work and social events (movies, dances, attending games, etc.). It is important for injured athletes to sleep 8-12 hours overnight. It is also helpful for parents to decrease brain stimulation at home by limiting video games, but a reduction in computer time, text messaging, and TV/movies may also be helpful.

Neuropsychological testing has become more commonplace in concussion evaluation as a means to provide an objective measure of brain function. It is best used as a tool to help ensure safe return to activity and not as the only piece of the decision making process. Testing is currently done using computerized neuropsychological testing (example: ImPACT, Axon Sports) or through a more detailed pen and paper test administered by a neuropsychologist.

If neuropsychological testing is available, ideally a baseline or pre-injury test is obtained prior to the season. This baseline should be done in a quiet environment when the athlete is well rested. It is felt that baseline testing should be repeated every one to two years for the developing adolescent brain. Multi-modal baseline evaluation that assess baseline symptoms, cognitive functioning, and balance is ideal. If there is no baseline available, the injured athlete's scores can be compared to age established norms. The WIAA feels that neuropsychological testing can be a very useful tool with regard to concussion management.

RETURN TO PLAY

Current recommendations are for a stepwise return to play program. In order to resume activity, the athlete must be **symptom free** and off any pain control or headache medications. The athlete should be carrying a full academic load without any significant accommodations for 1-2 days. Finally, the athlete must have clearance from an appropriate health care provider.

The program described below is a guideline for returning concussed athletes when they are symptom free. Athletes with multiple concussions and athletes with prolonged symptoms often require a prolonged or different return to activity program and should be managed by a physician that has experience in treating concussion.

The following program allows for one step per 24 hours. The program allows for a gradual increase in heart rate/physical exertion, coordination, and then allows contact. If symptoms return, the athlete should stop activity and notify their healthcare provider before progressing to the next level.

STEP ONE: About 15-30 minutes of light aerobic exercise at a slow to medium pace. This allows for increased heart rate.

STEP TWO: More strenuous sport-specific exercise (running, sprinting, skating) without any equipment or contact. This allows for more complex movement and agility.

STEP THREE: Begin **non-contact** drills in full uniform. May also begin progressive resistance training. This allows for increased coordination and thinking during exertion.

STEP FOUR: Following medical clearance, full practice with contact. This helps restore confidence and allows coaching staff to fully assess athlete.

STEP FIVE: Full game clearance

PREVENTION

There is nothing that truly prevents concussion. Education and recognition of concussion are the keys in reducing the risk of problems with concussion.

Proper equipment fit and use may reduce the risk of concussion. However, helmets do NOT prevent concussion. They are used to prevent facial injuries and skull fractures. Most importantly, proper technique for hitting/contact are vital, for example, athletes that lower their head while making a football tackle have a significantly higher risk for concussion and neck injuries. Athletes should never lead with their head or helmet. Studies have shown that soccer headgear and mouthguards do not decrease concussion risk, although mouthguards are proven to decrease dental and facial trauma.

All schools should have an Emergency Action Plan. This plan can be used for any medical emergency from a concussion to a neck injury to anaphylaxis (severe allergic reaction). There should be an emergency action plan for every practice and competition area which should be practiced yearly.

The WIAA encourages every member school to promote concussion education and bring about a positive change in concussion culture by discussing this topic with all teachers, coaches, athletes and parents. We recommend a preseason discussion with athletes and families to set forth expectations for what will happen if a student has a concussion and the steps the student must go through to return to play. Coaches should use in-season concussions as "teachable moments" to remind teammates about the importance of reporting their injuries and supporting their injured teammate through the recovery process.

Further reading and additional education material can be obtained through the following locations:

www.nfhs.com
www.nfhslearn.com (free concussion education video)
www.cdc.gov/concussion/headsup/high_school.html (Heads Up program)

RETURN TO PLAY POLICIES

Wyoming

Wyoming Department of Education

Cindy Hill, Superintendent of Public Instruction
Hathaway Building, 2nd Floor, 2300 Capitol Avenue
Cheyenne WY 82002-0050
Phone: 307-777-7673 Fax: 307-777-6234 Website: edu.wyoming.gov

Memorandum No. 2011-092

TO: School District Superintendents
School Principals
Athletic Directors

FROM: Meaghan M. McClellan, BSN, RN
Innovative Connections & Support/Health, Safety and Nutrition

DATE: June 20, 2011

SUBJECT: Model Policies and Compliance with Recent Legislation

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IMPORTANT REMINDER

Pursuant to attached Enrolled Act NO. 97, adopted by the 2011 Wyoming General Session of the Legislature, each school district must develop protocols for training coaches, athletic trainers, and students regarding head injury and concussion resulting from athletic activities. Each district's protocols must also address restrictions on an athlete's participation in school athletic events after a concussion or head injury, and include means for providing to students and parents information on head injuries and concussions.

