



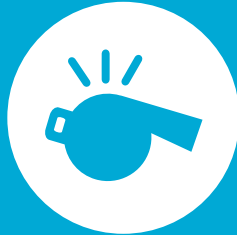
CONCUSSION

A COACH'S GUIDE FOR SIDELINE EVALUATION

Massachusetts Medical Society Committee on Student Health and Sports Medicine

Why Coaches?

Concussions can occur in any sport or situation, in any age group, and at any time. When trained medical personnel are not available, **it often becomes the coach's responsibility to evaluate an injury and decide if an athlete should return to play or be seen for further medical care.** When the player's injury is a suspected concussion, he or she should not return to the game or practice. The player can *only* return to play in the following days or weeks at the discretion of his or her physician.



What Is a Concussion?

A concussion is **any change in mental status or function associated with head injury.** The classic "having your bell rung" commonly occurs but is often ignored, which is a serious oversight. Another common mistake is that an athlete must be "knocked out" to sustain a concussion. That is not true. While unconsciousness is clearly a severe injury, amnesia (loss of memory) following head trauma is an even more severe sign of concussion.

Recognizing a subtle concussion is extremely important in preventing the rare but deadly second impact syndrome (SIS). SIS occurs when an athlete sustains a second blow to the head while still symptomatic from the first hit. The second blow might be relatively gentle (a slap can provide enough force) and may occur days or weeks later. The second blow can cause sudden swelling of the brain that quickly leads (within two or three minutes) to unconsciousness or cardiac arrest. **Fifty percent of players who sustain SIS die, and the rest have a very high risk of permanent brain damage.**



How to Recognize a Concussion

Symptoms of a concussion may include confusion, dizziness, nausea, vomiting, headache, blurred or double vision, vacant stare, ringing in the ears, poor coordination, loss of balance, slowed reaction times, sensitivity to light and noise, flashing lights, personality changes including emotional instability/behavior (anger, crying, and anxiety), feeling sluggish, slurred speech, or loss of memory. Many student athletes won't come to you and complain of these symptoms. Watch out for an athlete who just sits and stares, is a step behind where he or she usually is, blows a routine play, or just doesn't look right. If you are at all suspicious that they may have a concussion, test him or her using the pocket card included with this brochure. **If any of these symptoms are present, remove your athlete from competition or practice even if he or she becomes completely normal later in the practice or game.**

Symptoms can recur for days after the initial injury and are a sign that the brain has not healed enough to participate in any athletic activity. If you notice any of these post-concussion syndrome symptoms, report it to the athletic trainer, parent/guardian, and/or a physician. In their desire to play, many athletes try to hide or minimize injuries. Be aware of changes or concerns reported by teammates, teachers, or others. Post-concussion syndrome often has long-term effects that interfere with functioning at home, school, and/or work. If you suspect an athlete may have a concussion, he or she should be evaluated by a physician.

WHEN IN DOUBT, SIT THEM OUT!

No matter how minor the head injury, notify the family and indicate what symptoms to look for (see card). Do not rely on the athlete to communicate this information. Anyone suspected of a concussion should not be left alone, as monitoring for deterioration over the first few hours is crucial.



The athlete may be conscious but is dazed, foggy, or fuzzy. The player may miss one or two items in the concentration test but show no confusion or memory loss. The athlete may feel like he or she is just “kind of out of it” or off-balance. With this type of concussion, the symptoms can clear in 15 to 20 minutes. But injury may still be occurring in the adolescent brain, and recommendations indicate to treat these young players more conservatively than athletes over 18 years of age.

The athlete should have **NO** symptoms (subjective findings expressed by the player like a headache, feeling groggy, or foggy) or signs (objective findings seen by an observer, like the player moving clumsily or appearing dazed) of a concussion. Any amnesia (memory loss) is a critical warning sign. For example, the athlete might repeatedly ask the same questions without remembering that he or she asked them or without remembering the answers. If an athlete misses any of the confusion/orientation or memory test questions, in addition to not returning to play, the player should seek emergency medical attention. He or she should not return to athletic activity until symptom-free and should be cleared first by a physician or certified athletic trainer. Rest is the only known method of treating concussions.

Any loss of consciousness, no matter how brief, is a concussion **requiring immediate medical attention**. There is no need to perform any exams. Expect the athlete to be prohibited from taking part in the activity until symptom-free and cleared by a physician experienced in evaluating for concussion. However, you must do the following:

- If the athlete regains consciousness within one minute and does not have any neck pain, you can move the athlete to the sideline, where you should keep him or her calm and quiet. Call an ambulance or ask a responsible adult to take the player directly to an emergency room.
- **If the athlete is unconscious longer than one minute, does not wake up, or complains of neck pain after returning to consciousness, assume the athlete has a neck/spine injury. DO NOT move the athlete or allow others to do so. DO NOT remove the player's helmet. Make sure that he or she is breathing. Call an ambulance. While you wait for the ambulance to arrive, keep the athlete's head from being moved.**
- If the athlete experiences neck pain or tenderness, double vision, weakness or tingling/burning in their arms or legs, a severe or increasing headache, a seizure or convulsion, a loss of consciousness, vomiting, a deteriorating conscious state, or increasing restlessness, agitation, or combativeness, this is a red flag. If no licensed health care professional is available, call an ambulance for the athlete.

