

National Federation of State
High School Associations



A Parent's Guide to Concussion in Sports

What is a concussion?

- A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull as a result of a blow to the head or body. An athlete does not have to lose consciousness ("knocked-out") to suffer a concussion.

Concussion Facts

- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but girl's lacrosse, girl's soccer, boy's lacrosse, wrestling and girl's basketball follow closely behind. All athletes are at risk.
- A concussion is a traumatic injury to the brain.
- Concussion symptoms may last from a few days to several months.
- Concussions can cause symptoms which interfere with school, work, and social life.
- An athlete should not return to sports while still having symptoms from a concussion as they are at risk for prolonging symptoms and further injury.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.

What are the signs and symptoms of a concussion?

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

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

If an athlete is suspected of having a concussion, he or she must be immediately removed from play, be it a game or practice. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death. Parents and coaches are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, you must be aware of the signs and symptoms of a concussion and if you are suspicious, then your child must stop playing:

When in doubt, sit them out!

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

When can an athlete return to play following a concussion?

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

Concerns over athletes returning to play too quickly have led state lawmakers in both Oregon and Washington to pass laws stating that **no player shall return to play following a concussion on that same day and the athlete must be cleared by an appropriate health-care professional before he or she are allowed to return to play in games or practices.** The laws also mandate that coaches receive education on recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared to return to play by health care professional knowledgeable in the care of sports concussions he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average the athlete will complete a new step each day. The return to play schedule should proceed as below following medical clearance:

Step 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.

Step 2: Running in the gym or on the field. No helmet or other equipment.

Step 3: Non-contact training drills in full equipment. Weight-training can begin.

Step 4: Full contact practice or training.

Step 5: Game play.

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

How can a concussion affect schoolwork?

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

In many cases it is best to lessen the athlete's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or perhaps a longer period of time, if needed. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

What can I do?

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

Other Frequently Asked Questions

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

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

Is a “CAT scan” or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT (“CAT”) and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening brain injuries (e.g. skull fracture, bleeding, swelling), they are not normally utilized, even by athletes who have sustained severe concussions. A concussion is diagnosed based upon the athlete’s story of the injury and the health care provider’s physical examination.

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

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

lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened if symptoms worsen.

How long do the symptoms of a concussion usually last?

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

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

There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances surrounding each individual injury, such as how the injury happened and length of symptoms following the concussion, are very important and must be considered when assessing an athlete's risk for further and potentially more serious concussions. The decision to "retire" from sports is a decision best reached following a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussion.

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

The issue of "chronic encephalopathy" in several former NFL players has received a great deal of media attention lately. Very little is known about what may be causing dramatic abnormalities in the brains of these unfortunate retired football players. At this time we have very little knowledge of the long-term effects of concussions which happen during high school athletics.

In the cases of the retired NFL players, it appears that most had long careers in the NFL after playing in high school and college. In most cases, they played football for over 20 years and suffered multiple concussions in addition to hundreds of other blows to their heads. Alcohol and steroid use may also be contributing factors in some cases. Obviously, the average high school athlete does not come close to suffering the total number or shear force of head trauma seen by professional football players. However, the fact that we know very little about the long-term effects of concussions in young athletes is further reason to very carefully manage each concussion.

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

If you have any further questions regarding concussions in high school athletes or want to know how to find a concussion specialist in your area please contact Michael C. Koester, MD, ATC and Chair of the NFHS Sports Medicine Advisory Committee at michael.koester@slocumcenter.com.

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ASAA Parent and Student Acknowledgement and Consent

The _____ School District requires that each athlete and each athlete's parent/guardian, receive a copy of its guide entitled "A Parents Guide to Concussion in Sports". This guide sets forth a description of the nature and risks of Concussion.

Parents and athletes should review the Guide, discuss it at home, and direct any questions to the coach, school nurse, or activities principal.

Parents and athletes need to annually acknowledge receipt of "A Parents Guide to Concussion in Sports", and understand its contents.

Student/Parent/Guardian Acknowledgement (required for all athletes)

I acknowledge that I have received a copy of "A Parents Guide to Concussion in Sports", and understand its contents.