In order to support our districts in the development of these policies, the Wyoming Department of Education has relied heavily on the tenets held by *The Children's Hospital of Colorado* (www.thechildrenshospital.org) and *The Wyoming High School Activities Association* (www.whsaa.org). The attached example is intended to give districts a model for moving forward. However, this approach is by no means mandatory, as policy development allowing for local custom is encouraged. There are also resources available online for drafting your policy through The National Federation of State High School Association's Sports Medicine Advisory Committee: http://www.ihsa.org/initiatives/sportsMedicine/files/NFHS_Concussion_Brochure.pdf.

When your district has developed an individualized local policy, please forward a copy to Meaghan McClellan at mmccle@educ.state.wy.us for review. This will allow us to ensure that all requirements of the law have been provided for.

We truly appreciate your prompt response to this request, as the protocols must be approved for the school year 2011-2012.

MMM:rs

Attachments (4)

Code: JJIF-R(1)

TRAINING, INFORMATION AND RESTRICTIONS ON PARTICIPATION FOR STUDENT ATHLETE CONCUSSIONS

PROTOCOLS

In order to address risks associated with concussions and other head injuries resulting from athletic injuries, the school district adopts the following protocols:

Definitions:

"Athletic coach or trainer" means any paid or volunteer individual whose responsibilities include coaching, athletic training, or advising a school athletic team or club.

"Health care provider" means any person who is licensed and qualified under Wyoming law to provide health care services and is also permitted to perform a pre-participation athletic physical examination.

"School athletic event" means a game, competition, or practice associated with an athletic activity sanctioned by the Wyoming High School Activities Association or a game, competition, or practice associated with school-sponsored athletic activities in a middle or junior high school which directly corresponds to those high school activities sanctioned by the Wyoming High School Activities Association.

"Student athlete" means a middle school, junior high school, or senior high school student who engages in or seeks to engage in a school athletic event.

"Symptoms" means any change in the athlete's behavior, thinking, or physical functioning, as self-reported by the athlete.

"Signs" means any change in the athlete's behavior, thinking, or physical functioning, as observed by a coach or trainer, or school official, or another student athlete.

"Head injury" means a mild, moderate, or severe traumatic brain injury and is not intended to include superficial injuries to the head or face that do not involve trauma or potential trauma to the brain.

"Youth Athletic Activity" means any athletic activity related to competition, practice, or training exercises among middle school, junior high school or senior high school student athletes.

1. Training of Coaches and Athletic Trainers to Facilitate the Recognition of Signs of Concussions.

   A. Every coach and athletic trainer shall annually complete a concussion recognition education course. The course shall be completed prior to the start of the first athletic season in which the coach or athletic trainer provides assistance for youth athletic activities during the school year.

   B. The concussion recognition education course shall, at a minimum, include:

      i) Information on how to recognize the physical and cognitive signs and symptoms of a concussion;

      ii) The necessity of obtaining proper medical attention for a person who is suspected of having a concussion;

      iii) Information regarding the nature and risk of concussions, including the danger of continuing to play after sustaining a concussion; and

      iv) The proper method of allowing a student athlete who has sustained a concussion to safely return to athletic activity. This may include training regarding a progressive physical activity program.

2. Restrictions Concerning Participation in School Athletic Events After Suffering a Head Injury (Concussion)

   A. A coach or athletic trainer shall immediately remove the student athlete from the school athletic event and shall not allow the athlete to continue participation in a school athletic event on the same day that the student athlete meets one or both of the following criteria:

      i) Exhibits physical or cognitive signs or symptoms consistent with a concussion or other head injury after a coach, athletic trainer, school official, or student athlete reports, observes, or suspects that the student athlete exhibiting these signs or symptoms has sustained a concussion or other head injury, and the signs and symptoms cannot be readily explained by a condition other than concussion; or

      ii) Has been suspected by an athletic coach, trainer or health care provider of having a concussion or other head injury.

