

ASAA Parent’s Guide to Concussions in Sports (Revised 04/14)

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. The injury occurs when the brain is violently rocked back and forth or twisted inside the skull as a result of a direct or indirect force. An athlete does not have to lose consciousness (“knocked-out”) to suffer a concussion. In fact only 3-10% of concussions do produce loss of consciousness.

Concussion Facts

- It is estimated that over 250,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System, 2010-2011). The CDC estimates 5.5 million sports concussions occur annually in the United States (CDC, 2011)
- Concussions occur most frequently in hockey and football, but girls’ soccer, boys’ soccer, and girls’ basketball follow closely behind. All athletes are at risk.
- A concussion is a traumatic injury to the brain.
- Concussion symptoms may last from a few days to many months.
- Concussions can cause symptoms which interfere with school, work, and social life.
- An athlete should not return to sports when still having symptoms from a concussion as they are at risk for prolonging symptoms and at risk for sustaining additional, more serious, brain injury.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to recognize.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES

Appears dazed or stunned
Is confused about what to do
Forgets plays
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness

SYMPTOMS REPORTED BY ATHLETE

Headache
Nausea
Balance problems or dizziness
Double or fuzzy vision
Sensitivity to light or noise
Feeling sluggish
Feeling foggy or groggy

Shows behavior or personality changes

Can't recall events prior to hit

Can't recall events after hit

Concentration or memory problems

Confusion

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

If an athlete is suspected of having a concussion, he or she must be immediately removed from play, be it a game or practice. Alaska Statute requires that (1) a student who is suspected of having sustained a concussion during a practice or game shall be immediately removed from the practice or game and (2) a student who has been removed from participation in a practice or game for a suspicion of a concussion may not return to participation in practice or game play until the student has been evaluated and cleared for participation in writing by an athletic trainer or other qualified person who has received training, as verified in writing or electronically by the qualified person, in the evaluation and management of concussions.

Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death. Parents, coaches, and officials are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, you must be aware of the signs and symptoms of a concussion. And, if you suspect a concussion, then your child must stop playing:

When in doubt, sit them out!

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

When can an athlete return to play following a concussion?

After it is determined that an athlete has suffered a concussion, the athlete may not return to play or participate until the athlete has completed the ASAA Return to Play Protocol. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity safely in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers, in Alaska and most other states, to pass laws stating **that no player shall return to play following a suspicion of concussion on that same day and the athlete**

must be cleared by an appropriate health care professional before they are allowed to return to play in practices or games. The laws also mandate that coaches receive education on recognizing the signs and symptoms of concussion.

Where an athlete is evaluated as having suffered a concussion, only when an athlete has been completely free of concussion symptoms for 24 hours, are they eligible to be cleared to begin the Return to Play Protocol. The athlete should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. There is a minimum of 24 hours between steps in the Protocol. Some athletes complete one step each day. An individual athlete may be guided through the Protocol more slowly if they are at risk for prolonged concussion or additional brain injury. If symptoms recur during exercise, then exercise is ended and begins the next day at the preceding day's level.

Concussion Return to Play Protocol (ASAA, 2/18/2012)

- **Symptomatic Stage:**
 - Physical and Cognitive Rest.
 - Then Incremental Cognitive Work, without Provoking Symptoms.
 - **If no symptoms, then:**
- **Day 1:**
 - Begin when symptom free for 24 hours.
 - 15 min **light aerobic** activity (walk, swim, stationary bike, no resistance training).
 - **If no symptoms, then:**
- **Day 2:**
 - 30 min **light-mod aerobic** activity (jog, more intense walk, swim, stationary bike, no resistance training).
 - **Start PE Class** at previous day's activity level.
 - As RTP Protocol activity level increases, PE activity level remains one day behind.
 - **If no symptoms, then:**
- **Day 3:**

- 30 min **mod-heavy aerobic** activity (run, swim, cycle, skate, Nordic ski, no resistance training).
- **If no symptoms, then:**
- **Day 4:**
 - 30 min **heavy aerobic** (hard run, swim, cycle, skate, Nordic ski).
 - 15 min **Resistance Training** (push-up, sit-up, weightlifting)
 - **If no symptoms, then:**
- **Day 5:**
 - **Return to Practice, Non-contact Limited Participation** (Routine sport-specific drills).
 - **If no symptoms, then:**
- **Day 6:**
 - **Return to Full-Contact Practice**
 - **If no symptoms, then:**
- **Day 7:**
 - **Medically Eligible for Competition when completes RTP Protocol and is cleared by Healthcare Professional**
 - **ASAA Eligibility Criteria** must be met before return to competition.