Student Signature

Print Name

Date of Birth

Date

Parent/Guardian signature is required for all athletes under 18 years of age. If 18 or older, the athlete must sign below consent.

Parent/Guardian Signature

Print Name

Date

ASAA MEDICAL RELEASE FOR STUDENT ATHLETE WITH SUSPECTED OR ACTUAL CONCUSSION

(This form will be included in state tournament coaches' packets)

Student Name	School Name
<input type="text"/>	<input type="text"/>
Date of Birth	Date of Injury
<input type="text"/>	<input type="text"/>

Important Note to Healthcare Professional:

Per AS 14.30.142, as amended, a student who has been removed from participation in a practice or game for suspicion of concussion may not return to play until the student has been evaluated and cleared for participation by an athletic trainer or other qualified person who verifies that he or she is trained in the evaluation and management of concussions. "Qualified person" means either: 1) a health care provider licensed in Alaska, or exempt from licensure under Alaska law (AS 08.64.370(1), (2), or (4)), or 2) a person acting at the direction and under the supervision of a physician licensed in Alaska, or exempt from licensure.

ASAA's Sports Medicine Advisory Committee recommends that an athletic trainer be certified by the National Athletic Trainers Association, in addition to meeting the other requirements established by AS 14.30.142, before being permitted to clear students to return to athletic participation following removal for suspicion of concussion.

ASAA's Sports Medicine Advisory Committee recommends that any person who clears students to return to athletic participation following removal for suspicion of concussion have completed the online CDC Concussion Course for Clinicians (www.preventingconcussions.org) in the last two years, AND 2) have completed two hours of CME in Sports Concussion Management in the last two years, or b) have completed a one year Sports Medicine Fellowship, a Certificate of Added Qualifications in Sports Medicine, or a Residency in Neurology or Neurosurgery.

If an athlete is removed from participation in an activity because of a suspected concussion: but is found **not to have a concussion**, the athlete's return to play should be determined by the athlete's medical provider in accordance with the provider's assessment of the athlete's condition and readiness to participate;

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

ASAA MEDICAL RELEASE FOR STUDENT ATHLETE WITH SUSPECTED OR ACTUAL CONCUSSION

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

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

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).
- **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:**

ASAA MEDICAL RELEASE FOR STUDENT ATHLETE WITH SUSPECTED OR ACTUAL CONCUSSION

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 after completing RTP Protocol and is cleared by Healthcare Professional**
- **ASAA Eligibility Criteria** must be met before return to competition.

SECTION 1: THE CONCUSSED ATHLETE

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

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

___ **Student is entirely free of concussion symptoms and has completed the ASAA Return to Play Protocol or another appropriate return to play protocol lasting a minimum of six days. The athlete is medically eligible to return to competition.**

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

ASAA MEDICAL RELEASE FOR STUDENT ATHLETE WITH SUSPECTED OR ACTUAL CONCUSSION

SECTION 2: THE NON-CONCUSSED ATHLETE

___ Student has NOT sustained a concussion. The diagnosis which explains his/her symptoms is: _____.

___ Student is cleared to return to full sports participation.

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

SECTION 3: HEALTHCARE PROFESSIONAL ATTESTATION

By signing this form, I attest that I am a Qualified person authorized under AS 14.30.142 to clear student athletes for athletic participation following concussions.

Healthcare Professional Signature

Healthcare Professional Printed Name

Alaska License Number

Date

____/____/____

SECTION 4: ATHLETE AND PARENT CONSENT

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

Student Athlete Signature

Parent Signature

Date

____/____/____

Student Athlete's Printed Name

Parent's Printed Name

ALASKA SCHOOL ACTIVITIES ASSOCIATION, INC.

