HEADS UP

CONCUSSION IN HIGH SCHOOL SPORTS

GUIDE FOR COACHES

U.S. Department of Health and Human Services
centers for disease control and prevention

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The Facts

- A concussion is a brain injury.
- All concussions are serious.
- Most concussions occur without loss of consciousness.
- Concussions can occur in any sport or recreation activity.
- Recognition and proper response to concussions when they first occur can help prevent further injury or even death.

A bump, blow, or jolt to the head can cause a concussion, a type of traumatic brain injury (TBI). Concussions can also occur from a blow to the body that causes the head and brain to move rapidly back and forth. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

During sports and recreation activities, concussions may result from a fall or from players colliding with each other, the ground, or with obstacles, such as a goalpost. The potential for concussions is greatest in athletic environments where collisions are common.[1] Concussions can occur, however, in any organized or unorganized sport or recreational activity, as well as outside of sports from events such as a motor vehicle crash.

Sometimes people do not recognize that a bump, blow, or jolt to the head or body can cause a concussion. As a result, athletes may not receive medical attention at the time of the injury, but they may later report symptoms such as a headache, dizziness, or difficulty remembering or concentrating. These symptoms can be a sign of a concussion.[2]

* **For a full list of concussion symptoms, see page 5.**

DID YOU KNOW?

* Athletes who have ever had a concussion are at increased risk for another concussion.

* Young children and teens are more likely to get a concussion and take longer to recover than adults.[3-6]

* A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems.[7,8]

Recognizing a Possible Concussion

To help recognize a concussion, you should watch for and ask others to report the following two things among your athletes:

1. A forceful bump, blow, or jolt to the head or body that results in rapid movement of the head.

--and--

2. Any concussion symptoms or change in the athlete's behavior, thinking, or physical functioning.

Athletes who experience ***one or more*** of the signs and symptoms listed on page 5 after a bump, blow, or jolt to the head or body should be kept out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says they are symptom-free and it's OK to return to play.[9,10]

SIGNS OBSERVED BY COACHING STAFF	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache or "pressure" in head
Is confused about assignment or position	Nausea or vomiting
Forgets an instruction	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness *(even briefly)*	Feeling sluggish, hazy, foggy, or groggy
Shows mood, behavior, or personality changes	Concentration or memory problems
Can't recall events *prior* to hit or fall	Confusion
Can't recall events *after* hit or fall	Just not "feeling right" or is "feeling down"

When a Concussion is Suspected

If you suspect that an athlete has a concussion, implement your four-step "Heads Up" action plan:

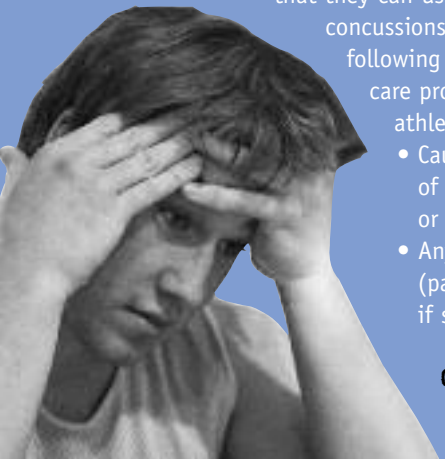
1. Remove the athlete from play. Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. *When in doubt, sit them out.*

2. Ensure that the athlete is evaluated by a health care professional experienced in evaluating for concussion. Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods that they can use to assess the severity of concussions. As a coach, recording the following information can help health care professionals in assessing the athlete after the injury:

- Cause of the injury and force of the hit or blow to the head or body
- Any loss of consciousness (passed out/knocked out) and if so, for how long
- Any memory loss immediately following the injury
- Any seizures immediately following the injury
- Number of previous concussions (*if any*)

3. Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussion. Make sure they know that the athlete should be seen by a health care professional experienced in evaluating for concussion.

