# Youth Sports and Concussion Risk

Athletes sometimes joke about "getting your bell rung" or feeling a "stinger" after taking a hit to the head during sports. However, adolescent concussions are common and can have serious consequences.

## WHAT IS A CONCUSSION?

A concussion is a type of brain injury. The brain is made of soft tissue and is surrounded by a cushion of spinal fluid. The skull surrounds the brain and protects it. A person can injure their brain by getting hit on the head, or even the body, resulting in the brain moving around in the skull. This can lead to bruising of the brain, damage to blood vessels, and injury to nerves. People can get a concussion from a fall, a car crash, or a sports injury.

## CONCUSSIONS AND SPORTS

One of the most common ways children and adolescents get concussions is through sports injuries. A recent review estimated that up to 3.8 million recreation- and sports-related concussions occur each year in the United States. The sport with the highest risk of concussion in high school is football. In girls' sports, the rate of concussion is highest in soccer and basketball. Girls have a higher rate of concussion than boys when they are in similar sports. Young athletes' brains are still developing, thus they may be at higher risk for the effects of a concussion. The way in which the injury happens may be very important in predicting how serious the injury will be. This was described in a study in this month's *Archives*.

## SIGNS AND SYMPTOMS

The signs and symptoms of concussion fall into 4 categories:

- Physical: Headache is the most frequently reported symptom of a concussion. Nausea and vomiting can also occur. Problems with balance, vision, and fatigue are also common.
- Cognitive: A feeling of mental "fogginess" or feeling "slowed down" are also common. Loss of memory is a symptom that suggests a more serious injury.
- Emotional: Symptoms may include irritability, sadness, or nervousness.
- Sleep: Symptoms may include feeling drowsy and sleeping more than usual. However, some patients sleep less than usual and have difficulty falling asleep.

## CONCUSSION: TRUE OR FALSE

- If my child is in a soccer game and hits his head, the concussion should be "toughed out" until the end of the game.
  - False. Children or adolescents who have a concussion, or parents or coaches suspect they have one, should always be evaluated by a qualified health care provider before returning to play.
- You do not have a concussion if you did not lose consciousness.
  - False. A concussion often does not result in loss of consciousness; brain injury occurs even without this.
- My child had a concussion and her pediatrician said she should take a break from playing basketball and from playing video games.
  - True. After a concussion, all athletes should be restricted from physical activity until they have no symptoms both with rest and with exercise. Physical and cognitive exertion should be avoided. Activities such as doing homework, playing video games, using a computer, or watching television may worsen symptoms. A return to full activities should only occur under the guidance of a qualified health care provider and should stop if symptoms return with activities.
- A concussion can take weeks or even months to fully recover from.
  - True. Symptoms of a concussion usually resolve in 7 to 10 days, but some athletes may take weeks or months to fully recover.

## FOR MORE INFORMATION

American Academy of Pediatricians
http://aappolicy.aappublications.org/cgi/content/full/pediatrics;126/3/597

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