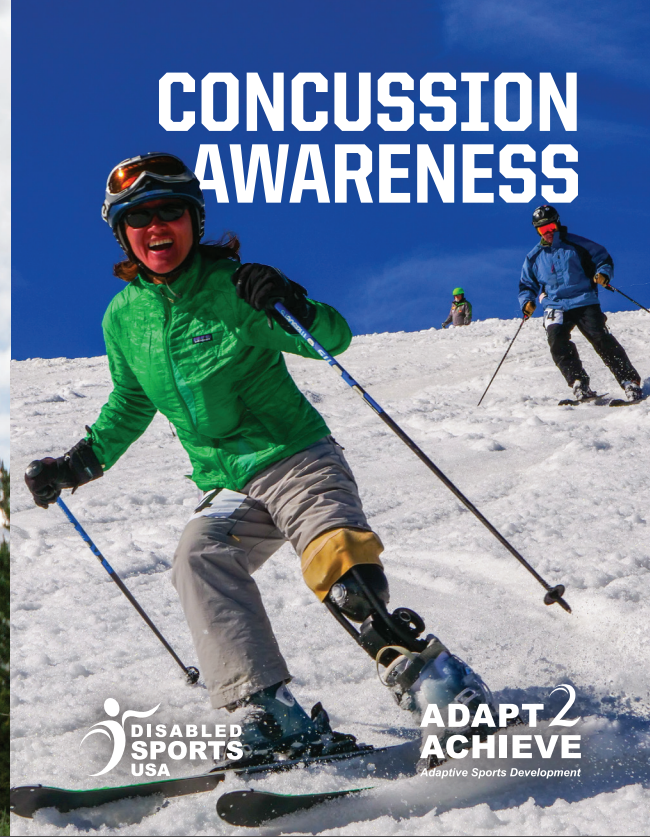


WHAT IS A CONCUSSION?

A concussion is a type of traumatic brain injury ranging from mild to severe that can disrupt the way the brain normally works. Even a mild concussion should be taken seriously, as all concussions are brain injuries, and a concussion may result in complications including permanent brain damage or death if not recognized and managed properly.



SIGNS & SYMPTOMS OF A CONCUSSION

Remember that not all concussions will present in the same way, so be ready to recognize and respond to a suspected concussion by knowing the signs and symptoms. A participant may not exhibit all or many of the signs and symptoms. Only one may be experienced and they still can have a concussion. Do not provide any medications (Tylenol, Advil, etc.) unless recommended by a healthcare professional.

SIGNS OBSERVED BY THE INSTRUCTOR

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events prior to, or after the hit, bump, or fall
- Shows behavior or personality changes
- Forgets schedule or previous instructions

SYMPTOMS REPORTED BY STUDENT

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling slowed down
- Feeling sluggish, hazy, foggy, or groggy

Physical:

- Headache or "pressure" in the head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Doesn't 'feel right'

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Sleep:

- Drowsy
- Sleeps less/more than usual
- Has trouble falling asleep

Only ask about sleep symptoms if the injury occurred on a prior day

DANGER SIGNS

Call 911 immediately if any of the following symptoms are observed.

- Seizures
- Repeated vomiting
- Loss of consciousness (even briefly)
- Breathing difficulties
- Decreasing levels of consciousness
- Inability to respond to questions about name, date, location, etc.
- Pupils unequal
- Slurred speech
- Unsteady on feet
- Headache that worsens
- Any other immediate cause for concern

PREVENTION

While there is no concussion-proof policy or procedure, following these steps can help to prevent serious injuries, including skull fractures.

- Wear a helmet that meets standards set by the National Operating Committee on Standards for Athletic Equipment.
 - For a helmet to be effective it must be well maintained, age appropriate, worn consistently and correctly and appropriately certified for use.
 - Many sports have specific helmet recommendations. Review the recommendation of the sport's governing body or visit the CDC website for sport-specific helmet fitting recommendations.
- Ensure all sports equipment is properly maintained and fitted to the student.
- Ensure all students meet the minimum safety requirements for the sport, are following proper technique, and using appropriate body control.
- Properly store helmets in a temperature-controlled environment, as extreme heat or cold could affect the integrity of the helmet.
- Replace helmets on a regular schedule based on the manufacturer's guidelines, or when visibly damaged.

PROPER HELMET FITTING

For a helmet to be effective, it must fit properly. To ensure proper fitting, follow these steps.