B. If a student athlete is removed from a school athletic event pursuant to Section 2(A), the coach or athletic trainer shall make reasonable efforts to notify the athlete's parent or legal guardian that the student is suspected of having sustained a concussion or other head injury.

C. If a student athlete is removed from a school athletic event pursuant to Section 2(A), the coach or athletic trainer shall not permit the student athlete to return to the athletic event or to participate in any youth athletic activity involving physical exertion until the student athlete has been evaluated by a health care provider and receives written clearance from the health care provider to return to participation in the youth athletic activity.

D. Any student athlete who loses consciousness during an event, whether related to a head injury or not, shall not be allowed to participate for the remainder of that day and, in order to return to practice or play in the future, the student must have medical clearance by a practitioner licensed by the State Board of Medicine. WHSAA Rule 2.4.5.

3. Information to Students and Parents Regarding Head Injuries and Related Restrictions on Participation in Athletic Activities

A. At the beginning of each academic year, each public middle, junior high and high school within the district shall provide to a student athlete and the student athlete's parent or guardian, a form with information pertaining to concussion and other head injury. The school district shall receive signatures on the form from the student athlete and the student athlete's parent or guardian before permitting the student to begin participating in youth athletic activities for that academic year. This form may be combined with other consent to participate forms utilized by the school or in connection with registration forms, at the discretion of the school/athletic administrator.

Adopted:

Code: JJIF

TRAINING, INFORMATION AND RESTRICTIONS ON PARTICIPATION FOR STUDENT ATHLETE CONCUSSIONS

Because a concussion is a type of traumatic brain injury, it should always be treated carefully and seriously. Young athletes are particularly vulnerable to the effects of a concussion, which has the potential to result in short or long-term changes in brain function or, in some cases, death. Any time the signs or symptoms of a concussion are observed by or reported to school personnel, precautions should immediately be taken. The school district has developed protocols for the training of coaches and athletic trainers to facilitate the recognition of symptoms of concussions and to address restrictions concerning participation in school athletic events after suffering a concussion or head injury. The district has also developed protocols which require providing information to students and parents on head injuries and concussions and related restrictions on participation in athletic activities. The school administration and Activities Director shall take the appropriate steps to ensure that the district's coaches, athletic trainers, volunteers and other individuals responsible for coaching, providing athletic training, or advising school athletic teams, comply with the district's protocols as set forth in Regulation JJIF-R(1).

Adopted:

ORIGINAL SENATE **ENGROSSED**
FILE NO. 0038

ENROLLED ACT NO. 97, SENATE

SIXTY-FIRST LEGISLATURE OF THE STATE OF WYOMING
2011 GENERAL SESSION

AN ACT relating to education; requiring school boards to develop protocols for training of coaches and athletic trainers and education of students regarding head injury and concussion resulting from athletic activities; and providing for an effective date.

Be It Enacted by the Legislature of the State of Wyoming:

Section 1. W.S. 21-2-202(a) by creating a new paragraph (xxxii) and 21-3-110(a) by creating a new paragraph (xxx) are amended to read:

21-2-202. Duties of the state superintendent.

(a) In addition to any other duties assigned by law, the state superintendent shall:

(xxxii) To assist local school districts in developing protocols under W.S. 21-3-110(a)(xxx) and in sufficient time to enable school districts to adopt and implement protocols commencing school year 2011-2012, develop model protocols for addressing risks associated with concussions and other head injuries resulting from athletic injuries. No district shall be required to adopt any part of the model protocols.

21-3-110. Duties of boards of trustees.

(a) The board of trustees in each school district shall:

(xxx) Commencing school year 2011-2012, adopt protocols to address risks associated with concussions and other head injuries resulting from athletic injuries. The protocols shall:

ORIGINAL SENATE
FILE NO. 0038

ENROLLED ACT NO. 97, SENATE

SIXTY-FIRST LEGISLATURE OF THE STATE OF WYOMING
2011 GENERAL SESSION

(A) Include training of coaches and athletic trainers to facilitate the recognition of symptoms of concussions;

(B) Address restrictions concerning participation in school athletic events after suffering a concussion or head injury;

(C) Include means for providing to students and parents information on head injuries and concussions and related restrictions on participation in athletic activities.