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ASAA School/Medical Concussion Care Plan

Patient Name:	_____
DOB:	_____ Age: _____
Date:	_____ ID/MR# _____
Date of Injury:	_____

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

Rest is the key. You should not participate in any high risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms below. It is important to limit activities that require a lot of thinking or concentration (homework, job-related activities), as this can also make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

Today the following symptoms are present (circle or check). _____ No reported symptoms				
Physical	Thinking	Emotional	Sleep	
Headaches	Feeling mentally foggy	Irritability	Drowsiness	
Nausea	Problems concentrating	Sadness	Sleeping more than usual	
Fatigue	Problems remembering	Feeling more emotional	Sleeping less than usual	
Visual problems	Feeling more slowed down	Nervousness	Trouble falling asleep	
Balance Problems				

RED FLAGS: Call your doctor or go to your emergency department if you suddenly experience any of the following			
Headaches that worsen	Look very drowsy, can't be awakened	Can't recognize people or places	Unusual behavior change
Seizures	Repeated vomiting	Increasing confusion	Increasing irritability
Neck pain	Slurred speech	Weakness or numbness in arms or legs	Loss of consciousness

ASAA School/Medical Concussion Care Plan Continued

RETURNING TO DAILY ACTIVITIES

1. Get lots of rest. Be sure to get enough sleep at night- no late nights. Keep the same bedtime weekdays and weekends.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse. • Physical activity includes PE, sports practices, weight-training, running, exercising, heavy lifting, etc. • Thinking and concentration activities (e.g., homework, classwork load, job-related activity).
4. Drink lots of fluids and eat carbohydrates or protein to main appropriate blood sugar levels.
5. As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again to increase your activities gradually.
6. During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery.

RETURNING TO SPORTS

1. **You should NEVER return to play if you still have ANY symptoms** - (Be sure that you do not have any symptoms at rest and while doing any physical activity and/or activities that require a lot of thinking or concentration.)
2. Be sure that the PE teacher, coach, and/or athletic trainer are aware of your injury and symptoms.
3. It is normal to feel frustrated, sad and even angry because you cannot return to sports right away. With any injury, a full recovery will reduce the chances of getting hurt again. It is better to miss one or two games than the whole season.

The following are recommended at the present time:

- Do not return to PE class at this time
- Return to PE class
- Do not return to sports practices/games at this time
- Gradual return to sports practices under the supervision of an appropriate health care provider (e.g., athletic trainer, coach, or physical education teacher).
 - Return to play should occur in gradual steps beginning with aerobic exercise only to increase your heart rate (e.g., stationary cycle); moving to increasing your heart rate with movement (e.g., running); then adding controlled contact if appropriate; and finally return to sports competition.
 - Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. Move to the next level of activity only if you do not experience any symptoms at the each level. If your symptoms return, let your health care provider know, return to the first level, and restart the program gradually.

ASAA School/Medical Concussion Care Plan Continued

GRADUAL RETURN TO PLAY PLAN

Day 0 - 24 hours without concussion symptoms during physical and cognitive rest.

- **If no return of symptoms, then:**

Day 1 - 15 Minutes of Light Aerobic Activity (Walk, Exercise Bike, Etc).

- Trial half day school. No homework. No tests.

- **If no return of symptoms, then:**

Day 2 - 30 Minutes of Light to Moderate Aerobic Activity.

- Trial full day school. No homework. No tests.

- **If no return of symptoms, then:**

Day 3 - 30 Minutes of Moderate to Heavy Aerobic Activity

- Full day school. Regular homework assignments. No testing.

- **If no return of symptoms, then:**

Day 4 - 30 Minutes of Heavy Aerobic Activity and 15 Minutes of Resistance Exercise (Push-ups, Sit-ups, Weight Lifting).

- Full day school. Regular homework. Regular testing.

- **If no return of symptoms, then:**

Day 5 - Return to Practice for **NON CONTACT Limited Participation.**

- **If no return of symptoms, then:**

Day 6 - Return to Full Practice WITH CONTACT.

- **If no return of symptoms, then:**

Day 7 - Return to Competition

This referral plan is based on today's evaluation:

___ Return to this office. Date/Time _____

___ Refer to: Neurosurgery ___ Neurology ___ Sports Medicine ___ Psychiatrist ___ Other _____

___ Refer for neuropsychological testing

___ Other _____

ASAA School/Medical Concussion Care Plan completed by:

Signature _____ Print Name _____ Date _____

KETCHIKAN GATEWAY BOROUGH SCHOOL DISTRICT
Added: 8/8/2012