

Max's Law: Concussion Management Implementation Guide

for School Administrators



RECOGNIZE :: REMOVE :: REFER :: RETURN

In the fall of 2001, high-school quarterback Max Conratt, 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 Conratt—and to all Oregon students who play sports.

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OCAMP

Oregon Concussion Awareness and Management Program

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?

New research shows that any concussion, including a “ding” or “bell-ringer,” is a traumatic brain injury (TBI) that needs to be taken seriously.

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.

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

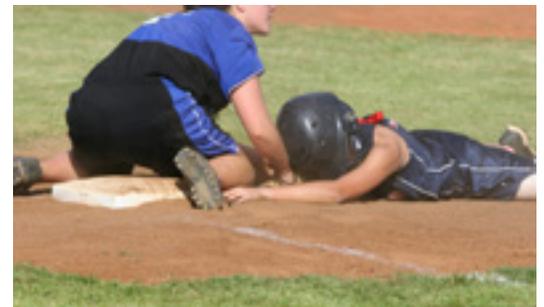
Make sure that all coaches in your district/school complete the annual training provided by Oregon State Activities Association (OSAA) prior to their sport season. Document all training and keep the documentation on file.

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 knowledgeable 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 be 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.

“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.



Each year in Oregon,
more than 1000
high school athletes
experience sports-
related concussion.



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:

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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

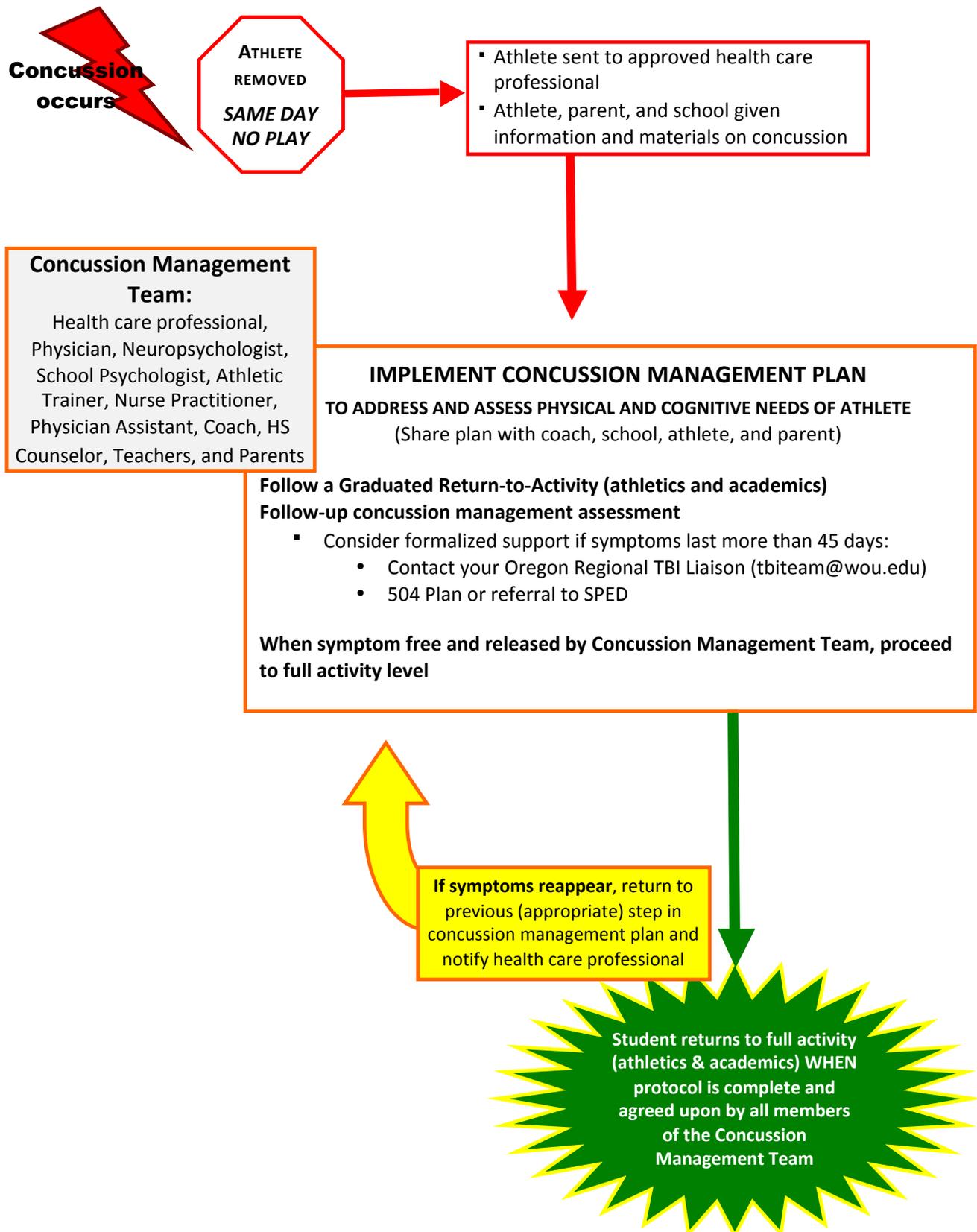
BEST PRACTICE:

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



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 head injuries
- II. Management and referral guidelines for all staff
- III. Procedures for the Certified Athletic Trainer (ATC)
- IV. Guidelines and procedures for coaches
- V. Follow-up care during the school day
- VI. Return to play procedures

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:

B/G Soccer
Field Hockey
Football
Girls Volleyball

Winter:

B/G Basketball
Cheerleading
Indoor Track
(pole vault)
Diving

Spring:

Baseball
B/G Lacrosse
Outdoor Track
(pole vault)
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 should not be allowed to return to activity that day.