Section 2. This act is effective July 1, 2011.

(END)

Speaker of the House

President of the Senate

Governor

TIME APPROVED: _____

DATE APPROVED: _____

I hereby certify that this act originated in the Senate.

Chief Clerk

National Federation of State High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Introduction

A concussion is type of traumatic brain injury that interferes with normal function of the brain. It occurs when the brain is rocked back and forth or twisted inside the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion has evolved dramatically in recent years. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a "ding" on the head, it is now understood that a concussion has the potential to result in short or long-term changes in brain function, or in some cases, death.

What is a concussion?

You've probably heard the terms "ding" and "bell-ringer." These terms were once used to refer to minor head injuries and thought to be a normal part of sports. There is no such thing as a minor brain injury. Any suspected concussion must be taken seriously. A concussion is caused by a bump, blow, or jolt to the head or body. Basically, any force that is transmitted to the head causes the brain to literally bounce around or twist within the skull, potentially resulting in a concussion.

It used to be believed that a player had to lose consciousness or be "knocked-out" to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 10% of players actually lose consciousness with a concussion.

What exactly happens to the brain during a concussion is not entirely understood. It appears to be a very complex injury affecting both the structure and function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs, the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be seen on MRIs or x-rays, or detected during an examination. A concussion, however, is primarily an injury that interferes with how the brain works. While there is damage to brain cells, the damage is at a microscopic level and cannot be seen on MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been seriously injured.

Recognition and Management

If an athlete exhibits any signs, symptoms, or behaviors that make you suspicious that he or she may have had a concussion, that athlete must be removed from all physical activity, including sports and recreation. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death.

SYMPTOMS REPORTED BY ATHLETE
Headache
Nausea
Balance problems or dizziness
Double or fuzzy vision
Sensitivity to light or noise
Feeling sluggish
Feeling foggy or groggy
Concentration or memory problems
Confusion

Parents and coaches are not expected to be able to “diagnose” a concussion. That is the role of an appropriate health-care professional. However, you must be aware of the signs, symptoms and behaviors of a possible concussion, and if you suspect that an athlete may have a concussion, then he or she must be immediately removed from all physical activity.

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES
Appears dazed or stunned
Is confused about what to do
Forgets plays
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness
Shows behavior or personality changes
Can’t recall events prior to hit
Can’t recall events after hit

When in doubt, sit them out!

When you suspect that a player has a concussion, follow the “Heads Up” 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure that the athlete is evaluated by an appropriate health-care professional.
3. Inform the athlete’s parents or guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury and until an appropriate health-care professional says he or she is symptom-free and gives the okay to return to activity.

The signs, symptoms, and behaviors of a concussion are not always apparent immediately after a bump, blow, or jolt to the head or body and may develop over a few hours. An athlete should be observed following a suspected concussion and should never be left alone.

Athletes must know that they should never try to “tough out” a suspected concussion. Teammates, parents and coaches should never encourage an athlete to “play through” the symptoms of a concussion. In addition, there should never be an attribution of bravery to athletes who do play despite having concussion signs or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

Cognitive Rest

A concussion can interfere with school, work, sleep and social interactions. Many athletes who have a concussion will have difficulty in school with short- and long-term memory, concentration and organization. These problems typically last no longer than a week or two, but for some these difficulties may last for months. It is best to lessen the student’s class load early on after the injury. Most students with concussion recover fully. However, returning to sports and other regular activities too quickly can prolong the recovery.

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Students with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. As the symptoms lessen, increased use of computers, phone, video games, etc., may be allowed.

Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Newer studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

An athlete should never be allowed to resume physical activity following a concussion until he or she is symptom free and given the approval to resume physical activity by an appropriate health-care professional.

Once an athlete no longer has signs, symptoms, or behaviors of a concussion **and is cleared to return to activity by a health-care professional**, he or she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete will progress one step each day. The return to activity program schedule **may** proceed as below **following medical clearance**:

Progressive Physical Activity Program

Step 1: Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training, or any other exercises.
Step 2: Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.
Step 3: Non-contact training drills in full uniform. May begin weight lifting, resistance training, and other exercises.
Step 4: Full contact practice or training.
Step 5: Full game play.