4. Keep the athlete out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage, and even death.



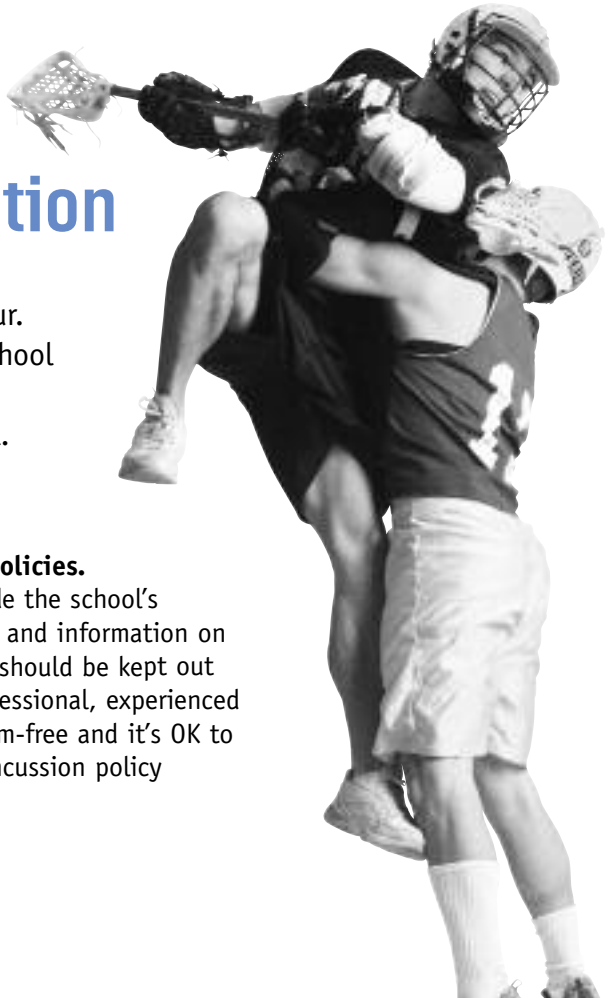
Remember, you can't see a concussion and some athletes may not experience and/or report symptoms until hours or days after the injury. Most people with a concussion will recover quickly and fully. But for some people, signs and symptoms of concussion can last for days, weeks, or longer. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. After a concussion, physical ***and*** cognitive activities—such as concentrating and learning—should be carefully managed and monitored by a health care professional.

It is normal for athletes to feel frustrated, sad, and even angry because they cannot return to sports right away or cannot keep up with their school work. Talk with athletes about these issues and offer support and encouragement.

Danger Signs

In rare cases, a dangerous blood clot may form on the brain in a person with a concussion and crowd the brain against the skull. An athlete should receive immediate medical attention if after a bump, blow, or jolt to the head or body s/he exhibits any of the following danger signs:

One pupil larger than the other
Is drowsy or cannot be awakened
A headache that not only does not diminish, but gets worse
Weakness, numbness, or decreased coordination
Repeated vomiting or nausea
Slurred speech
Convulsions or seizures
Cannot recognize people or places
Becomes increasingly confused, restless, or agitated
Has unusual behavior
Loses consciousness (a brief loss of consciousness should be taken seriously).



Prevention and Preparation

As a coach, you can play a key role in preventing concussions and responding properly when they occur. Here are some steps you can take throughout the school year to help prevent concussion and ensure the best outcome for your athletes, the team, and the school.

Preseason

Check with your school or district about concussion policies. Concussion policy statements can be developed to include the school's commitment to safety, a brief description of concussion, and information on when athletes can safely return to play (i.e., an athlete should be kept out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says the student is symptom-free and it's OK to return to play). Parents and athletes should sign the concussion policy statement at the beginning of each sports season.

Involve and get support from other school officials—such as principals, certified athletic trainers, other coaches, school nurses, and parent-teacher associations—to help ensure that school rules and concussion policies are in place before the first practice.

Create a concussion action plan. To ensure that concussions are identified early and managed correctly, have an action plan in place before the season starts. You can use the four-step "Heads Up" action plan included on page 6. This plan can be included in your school or district's concussion policy. To start:

- Identify a health care professional to respond to injuries during practice or competition.
- Fill out the "Heads Up" pocket card or clipboard sticker and keep it with you so that information about signs, symptoms, and emergency contacts is readily available.
- Be sure that other appropriate athletic and school staff and health care professionals know about the plan and have been trained to use it.

