

Managing sports-related concussions

Medical management of sports-related concussions continues to evolve as we learn more about the short- and long-term effects of head injuries. Providence has developed this protocol to help inform coaches, school officials, parents and athletes about concussions. Outlined here are procedures to follow when managing concussions, as well as guidelines and recommendations for returning-to-play issues following a concussion. For the purposes of this document, "parent" refers to parents, guardians or emergency contacts who are listed in the player's file.

It's important to provide a safe return to activity for all athletes following any injury but particularly after a concussion. To effectively and consistently manage these injuries, these procedures should be followed to help ensure athletes with potential concussions are identified, treated and referred appropriately, and are fully recovered before returning to activity.

Management and Referral Guidelines: All Staff

1. The following situations indicate a medical emergency and require an immediate call to 911:
 - (a) Any athlete with a witnessed loss of consciousness of any duration should be placed on a spine board and transported immediately by ambulance to the nearest emergency department.
 - (b) Any athlete who has symptoms of a concussion and who is not stable (i.e., condition is worsening), should be taken by ambulance immediately to the nearest emergency department.
 - (c) An athlete who exhibits any of the following symptoms should be taken by ambulance to the nearest emergency room:
 - Decreasing neurological function
 - Decreasing level of consciousness
 - Decreasing or irregular respirations
 - Any signs or symptoms of associated injuries, such as spine or skull fracture, or bleeding
 - Changes in mental status: lethargy, difficulty staying awake, confusion or agitation
 - Seizures
2. An athlete who is symptomatic but stable may be transported to the emergency room by his or her parent. All staff should be instructed to advise the parent to consult an appropriate health care professional on the day of the injury.

Guidelines and Procedures for Coaches: **RECOGNIZE, REMOVE, REFER**

Recognize concussion

All coaches should become familiar with the signs and symptoms of concussion as described in the following section. Annual training should occur for coaches of every sport as required by law.

Common signs and symptoms of a sports-related concussion:

Signs (observed by others)	Symptoms (reported by athlete)
Athlete appears dazed or stunned	Headache
Is confused	Fatigue
Is unsure about game score or opponent	Nausea or vomiting
Moves clumsily	Double or blurry vision
Has balance problems	Sensitivity to light or noise
Forgets events before the hit	Sluggish feeling
Forgets events after the hit	Concentration problems
Loses consciousness (any length of time)	Memory problems

These signs and symptoms, following a witnessed or suspected blow to the head or body, indicate a probable concussion. "Any athlete who exhibits even one of these signs, symptoms, or behaviors consistent with a suspected concussion shall be immediately removed from the contest or practice and shall not return to play until cleared by an appropriate health care professional" (approved by Oregon Legislature in 2009).

Remove from activity

Any athlete who exhibits signs, symptoms or behaviors consistent with a concussion should be immediately removed from the game or practice and not allowed to return to play until medically cleared by an authorized medical expert (medical doctor, doctor of osteopathy, physician assistant or nurse practitioner). Medical clearance should be documented by the physician on the Sideline Concussion Documentation or Graded Return to Participation form.

Refer the athlete for medical evaluation

1. The coaching staff will immediately fill out page 1 of the **Sideline Concussion Documentation** form.
2. The coach is responsible for **immediately** notifying the athlete's parents of the injury.
 - (a) Contact the parents to inform them of the injury. Depending on the extent of concussion symptoms, either an emergency vehicle will take the athlete to a nearby emergency room, or the parent will transport the athlete for medical evaluation or to go home.
 - (b) A medical evaluation is required to begin the "Return to Participation" process.
3. If an athlete's parents can't be reached and the athlete does **not** need immediate transport:
 - (a) The coach should continue efforts to reach a parent.
 - (b) The coach will be responsible for transporting the athlete if he/she has concussion symptoms but is stable. The coach will remain with the athlete until a parent arrives.

Athletes with suspected concussions should not be permitted to drive a vehicle, ride a bicycle or walk home alone.

4. The coach will provide the parent with Sideline Concussion Documentation that was filled out and will review it with the parent.
5. The parent must take the **Sideline Concussion Documentation** to an appropriate health care provider. The provider will evaluate the athlete for a concussion, provide an appropriate plan of action and sign appropriate documents.

(a) NOTE: If it's determined that the athlete does have a concussion, he/she will not be allowed to participate in sports for a **MINIMUM OF 2 WEEKS** from the date of injury. This is to provide a safe, sufficient recovery period.