If symptoms of a concussion re-occur, or if concussion signs and/or behaviors are observed at any time during the return to activity program, the athlete must discontinue all activity and be re-evaluated by their health care provider.

Concussion in the Classroom

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration, and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

What to do in an Emergency

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following: decreasing level of consciousness, looks very drowsy or cannot be awakened, if there is difficulty getting his or her attention, irregularity in breathing, severe or worsening headaches, persistent vomiting, or any seizures.

Suggested Concussion Management

1. No athlete should return to play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
3. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

References

Guskiewicz KM, et al. National Athletic Trainers' Association position statement: management of sport-related concussion. Journal of Athletic Training 2004; 39:280-297.

McCrory P, et al. Consensus statement on concussion in sport: the 3rd International Conference on Concussion in Sport held in Zurich, November 2008. Journal of Athletic Training 2009; 44:434-48.

Additional Resources

Heads Up: Concussion in High School Sports
http://www.cdc.gov/concussion/headsup/high_school.html

Concussion in Sports- What you need to know.
http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000

NFHS Sports Medicine Handbook, 4th Ed, 2011.

Revised January 2011

National Federation of State
High School Associations

A PARENT'S GUIDE TO CONCUSSION

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull, typically from a blow to the head or body. An athlete does not need to lose consciousness (be "knocked-out") to suffer a concussion, and in fact, less than ten percent of concussed athletes suffer loss of consciousness.

Concussion Facts

- A concussion is a type of traumatic brain injury. The result is a more obvious functional problem than a clear structural injury, causing it to be invisible to standard medical imagining (CT and MRI scans).
- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but boys' ice hockey, boys' lacrosse, girls' soccer, girls' lacrosse and girls' basketball follow closely behind. All athletes are at risk.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.
- Concussions can cause symptoms which interfere with school, work, and social life.
- Concussion symptoms may last from a few days to several months.
- An athlete should not return to sports or physical activity like physical education or working-out while still having symptoms from a concussion. To do so puts them at risk for prolonging symptoms and further injury.

What should I do if I think my child has had a concussion?

If an athlete is suspected of having a concussion, he or she must be immediately removed from that activity. Continuing to play or work out when experiencing concussion symptoms can lead to worsening of symptoms, increased risk for further injury and possibly death. Parents and coaches are not expected to be able to make the diagnosis of a concussion. A medical professional trained in the diagnosis and management of concussions will determine the diagnosis. However, you must be aware

of the signs and symptoms of a concussion. If you are suspicious your child has suffered a concussion, he or she must stop activity right away and be evaluated:

When in doubt, sit them out!

All student-athletes who sustain a concussion need to be evaluated by a health care professional who is experienced in concussion management. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions, he or she should be immediately taken to the emergency department.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache
Is confused about what to do	Nausea
Forgets plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or fuzzy vision
Moves clumsily	Sensitivity to light or noise
Answers questions slowly	Feeling sluggish
Loses consciousness	Feeling foggy or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit	Confusion
Can't recall events after hit	

When can an athlete return to play following a concussion?
After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown that the young brain does not recover quickly enough for an athlete to safely return to activity in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers in almost all states to pass laws stating that **no player shall return to play that day following a concussion, and the athlete must be cleared by an appropriate health-care**

professional before he or she is allowed to return to play in games or practices. The laws typically also mandate that players, parents and coaches receive education on the dangers and recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared for return to play, he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average, the athlete will complete a new step each day. An example of a typical return-to-play schedule is shown below:

Day 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.
Day 2: Running in the gym or on the field. No helmet or other equipment.
Day 3: Non-contact training drills in full equipment. Weight-training can begin.
Day 4: Full contact practice or training.
Day 5: Game play.

If symptoms occur at any step, the athlete should cease activity and be re-evaluated by their health care provider.

How can a concussion affect schoolwork?
Following a concussion, many student-athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration and organization.

In many cases after the injury, it is best to decrease the athlete's class load early in the recovery phase. This may include staying home from school for a few days, followed by academic accommodations (such as a reduced class schedule), until the athlete has fully recovered. Decreasing the stress on the brain and not allowing the athlete to push through symptoms will shorten the recovery time.

What can I do?

- Both you and your child should learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has suffered a concussion.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate a concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.