Learn about concussion. Take the free online training course available at **www.cdc.gov/Concussion**. Review the signs and symptoms of concussion and keep the four-step action plan with you at games and practices.

Educate athletes, parents, and other coaches about concussion. Before the first practice, talk to athletes, parents, and other coaches and school officials about the dangers of concussion and potential long-term consequences of concussion. Explain your concerns about

concussion and your expectations of safe play. Show the videos, available online at: **www.cdc.gov/Concussion/Resources.html**, and pass out the concussion fact sheets for athletes and for parents at the beginning of the season and again if a concussion occurs. Remind athletes to tell the coaching staff right away if they suspect that they have a concussion or that a teammate has a concussion.

Monitor the health of your athletes. Make sure to ask if an athlete has ever had a concussion and insist that your athletes be medically evaluated and in good condition to participate. Some schools conduct preseason baseline testing (also known as neurocognitive tests) to assess brain function—learning and memory skills, ability to pay attention or concentrate, and how quickly someone can think and solve problems.

These tests can be used again during the season if an athlete has a concussion to help identify the effects of the injury. Prior to the first practice, determine whether your school would consider conducting baseline testing.

During the Season: Practices and Games

Insist that safety comes first. Teach athletes safe playing techniques and encourage them to follow the rules of play. Encourage athletes to practice good sportsmanship at all times and make sure they wear the right protective equipment for their activity (such as helmets, padding, shin guards, and eye and mouth guards). Protective equipment should fit properly, be well maintained, and be worn consistently and correctly.

Prevent long-term problems. If one of your athletes has a concussion, her/his brain needs time to heal. Don't let the student return to play the day of the injury and until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems.

Teach your athletes it's not smart to play with a concussion. Rest is key after a concussion. Sometimes athletes, parents, and other school officials wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Some athletes may also try to hide their symptoms. Don't let your athlete convince you that s/he is "just fine" or that s/he can "tough it out."

Emphasize to athletes and parents that playing with a concussion is dangerous.

Work closely with other school officials. Be sure that appropriate staff are available for injury assessment and referrals for further medical care. Enlist school nurses and teachers to monitor any changes in the athlete's behavior or school work that could indicate that the student has a concussion. Ask them to report concussions that occurred during the school year. This will help in monitoring injured athletes who participate in multiple sports throughout the school year.

Postseason

Keep track of concussion. Work with school nurses and other school staff to review injuries that occurred during the season. Discuss with other staff any needs for better concussion prevention or response preparations.

Review your concussion policy and action plan. Discuss any need for improvements in your concussion policy or action plan with appropriate health care professionals and school staff.

Communicating Effectively about Concussions

It's important to raise awareness about concussion throughout the school community and to educate athletes, parents, and others about how to prevent, recognize, and respond to concussions. Enlist the help of other school staff, including school nurses, and pass out the "Heads Up" fact sheets, shows the videos, and/or make presentations to each group.

Talking to Athletes

Pass out the "Heads Up" fact sheet for athletes and show the videos on concussion found online at: **www.cdc.gov/Concussion/Resources**. Emphasize that you take the issue seriously and that you expect them to do so as well. Devote a regular team meeting to this topic and invite the school nurse or other health care professional to speak to your team. Here are some things you can discuss with your athletes:

- "Every bump, blow, or jolt to the head or body can potentially cause a concussion."
- "Playing injured does not show courage or strength. Do not play through symptoms of concussion. You can increase your chances of having a repeat concussion and more serious long-term problems."
- "Tell coaching staff right away if you receive a bump, blow, or jolt to the head or body and have signs and symptoms of concussion or just don't 'feel right.'"
- "Signs and symptoms of concussion can appear right away or may not be noticed for days or weeks after the injury. Tell your coach if you think you have a concussion or if you think a teammate has one."