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

How can a concussion affect schoolwork?

Following a concussion, many athletes have difficulty with cognitive work: thinking, focusing attention, calculating, attending school, doing homework, taking tests. These problems may last from days to months and often involve difficulties with short and long-term memory, concentration, and organization.

Following concussion, athletes should begin with a period of rest, in which they avoid cognitive work. As concussion symptoms diminish and the athlete feels able, he/she can begin trials of cognitive work, e.g. reading, texting, computer, TV, videos, school. The introduction of cognitive work should be in short increments which increase progressively in length, so long as symptoms do not recur or worsen with the work. For example, start with 30 minutes of computer time, and, if symptoms do not worsen, try one hour later in the day. If several

hours of cognitive work are well tolerated at home, try attending a half day of school. When a full day of school is tolerated add homework.

Academic accommodations may be necessary for students attempting to attend school when they still have concussion symptoms. In many cases it is best to lessen the athlete's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or perhaps a longer period of time, if needed. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time. If cognitive work at any time provokes or exacerbates symptoms, then the work should be discontinued and there should be cognitive rest until the symptoms subside. The student can attempt to advance cognitive work again on the day following resolution of the increased symptoms.

What can I do?

- Learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Emphasize to administrators, coaches, and other parents your concerns and expectations about concussion and safe play.
- Teach your athlete to tell the coaching staff if the athlete suspects that they or a teammate has a concussion.
- Monitor sports equipment for safety, fit, and maintenance.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate concussion.
- Report concussions that occurred during the school year or over the summer to appropriate school staff. This will help in monitoring and protecting injured athletes as they move to the next season's sports.

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

Athletes who are not fully recovered from an initial concussion are significantly vulnerable for recurrent, cumulative, and even catastrophic consequences of a second concussive injury. The risk of such difficulties is diminished if the athlete is allowed time to recover from the concussion and return to play decisions are carefully made. No athlete should return-to-sport or other physical activity when symptoms of concussion are present.

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

Diagnostic imaging tests, which include CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening brain injuries (e.g. skull fracture, bleeding, swelling), the tests are typically normal, even in athletes who have sustained a severe concussion. A

concussion is diagnosed based upon the athlete's story of the injury and a physical examination.

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

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

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within two weeks of the initial injury. However, in some cases, symptoms may last for several weeks, or even months. Symptoms such as headache, memory problems, poor concentration, and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms and disability underscores the need for careful management of all concussions.

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

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances surrounding each individual injury, such as mechanism of injury and length of symptoms following the concussion, are very important and must be considered when assessing an athlete's risk for further and potentially more serious concussions. The decision to "retire" from sports can only be reached following a thorough review of the athlete's concussion history, coupled with a thorough and frank discussion between you, your doctor, and your child.

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

The issue of "chronic encephalopathy" in some former NFL and NHL players has received much media attention. Very little is known about what may be causing dramatic abnormalities in their brains. These players had long professional careers after playing in high school and college. In most cases, they played more than 20 years and suffered multiple concussions in addition to thousands of other blows to their heads. Alcohol, steroid, and other drug use may also have contributed to the brain changes. The average high school athlete does not

accumulate nearly the number of potentially injurious blows to the brain as a professional player. But we know that the teenage brain is much more vulnerable to injury and to more severe injury than the older brain. And the fact that we know very little about the long-term effects of concussions in young athletes is further reason to very carefully manage each and every concussion.

What will happen when my child completes the Return To Play Protocol?

When the Return to Play Protocol has been successfully completed, the athlete will be examined by the responsible healthcare provider. Additional tests may be appropriate. The provider will sign a medical clearance to resume competition. The Return To Play Protocol together with medical examination is the internationally recognized process by which concussed athletes are returned to athletic participation as safely as possible. Completing the Return to Play Protocol and medical examination does not mean that the brain has fully recovered from concussion or that there is not risk in returning to competition. But it is the safest way that physicians know at this time. Participation in athletics is accompanied by risk of injury, permanent disability, and death. Having recently sustained a concussion, an athlete is at increased risk for another head injury. Once the athlete is medically eligible to return to competition, the parent and athlete will be asked to sign consent, accepting the risk in returning to play.

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

If you have any further questions regarding the policies and procedures for managing concussions in Alaska student athletes or want to know how to find a concussion specialist in Alaska, please visit the Alaska School Activities Association website, asaa.org, and your school district website.