6. The parent will take the **Sideline Concussion Documentation**, signed by a health care provider, back to the coach and receive the **Graded Return to Participation Documentation**. The coach will instruct the parent on how to fill it out. (See below for more details.)

Return to Play Procedures after Concussion

1. Returning to activity and play is a **medical** decision. The athlete must meet all of the following criteria to return to activity:

- Rest and exertion (including mental exertion) does NOT result in any concussion symptoms.
- Clearance from a qualified medical provider (medical doctor, doctor of osteopathy, physician assistant or nurse practitioner if a concussion was diagnosed)

Note: If the witnessing coach feels the athlete was not appropriately evaluated by the treating physician, the coach may recommend that the athlete's parents seek a second opinion.

2. Once the above criteria are met, the athlete will progress back to full activity following the Graded Return to Participation Program detailed below. It is the responsibility of the athlete's parents to document the athlete's progress on the Graded Return to Participation form.

3. The parent will use this form to record daily observations and report the athlete's symptoms. The parent also will ensure that the athlete performs the recommended graduated steps outlined in the program.

4. The Graded Return to Participation process should be followed as described below **if the athlete is cleared by a doctor to do so**. The athlete should spend **at least 24 hours** at each step before advancing to the next step. If concussion symptoms occur at any step, the athlete should **rest for 24 hours** and then resume activity **one step below** where he/she was when symptoms began.

Step 1: Complete cognitive and physical rest. This may include staying home from school or limiting school and studying for several days and includes rest from physical activity, such as aerobic exercise, playing, bike riding, etc. Cognitive rest also includes refraining from use of computer games, TV, loud music, iPads, iPods, texting and reading.

Step 2: Return to school full time with or without accommodations.

Step 3: Light exercise. This step can't begin until the athlete no longer has concussion symptoms at rest. At this point, the athlete may begin walking or riding a stationary exercise bike. No resistive exercises (such as pushups, situps) should be attempted.

Step 4: Running in the gym or on the field. No helmet or other equipment is allowed.

Step 5: Non-contact training drills in full equipment. Resistive exercises can begin.

Step 6: Full-contact practice or training must be cleared by a physician with physician release.

Step 7: Playing in a game must be cleared by a physician with physician release.

Once the athlete has completed the Graded Return to Participation process for seven to 14 days, the parent should take the athlete and the form back to the same medical provider who performed the initial visit for a re-evaluation.

The medical provider will complete page 2 of the Graded Return to Participation form, either clearing the athlete for participation or providing further recommendations for recovery.

Recovery from a concussion is individualized, and a return to activity must 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 history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may progress more slowly.

Follow-Up Care at School

1. The parent should bring a copy of the completed **Sideline Concussion Documentation** form with the doctor's recommendations for school participation to the school district nurse/counselor/psychologist to allow for appropriate accommodations during the school days immediately following a concussion.
2. The athlete and parent should report to the school nurse or designee (e.g., guidance counselor) upon return to school. Recommended responsibilities of the school nurse include:
 - (a) Re-evaluating the athlete using a graded symptom checklist (see the **Graded Return to Participation Documentation**) daily during the school day as able.
 - (b) Working with the student's guidance counselor, provide an individualized health care plan for return to school based on the athlete's current condition, **Sideline Concussion Documentation** form, and with the doctor's recommendations for school participation/accommodations.
3. The nurse or guidance counselor should notify the athlete's teachers of the injury. The athlete's P.E. teacher should be directly contacted by the school or parents and informed that the athlete is restricted from all physical activity until cleared by the treating physician.
4. The school nurse or counselor should monitor the athlete on a regular basis during the school day by using the Graded Return to Participation form.

Recommended responsibilities of the student's guidance counselor

1. Monitor the student closely. Recommend appropriate academic accommodations if the student exhibits prolonged post-concussion signs or symptoms.
2. Communicate with the school nurse regularly to help provide the most effective care for the athlete.

For more detailed information, please refer to the following documents:

McCrary P, Meeuwisse WH, Aubry M, et al. "Consensus Statement on Concussion in Sport: the 4th International Conference on Concussion in Sport, Zurich, November 2012." *Br J Sports Med* 2013; 47:250-258

Oregon Concussion Awareness and Management Program at www.Ocamp.org

Guskiewicz, Kevin M., Scott L. Bruce, Robert C. Cantu, Michael S. Ferrara, James P. Kelly, Michael McCrea, Margo Putukian, and Tamara C. Valovich McLeod. "National Athletic Trainers' Association Position Statement: Management of Sport-Related Concussion." *Journal of Athletic Training* 39.3 (2004): 280-297. Print.

www.cdc.gov/concussion