- "You can get a concussion even if you are not 'knocked out.'"
- "Concussions can happen during drills, practices, and games. Injuries that happen during practice should be taken just as seriously as those that happen during competition."
- "Tell your coach if you have *ever* had a concussion."
- "If you think you have a concussion, don't hide it, report it. Take time to recover. It's better to miss one game than the whole season."

Talking with Parents

Send a copy of the concussion policy and action plan to each athlete's family during the preseason, along with the "Heads Up" fact sheet for parents. Parents should sign the concussion policy statement at the beginning of each sports season and be informed that if an athlete has a concussion s/he will be kept out of play until a health care professional, experienced in evaluating for concussion, says the student is symptom-free and it's OK to return to play. Here are some things you can discuss with your athletes' parents:

- "Your teen's safety is our first priority. Every concussion should be taken seriously."
- "Let your teen know that it's not smart to play injured. Don't let your teen convince you that s/he is 'just fine.'"

- "We know you care about your teen's health. That is why it is so important that you talk with her/him about the potential dangers of concussion and to how to prevent it."
- "Learn about and watch for any signs and symptoms of concussion if your teen has a bump, blow, or jolt to the head or body. Signs and symptoms can appear right away or may not be noticed for days after the injury."
- "Help look for signs of concussion. Carry the list of symptoms and the action plan with you to practices and games."
- "Alert your teen's coach to any known or suspected concussion. To help prevent the possibility of long-term problems, don't let your teen return to play until a health care professional, experienced in evaluating for concussion, says s/he is symptom-free and it's OK to return to play."

Talking with School Staff

Enlist support from and look for opportunities to meet with your school nurse, principal, athletic director, or other school staff. Explain your concerns, the seriousness of the issue, and the impact that concussions in high school sports can have on an athlete, the team, and the school. Discuss the school or district's concussion policy and action plan and ask for support to implement them. Here are some things you can discuss with school staff:

- "A concussion can happen in any sport or recreational activity. All concussions are serious."
- "School staff, working as a team with health care professionals and parents, are key to preventing, recognizing, and correctly responding to concussions."
- "Keeping students safe and healthy helps enhance the reputation of the school and provides a positive and supportive environment for learning."
- "A monitoring and communication plan should be established among coaches of different sports, so that an athlete does not go from one sport to another with a concussion."
- "It's ideal to have a health care professional available during athletic activities—both practices and competitions."
- "Coaches of all sports should be encouraged to distribute educational materials about concussion to athletes and parents."

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Additional Resources

"Heads Up: Concussion in High School Sports" initiative
Resources for high school coaches, administrators, parents, and athletes
Along with this Guide, additional concussion resources for high school coaches, administrators, parents, and athletes, in English and Spanish, including videos, fact sheets, and Podcasts, are available at: **www.cdc.gov/Concussion**.

"Heads Up: Concussion in Youth Sports" initiative
Resources for youth sports coaches, administrators, parents, and athletes
Concussion resources for youth sports coaches, administrators, parents, and athletes, in English and Spanish, including fact sheets, videos, e-cards, a clipboard, magnet, poster, and quiz, are available at: **www.cdc.gov/Concussion**.

"Heads Up to Schools: Know Your Concussion ABCs" initiative
Resources for school nurses, administrators, counselors, teachers, parents, and students
Concussion resources for school professionals, parents, and students, in English and Spanish, including a concussion symptom checklist, fact sheets, a magnet, and poster, are available at: **www.cdc.gov/Concussion**.

How Can I Order a Large Number of CDC's Concussion Resources?

To order bulk quantities of CDC's concussion resources ***free-of-charge*** and/or to learn how you can get involved to help keep kids and teens safe from concussion, visit **www.cdc.gov/Concussion** or contact CDC by email (**CDC-INFO@cdc.gov**) or toll-free at **1-800-CDC-INFO** (1-800-232-4636).

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National Association for Sport and Physical Education
National Athletic Trainers Association
National Federation of State High School Associations
National Football League
National Safety Council
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"Helping all people live to their full potential"

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