Concussions and Return to Play Decisions

Recent research on athletes under 18 years of age has shown that even when they say they are normal after exhibiting symptoms after an initial concussion, brain function and reflexes may not return to normal for many weeks in some athletes. If your athlete meets the criteria for having a concussion or if there is any concern for a concussion, remove the athlete from the game or practice and from all further athletic activity **until a physician or certified athletic trainer clears him or her for such activity**.

Resist the parent or well-meaning bystander who offers to make that choice for you.

These guidelines are for the good of the student athlete and are not negotiable under any circumstance.

There have been various grading scales to evaluate the seriousness of a concussion. If a player has had head trauma and has sustained a concussion of any severity, the player cannot return to play on the day of the concussion.

Regardless of the recommendations of others, if your gut feeling tells you to bench a player, do not let anyone — players, parents, coaches, fans, or circumstances — change your mind. You are never wrong to keep a player out of a practice or game. It is the safest option. **WHEN IN DOUBT, SIT THEM OUT!**

If a player suffers a second concussion in the same season, returning to play should be even more conservative. As with the first concussion, the player should not return to athletic activity until they have been seen and cleared by a physician experienced in evaluating for concussion.



Return to play after a concussion should take place in a stepwise process as outlined below **after the player is free of all signs and symptoms of a concussion**. The player can proceed to the next level only if he or she continues to be free of symptoms and signs at the current level. If any signs or symptoms recur, the player should drop back to the previous level and progress to the next level again after 24 hours.

Levels of activity:

1. No activity, complete rest
2. Light aerobic activity, exercise such as walking or stationary cycling
3. Sports-specific training such as skating
4. Noncontact training drills
5. Full-contact training after clearance by a sports medicine professional
6. Return to competition

REMEMBER, WHEN IN DOUBT, SIT THEM OUT!

Decreasing the Risk of a Head Injury

Is it possible to prevent concussions? More than half of football and hockey players report suffering concussions each season! Players can do certain things to decrease the risk of head injury. This is a four-point program. Tell your players to:

1. **Wear a helmet certified for your sport.** Make sure the helmet fits tight. It should not move around on your head. The helmet should be attached by a chin or neck strap.
2. **Wear a mouthguard, preferably fitted by a dentist.** While there is no proof that the use of a mouthguard decreases the risk for concussions, it may be useful in certain situations.
3. **Hydrate.** A hydrated player makes better decisions and can make better plays. A hydrated player may also have a decreased risk for head trauma.
4. **Think ahead.** Players should be aware of what is going on in the field or on the ice. A player should not put him- or herself in situations that may lead to a concussion.



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Wallet Card

Add important telephone numbers, then keep this in an easily accessible place for reference during games and practices.

When using the concussion evaluation card, please remember to tailor your questions to the age of your athletes.

Concussion Evaluation

The evaluation of an athlete with a suspected concussion should be prompt and thorough. Treatment is individualized according to the player's age, concussion history, symptoms, signs, and type of sport.

All concussed athletes should be cleared for return to play by a sports medicine professional.

Concussion in Sports Group (CUSG) Protocol

Acute response — when a player shows ANY symptoms or signs of a concussion:

- The player should not be allowed to return to play in the current game or practice.
- The player should not be left alone, and regular monitoring for deterioration is essential.
- The player should be medically evaluated after the injury.

- The player must follow a medically supervised stepwise process to return to play.
- The player should never return to play when still symptomatic.

WHEN IN DOUBT, SIT THEM OUT!

Player's Signs and Symptoms Seen by Coach

- Appears to be confused, dazed, or stunned
- Is confused about assignment
- Is not sure of game, score, or opponent
- Answers questions slowly
- Loses consciousness (even for a very short time)
- Forgets events prior to head trauma
- Shows unusual changes in behavior
- Moves clumsily
- Forgets plays

Based on the Consensus Statement of the Fifth International Conference on Concussion in Sport, Berlin, 2016 (www.bjsportmed.com).

The information contained in this brochure is intended to serve as a general resource and guide. It is not to be construed as medical advice or legal opinion. Trained medical personnel should be consulted for the application of any medical guidelines in specific situations. The ultimate judgment regarding any specific recommendation, procedure, or medical treatment must be made in light of the individual situation and present circumstances.



MASSACHUSETTS MEDICAL SOCIETY

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Also see:

- www.cdc.gov/headsup/highschoolsports/index.html
- www.cdc.gov/TraumaticBrainInjury/index.html
- www.mass.gov/eohhs/gov/departments/dph/programs/community-health/dvip/injury-prevention/sports-related-concussions-and-head-injuries.html
- www.miaa.net
- www.biama.org
- www.concussionfoundation.org

Signs and Symptoms Reported by Athlete

- Headache or "pressure" in head
- Throwing up or feeling the need to throw up
- Dizziness and loss of balance
- Blurred, fuzzy, or double vision
- Flashing lights
- Ringing in one or both ears
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Unable to sleep
- Unable to study
- Unable to concentrate

These signs and symptoms can worsen under exercise.

Return to Play Program

Return to play after a concussion follows a stepwise process. Proceed to the next level if free of symptoms at the current level. If any signs or symptoms occur, drop back to the previous level, and progress to next level again after 24 hours.

1. No activity, complete rest
2. Light aerobic activity, exercise such as walking or stationary cycling
3. Sports-specific training such as skating
4. Noncontact training drills
5. Full-contact training after clearance by a sports medicine professional
6. Return to competition

Emergency Numbers