C. Refer 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. Responsibilities of the school nurse after notification of student's head injury

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. Responsibilities of the student's guidance counselor

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. *ClinSports 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:

- | |
|---|
| <p>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.</p> <p>Step 2. Return to school full-time.</p> <p>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.</p> <p>Step 4. Running in the gym or on the field. No helmet or other equipment.</p> <p>Step 5. Non-contact training drills in full equipment. Weight-training can begin.</p> <p>Step 6. Full contact practice or training. Must be cleared by an approved health care provider before returning to play.</p> <p>Step 7. Play in game.</p> |
|---|

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:	<input type="checkbox"/> The athlete is removed from participation (athletics, PE class, weight training, etc). <input type="checkbox"/> Coach/Athletic Director contacted the parent/guardian. <input type="checkbox"/> Parent/Guardian received concussion information & medical clearance form for return to participation.
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Following Concussion:	<input type="checkbox"/> Coach/Athletic Director contacted the Concussion Management Team. <input type="checkbox"/> 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. <input type="checkbox"/> A member from the Concussion Management Team administered symptom checklist to the student athlete—record below date ____/____/____ score _____
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IF Student is experiencing symptoms:	<input type="checkbox"/> Concussion Management Team monitored return-to-academics graduated steps and accommodation as needed <ul style="list-style-type: none"> <input type="checkbox"/> Counselor contacted <input type="checkbox"/> Email sent to teachers <input type="checkbox"/> Accommodations sent to teachers <input type="checkbox"/> 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.	

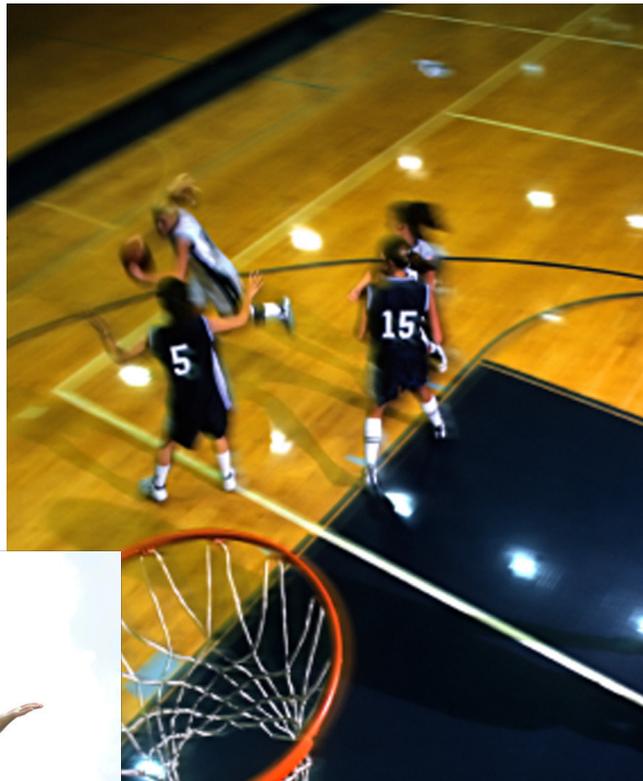
WHEN Student is symptom free:	<input type="checkbox"/> Parent/Guardian obtained signature for release from licensed health care provider (physician (MD), physician's assistant (PA), doctor of osteopathic medicine (DO), or nurse practitioner). Date received ____/____/____ <input type="checkbox"/> The athlete may proceed to Stages 3–5 of Return-to-Play Protocol providing he/she remains symptom free. <table style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 33%;">3–Light aerobic activity</td> <td style="width: 33%;">4–Sport-specific exercise</td> <td style="width: 33%;">5–Non-contact training drills</td> </tr> <tr> <td>date ____/____/____</td> <td>date ____/____/____</td> <td>date ____/____/____</td> </tr> </table>	3–Light aerobic activity	4–Sport-specific exercise	5–Non-contact training drills	date ____/____/____	date ____/____/____	date ____/____/____
3–Light aerobic activity	4–Sport-specific exercise	5–Non-contact training drills					
date ____/____/____	date ____/____/____	date ____/____/____					

WHEN medical clearance form is received AND symptom checklist has returned to baseline	<input type="checkbox"/> Concussion Team approved progression to Stages 6 and 7 of Return-to-Play Protocol providing he/she remains symptom free. <table style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 50%;">6–Full-contact practice</td> <td style="width: 50%;">7–Return to Play</td> </tr> <tr> <td>date ____/____/____</td> <td>date ____/____/____</td> </tr> </table>	6–Full-contact practice	7–Return to Play	date ____/____/____	date ____/____/____
6–Full-contact practice	7–Return to Play				
date ____/____/____	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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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 peri-

ods 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.

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.

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.

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
<ul style="list-style-type: none"> • 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 (<i>even briefly</i>) • Shows mood, behavior, or personality changes • Can't recall events <i>prior</i> to hit or fall • Can't recall events <i>after</i> hit or fall 	<ul style="list-style-type: none"> • Headache or “pressure” in head • Nausea or vomiting • Balance problems or dizziness • Double or blurry vision • Sensitivity to light or noise • Feeling sluggish, hazy, foggy, or groggy • Concentration or memory problems • Confusion • Just not “feeling right” or is “feeling down”

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



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 golpe o 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
<ul style="list-style-type: none">• 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 (<i>aunque sea por poco tiempo</i>)• Muestra cambios de humor, conducta o personalidad• No puede recordar lo ocurrido antes o después de un golpe o una caída	<ul style="list-style-type: none">• 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.

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



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



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

