



### WHAT IS A CONCUSSION?

A concussion is an injury that changes how the cells in the brain normally work. A concussion is caused by a blow to the head or body that causes the brain to move rapidly inside the skull. Even a “ding,” “getting your bell rung,” or what seems to be a mild bump or blow to the head can be serious. Concussions can also result from a fall or from players colliding with each other or with obstacles, such as a goalpost.

The potential for concussions is greatest in athletic environments where collisions are common.<sup>1</sup> Concussions can occur, however, in any organized or unorganized sport or recreational activity. As many as 3.8 million sports and recreation related concussions occur in the United States each year.<sup>2</sup>

### RECOGNIZING A POSSIBLE CONCUSSION?

To help recognize a concussion, you should watch for the following two things among your athletes:

- 1 A forceful blow to the head or body that results in rapid movement of the head.
- 2 Any change in the athlete’s behavior, thinking, or physical functioning. (See the signs and symptoms of concussion listed on the next page.)

## FACTS

**A concussion is a brain injury.**

**All concussions are serious.**

**Concussions can occur without loss of consciousness.**

**Recognition and proper management of concussions when they first occur can help prevent further injury or even death.**

**IT'S BETTER TO MISS  
ONE GAME THAN THE  
WHOLE SEASON**



# SIGNS AND SYMPTOMS

Athletes who experience any of these signs or symptoms after a bump or blow to the head should be kept from play until given permission to return to play by a health care professional with experience in evaluating for concussion. Signs and symptoms of concussion can last from several minutes to days, weeks, months, or even longer in some cases.

### SIGNS OBSERVED BY COACHING STAFF

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets sports plays
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

### SYMPTOMS REPORTED BY ATHLETE

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Does not "feel right"

Remember, you can't see a concussion and some athletes may not experience and/or report symptoms until hours or days after the injury. If you have any suspicion that your athlete has a concussion, you should keep the athlete out of the game or practice.



### PREVENTION AND PREPARATION

**As a coach, you can play a key role in preventing concussions and responding to them properly when they occur. Here are some steps you can take to ensure the best outcome for your athletes and the team:**

**Educate athletes and parents about concussion.** Talk with athletes and their parents about the dangers and potential long-term consequences of concussion. For more information on long-term effects of concussion, view the following online video clip: [http://www.cdc.gov/ncipc/tbi/Coaches\\_Tool\\_Kit.htm#Video](http://www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm#Video).

Explain your concerns about concussion and your expectations of safe play to athletes, parents, and assistant coaches. Pass out the concussion fact sheets for athletes and for parents at the beginning of the season and again if a concussion occurs.

#### **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.
- Review the athlete fact sheet with your team to help them recognize the signs and symptoms of a concussion.

Check with your youth sports league or administrator about concussion policies. Concussion policy statements can be developed to include the league's commitment to safety, a brief description of concussion, and information on when athletes can safely return to play following a concussion (i.e., an athlete with known or suspected concussion should be kept from play until evaluated and given permission to return by a health care professional). Parents and athletes should sign the concussion policy statement at the beginning of the sports season.

**Teach athletes and parents that it's not smart to play with a concussion.** Sometimes players and parents wrongly believe that it shows strength and courage to play injured. Discourage others from pressuring injured athletes to play. Don't let athletes persuade you that they're "just fine" after they have sustained any bump or blow to the head. Ask if players have ever had a concussion

**Prevent long-term problems.** 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 brain swelling, permanent brain damage, and even death. This more serious condition is called second impact syndrome.<sup>4,5</sup> Keep athletes with known or suspected concussion from play until they have been evaluated and given permission to return to play by a health care professional with experience in evaluating for concussion. Remind your athletes: "It's better to miss one game than the whole season."



# ACTION PLAN

## WHAT SHOULD A COACH DO WHEN A CONCUSSION IS SUSPECTED

- 1 Remove the athlete from play.**

Look for the signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head. Athletes who experience signs or symptoms of concussion should not be allowed to return to play. When in doubt, keep the athlete out of play.
- 2 Ensure that the athlete is evaluated right away by an appropriate health care professional with experience in evaluating concussions.**

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
  - 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.**

Do not return the athlete to play or practice until a health care professional, experienced in evaluating/managing concussion, has cleared them to do so in writing. A repeat concussion that occurs before the brain recovers from the first may slow recovery or increase the likelihood of having long-term problems. Prevent common long-term problems and the rare second impact syndrome by delaying the athlete's return to the activity until the player receives appropriate medical evaluation and approval for return to play.

## REFERENCES

1. Powell JW. Cerebral concussion: causes, effects, and risks in sports. *Journal of Athletic Training*2001; 36(3):307-311.
2. Langlois JA, Rutland-Brown W, Wald M. The epidemiology and impact of traumatic brain injury: a brief overview. *Journal of Head Trauma Rehabilitation*2006; 21(5):375-378.
3. Lovell MR, Collins MW, Iverson GL, Johnston KM, Bradley JP. Grade 1 or "ding" concussions in high school athletes. *The American Journal of Sports Medicine*2004; 32(1):47-54.
4. Institute of Medicine (US). Is soccer bad for children's heads? Summary of the IOM Workshop on Neuropsychological Consequences of Head Impact in Youth Soccer. Washington (DC): National Academy Press; 2002.
5. Centers for Disease Control and Prevention (CDC). Sports-related recurrent brain injuries-United States. *Morbidity and Mortality Weekly Report* 1997; 46(10):224-227.

Available at:  
[www.cdc.gov/mmwr/preview/mmwrhtml/00046702.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00046702.htm).

***If you think your athlete has sustained a concussion, take him/her out of play and seek the advice of a health care professional experienced in evaluating for concussion.***