Other Frequently Asked Questions

Why is it so important that athletes not return to play until they have completely recovered from a concussion?

Student-athletes that return to any activity too soon (school work, social activity or sports activity), can cause the recovery time to take longer. They also risk recurrent, cumulative or even catastrophic consequences, if they suffer another concussion. Such risk and difficulties are prevented if each athlete is allowed time to recover from his or her concussion and the return-to-play decisions are carefully and individually made. No athlete should return to sport or other at-risk activity when signs or symptoms of concussion are present and recovery is ongoing.

Is a "CAT scan" or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening head and brain injuries (skull fractures, bleeding or swelling), they are currently insensitive to concussive injuries and do not aid in the diagnosis of concussion. Concussion diagnosis is based upon the athlete's story of the injury and a health care provider's physical examination and testing.

What is the best treatment to help my child recover quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can help speed the recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened or eliminated, if symptoms worsen.

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within 2–3 weeks of the initial injury. You should anticipate that your child will likely be out full participation in sports for about 3-4 weeks following a concussion. However, in some cases symptoms may last for many more weeks or even several months. Symptoms such as headache, memory problems, poor concentration, difficulty sleeping and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.

How many concussions can an athlete have before he or she should stop playing sports?

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances that surround each individual injury, such as how the injury occurred and the duration of symptoms following the concussion, are very important and must be individually considered when assessing an athlete's risk for and potential long-term consequences from incurring further and potentially more serious concussions. The decision to "retire" from sports is a decision

best reached after a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussions.

I've read recently that concussions may cause long-term brain damage in professional football players. Is this a risk for high school athletes who have had a concussion?

The issue of "chronic traumatic encephalopathy (CTE)" in former professional players has received a great deal of media attention lately. Very little is known about what may be causing these dramatic abnormalities in the brains of these unfortunate players. At this time we do not know the long-term effects of concussions (or even the frequent sub-concussive impacts) which happen during high school athletics. In light of this, it is important to carefully manage every concussion and all concussion-like signs and symptoms on an individual basis.

Some of this information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the NFHS's Sports Medicine Advisory Committee. Please go to **www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm** for more information.

Revised and Approved April 2013
April 2010

National Federation of State
High School Associations

SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Introduction

A concussion is a type of traumatic brain injury that impairs normal function of the brain. It occurs when the brain moves within the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion continues to evolve. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a “ding” on the head, it is now understood that a concussion has the potential to result in a variety of short- or long-term changes in brain function or, rarely, death.

What is a concussion?

You’ve probably heard the terms “ding” and “bell-ringer.” These terms were previously used to refer to "minor" head injuries and thought to be a normal part of collision sports. Research has shown that a concussion is a brain injury and by no means minor. Any suspected concussion must be taken seriously. The athlete does not have to be hit directly in the head to injure the brain. Any force that is transmitted to the head may cause the brain to bounce or twist within the skull, resulting in a concussion.

It was once believed that a person had to lose consciousness or be “knocked-out” to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 5% of athletes actually lose consciousness with a concussion.

What happens to the brain during a concussion is not completely understood. It is a very complex process, primarily affecting the function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs, the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be detected during an examination and seen on x-rays or MRI. A concussion, however, is an

injury that interferes with how the brain works and cannot be diagnosed by MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been injured.

Recognition and Management

If an athlete exhibits any signs, symptoms or behaviors that make you suspicious of a concussion, the athlete **must** be removed from play and closely observed. Sustaining another head injury after a concussion can lead to worsening concussion symptoms, increased risk for further injury and, rarely, death.

Parents/guardians and coaches are not expected to "diagnose" a concussion. That is the role of an appropriate health-care professional. However, everyone involved in athletics must be aware of the signs, symptoms and behaviors associated with a concussion. If you suspect that an athlete may have a concussion, then the athlete must be **immediately removed** from all physical activity.

Signs Observed by Coaching Staff

- *Loss of consciousness (even if brief)
- *Seizure
- *Increasing sleepiness
- *Worsening headache
- *Persistent vomiting
- Dazed or stunned appearance
- Confusion about assignment or position
- Forgetful, for example, doesn't follow instructions
- Uncertainty of game, score or opponent
- Clumsy movements
- Slow response to questions
- Mood, behavior or personality changes
- Inability to recall events *prior* to hit or fall
- Inability to recall events *after* hit or fall

***RED FLAGS**

Symptoms Reported by Athlete

- Headaches or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy or groggy
- Concentration or memory problems
- Confusion

- Emotions of "not feeling right" or "feeling down"

When in doubt, sit them out!