1. **Measure** – Take a soft measuring tape and wrap it around the head, about 1 inch above the eyebrow. The measurement should match the helmet size (i.e. if the tape reads 56 cm, the student will wear a 56 cm helmet).
2. **Try it On** – The helmet should feel snug all the way around the head, without being too tight so the student feels pressure spots. If excess space occurs between the helmet and the head, it is likely too large.
3. **Shake Test** – With the helmet on, have the student shake their head around. If the helmet moves on its own, it is too big. When moving the helmet to the left, right, up and down, the skin on the head should move with the helmet without the helmet shifting on its own.
4. **Adjust the Straps** – The Y of the side straps should meet just below the ear, and the chin strap should be snug against the chin so that opening the mouth very wide pulls the helmet down a little.

Adaptive Considerations

Non-Standard Sizing – Some students cannot wear typical helmets for various reasons including but not limited to surgically implanted shunts, hearing aids, skull deformities, and large or small head size. While minimal padding can be added to the helmet to help with non-standard fit, note that any modifications to the helmet may affect the integrity and effectiveness of the helmet as well as the manufacturer's warranty. Instead, consider purchasing a helmet directly from a manufacturer that is intended for a non-standard size. Students may also consult with their physician or therapist for personalized advice on helmet fit.

Cochlear Implants – It is recommended that students not use their cochlear implant during sports activities requiring helmets due to increased risks of damage to the head or the implant should an impact occur. Instead, work through a communication plan prior to participation, such as guiding by sight, that makes sense for the student and sport activity.

SAMPLE CONCUSSION PROTOCOL & RETURN TO PLAY PROCEDURE

Pre-Sport Activity

1. Prior to participation in sports activity, it is a good idea to get to know your student and recognize the characteristics of their disability, especially if characteristics of their disability could be mistaken for concussion symptoms and complicate assessment after an injury.
 - a. This could include recognizing speech deficits, memory difficulties, balance issues, etc.

During Sport Activity

1. If you suspect a concussion, or the student shows any concussion-like symptoms remove them from activity immediately.
2. Ensure student is evaluated by an appropriate healthcare professional.
 - a. Do not try to judge the severity of the injury yourself, instead leave this to a healthcare professional.
 - b. Use tools, such as your pre-sport observations, the Center for Disease Control's (CDC) Heads Up App, Concussion Recognition and Response App etc. to note any potential signs and symptoms. The following will help the healthcare professional's assessment:
 - i. Cause of injury
 - ii. Any loss of consciousness and for how long
 - iii. Any memory loss
 - iv. Any seizures
 - v. Number of previous concussions
 - vi. Characteristics of their disability that could be confused for concussion-related symptoms (i.e. slurred speech, blurry vision, memory difficulties)
3. Inform the student's emergency contact.
 - a. Oral and written instructions for home care should be provided by the healthcare professional to both the student and caregiver.
4. Monitor the student and keep them from activity for the duration of the lesson/camp.
 - a. Throughout this process the student should be monitored. Do not leave a student alone that you suspect has a concussion.
 - b. No student may return to activity after a suspected concussion, regardless of how 'mild' it may seem or how quickly the symptoms begin to clear without medical evaluation and clearance.

During this time, student may need to avoid activities that require heavy concentration or high activity level that could increase symptoms.

Post Activity/Return To Play Procedure

1. After the student has seen professional treatment for their concussion, a gradual return to play procedure can begin once deemed appropriate by a healthcare professional. The CDC recommends a medically guided five step process, starting with light aerobic exercise and gradually working up to full contact and competition. Work with the student and a healthcare professional to determine when it is appropriate to move forward with more strenuous activity. Should concussion symptoms return, the student should discontinue the activity and be reevaluated by a physician immediately.
 - a. Remember that recovery time varies for each person and injury. There is no standard timetable, and the recovery process should not be rushed. Don't let a student convince you that he or she is 'just fine' and discourage others from pressuring those injured to continue participating.
 - b. Students with a history of concussion, traumatic brain injury, migraines, learning disabilities and psychiatric conditions are at an increased risk for slowed recovery and subsequent injury if returning to sports activity too quickly.



WHEN DO CONCUSSIONS OCCUR?

Concussions are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body where force is transmitted to the head, causing the brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, potentially stretching and damaging brain cells.

You can't see a concussion and an estimated 80%-90% of concussions occur without loss of consciousness. Signs and symptoms of concussion are different for each person and may show up immediately or may take hours or days to fully appear. If your student reports any symptoms of concussion, or if you notice signs of concussion yourself as described below, remove the student from the activity and seek immediate medical attention.



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