

CONCUSSIONS: A Crash Course



By Mike Haskew

It's likely that someone you know has had or will have a concussion. According to the Centers for Disease Control and Prevention, an estimated 1.7 million people have some type of traumatic brain injury (TBI) in a given year, and around 75 percent of these injuries are concussions.

Concussions must be taken seriously—a TBI is always dangerous, and close monitoring of the condition is absolutely necessary. Read the following to educate yourself and prevent someone you know from suffering as a result of it.

What Exactly is a Concussion?

According to Dr. Danielle Mitchell, a primary care board-certified sports medicine physician with UT Sports Medicine at Erlanger and team physician for the University of Tennessee at Chattanooga, a concussion is an injury that disrupts the normal functioning of an individual's brain. While it is most often caused by a blow to the head, a concussion can also come from vigorous shaking, and it is often seen in young children who have been subjected to abuse. In the event of a concussion, the brain—which has a consistency slightly firmer than gelatin—slides back and forth with such force within its protective cushion of cerebral/spinal fluid that it makes contact with the inner wall of the skull. If that contact is forceful enough, it can cause bruising of the brain, tearing of blood vessels and injury to the nerves.

What Puts You at Risk?

Athletes, soldiers engaged in combat, and victims of abuse are more likely to have a concussion or mild TBI. People who have gotten into a car accident, experienced a fall, or have had a concussion before are also at a greater risk. According to the Mayo Clinic, some basic safety tips can reduce the likelihood of a concussion:

- Those participating in athletics, particularly contact sports, should wear suitable protective equipment. Those participating in contact sports should also learn appropriate tackle techniques.
- Buckle up to reduce the risk of TBI in an auto accident.
- Be particularly cautious in swimming areas. Don't dive into water less than nine feet deep and follow posted safety rules.
- Make the home a safer environment by removing clutter and items that present hazards. Block stairs if small children are in the home.
- Proper shoes should be worn, particularly by senior citizens and those prone to slips and falls. High heels or shoes with slick surfaces should be avoided.

What are Symptoms?

Although most people recover fully from a concussion and most symptoms go away within a short time, other symptoms may linger—particularly in the elderly, the very young and teenagers. General symptoms of a concussion fall into four broad categories: thinking and remembering symptoms, physical symptoms, emotional symptoms and sleep symptoms. Common symptoms may include difficulty thinking



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clearly, headaches, blurred vision, nausea, poor balance, fatigue, and mood issues such as irritability, sadness, nervousness or anxiety.

Dr. Mitchell says that often, people don't even realize they have had a concussion. "It's classic for others who have noticed a hard hit to recognize a person is not acting like themselves," she says. "Some people just think they have a headache while other people's symptoms are so severe that they don't have the neurological capacities to realize their own injury."

Dr. Mitchell recommends that if a concussion is suspected, a person should see a physician as soon as possible as a brain injury is always urgent. According to the Mayo Clinic, a person who has a loss of consciousness for more than one minute, a seizure or repeated vomiting should seek emergency care by a medical professional.

How Do You Diagnose a Concussion?

Doctors can assess the severity of a concussion through a series of evaluations that test balance, coordination, strength, memory, vision and other factors. A CT (computerized tomography) scan may be given to detect a concurrent head injury, but it cannot diagnose a concussion.

Among health professionals, many grading systems are used to determine the severity of concussions—these are normally based on the length and severity of symptoms. However, according to Dr. Mitchell, concussions are an evolving diagnosis as doctors and researchers continue to gather more data. "Currently, we do ancillary tests but we also look at the whole clinical picture," she says.

Treatment

While a specific kind of pain reliever may be recommended or prescribed for headaches, a person diagnosed with a concussion is normally advised to rest. This allows time for the brain to heal and return to normal functionality. Any victim of a TBI or concussion is advised to gradually return to a normal routine. Athletes who have suffered from a concussion are usually not allowed to return until cleared by a sports-qualified physician.

According to the CDC, those recovering from a concussion should rest during daytime hours in addition to getting a reasonable amount of sleep at night. They should also avoid strenuous exercise, strenuous academic testing, texting, video gaming, driving a car, and operating heavy equipment unless they are cleared to do so by a physician. According to the Sports Concussions Institute, those recovering from concussions should also refrain from drinking alcohol, loud noise and activity, as overexertion and overstimulation are not helpful for recovery.

Complications

People who have had more than one concussion may acquire progressive or permanent cognitive impairments. Those who have a second concussion prior to a full recovery from the initial injury are also more likely to experience brain swelling that could be fatal. "Timely treatment is imperative," says Dr. Mitchell. "It can be the difference between life and death."

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Timely treatment can also minimize the effects and the potential long-term consequences of a concussion.

Most concussions are mild in nature and will resolve with proper care. However, when they occur, it is absolutely essential that effective steps are taken for

treatment to ensure a complete recovery without further complications. **15**

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