When you suspect that a player has a concussion, follow the "Heads Up" 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure the athlete is evaluated by an appropriate health-care professional. (RED FLAGS: If any red flag present, the athlete should go to the emergency department)
3. Inform the athlete's parents/guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury, and until an appropriate health-care professional says the athlete is symptom-free and gives the okay to return to activity.

The signs, symptoms and behaviors associated with a concussion are not always apparent immediately after a bump, blow or jolt to the head or body and may develop over a few hours or longer. An athlete should be closely watched following a suspected concussion and should never be left alone.

Athletes should never try to "tough out" a concussion. Teammates, parents/guardians and coaches should never encourage an athlete to "play through" the symptoms of a concussion. In addition, there should never be an attribution of bravery or courage to athletes who play despite having concussion signs and/or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at greater risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

What to do in an Emergency

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following:

- Seizure
- Increasing sleepiness
- Worsening headache
- Persistent vomiting

Rest

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Athletes with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. Athletes typically require 24-48 hours of rest, though some may require longer.

Return to Learn

Following a concussion, many athletes will have difficulty in school. These problems may last from days to weeks and often involve difficulties with short- and long-term memory, concentration and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school during the short period of rest, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress to the brain in the early phase after a concussion may lessen symptoms and shorten the recovery time. Additional academic adjustments may include decreasing homework, allowing extra time for assignments/tests, and taking breaks during class. Such academic adjustments are best made in collaboration with teachers, counselors and school nurses.

Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day**. **An athlete should *never* be allowed to resume play following a concussion until symptom free and given the approval to resume physical activity by an appropriate health-care professional.**

Once an athlete no longer has signs or symptoms of a concussion **and is cleared to return to activity by an appropriate health-care professional**, he/she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete should progress no more than one step each day, and at times each step may take more than one day. **Below is an example of a return to physical activity program**:

Progressive Physical Activity Program (ideally under supervision)

- *Step 1*: Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training or any other exercises.
- *Step 2*: Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without equipment.
- *Step 3*: Non-contact training drills in full uniform. May begin weightlifting, resistance training and other exercises.
- *Step 4*: Full contact practice or training.
- *Step 5*: Full game play.

If symptoms of a concussion recur, or if concussion signs and/or behaviors are observed at any time during the return-to-activity program, the athlete must discontinue all activity immediately. Depending on previous instructions, the athlete may need to be re-evaluated by the health-care provider, or may have to return to the previous step of the return-to-activity program.

Summary of Suggested Concussion Management

1. **No athlete should return to play (RTP) or practice on the same day of a concussion.**
2. **Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional.**
3. **Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.**
4. **After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.**

References:

American Medical Society for Sports Medicine position statement: concussion in sport. Harmon KG, Drezner J, Gammons M, Guskiewicz K, Halstead M, Herring S, Kutcher J, Pana A, Putukian M, Roberts W; American Medical Society for Sports Medicine.
Clin J Sport Med. 2013 Jan;23(1):1-18.

McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012 J Athl Train. 2013 Jul-Aug;48(4):554-75.

Returning to Learning Following a Concussion. Halstead M, McAvoy K, Devore C, Carl R, Lee M, Logan K and Council on Sports Medicine and Fitness, and Council on School Health. *Pediatrics,* October 2013. American Academy of Pediatrics.

Additional Resources:

Brain 101 – The Concussion Playbook.
http://brain101.orcasinc.com/5000/

Concussion in Sports- What you need to know.
http://www.nfhslearn.com/electiveDetail.aspx?courseID=15000

Heads Up: Concussion in High School Sports
http://www.cdc.gov/concussion/headsup/high_school.html

NFHS Sports Medicine Handbook, 4th Ed, 2011.

REAP Concussion Management Program.
http://www.rockymountainhospitalforchildren.com/sports-medicine/concussion-management/reap-guidelines.htm

Sport Concussion Library
http://www.sportconcussionlibrary.com/content/concussions-101-primer-kids-and-parents

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October 2008
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