



Has your child suffered a sports concussion?

Seeing your child get injured on the playing field during an athletic event can be a parent's worst nightmare. When an athlete breaks a bone or tears a ligament, everyone from coaches to fellow players and parents can see the results. The signs of a concussion may be invisible or, at least, much harder to see. The Centers for Disease Control and Prevention (CDC) estimates 1 to 3 million sports-related concussions occur annually in the United States.

And if that weren't bad enough news, growing evidence shows many athletes, coaches, parents, physicians and healthcare providers have been slow to recognize the seriousness of concussions. This can lead to inadequate evaluation and treatment. As a parent, you can protect your child by explaining what concussions are, their symptoms and why it's important to treat them early.

What is a concussion?

A concussion is a short-lived brain injury caused by a bump, blow or jolt to the head. A variety of symptoms may develop and typically resolve over days or months. An athlete can suffer a concussion in any sport. Contact or collision sports, such as football, soccer, wrestling, ice hockey, lacrosse and rugby, have the highest incidence of concussion. Most concussions appear without loss of consciousness. Rarely is there a structural injury noted on MRI or CT scan. Even when the physical, and sometimes emotional, symptoms of a concussion have disappeared, the brain may not be healed.

Athletes who suffer a concussion are three to five times more likely to suffer a second concussion in the same season. Sustaining a repeat concussion, while recovering from a concussion, is dangerous. This is called second impact syndrome and can potentially cause brain swelling and brain damage. Avoid further injury, don't let your child play with a concussion.

Know the signs and symptoms of a concussion

Symptoms of a concussion can occur immediately or hours after the initial "hit" or fall. Signs and symptoms can vary over time, depending on activity level, making them difficult to recognize. If your child experiences any of the following signs or symptoms, get them to a health care provider.

Signs:

- A dazed or stunned appearance
- Confusion or clumsiness
- Slow responses to questions
- Personality or behavioral changes
- Loss of consciousness – even temporary
- Forgets plays or assignments
- Forgetting play prior to or after the "hit"

Symptoms:

- Headache
- Nausea
- Balance problems
- Double or blurry vision
- Sensitivity to light and noise
- Fatigue or drowsiness
- Changed sleep patterns
- Trouble comprehending and/or concentrating
- Difficulty paying attention
- Depression
- Irritability, nervousness or sadness
- Feeling "just not right" or in a "fog"

***Concussion symptoms can worsen with physical and mental activity, such as using your computer, gaming system or texting.*

continued

“We find there is a lot of misinformation being circulated among athletes, coaches, and parents regarding concussion injuries. It’s important for an athlete to see a physician trained in concussion management whenever a concussion has occurred.”

Evan Peck, MD, Sports Health Specialist at Cleveland Clinic Florida

Additional risk factors include:

- Athletes with a history of previous brain impairment
- Younger athletes whose brains aren’t fully developed
- Recent or previous concussion
- Poorly fitting or improper equipment
- Poor technique
- Neglect of sports’ rules
- Genetic factors

Evaluations and Management

No athlete with symptoms should return to play the same day they sustain the injury. If you suspect your child has a concussion, the most important thing is to remove them from the activity. The second step is to get him or her to a health care provider experienced in evaluating for concussion.

A medical professional should provide a thorough neurological check, along with a mental status evaluation that typically

includes orientation, concentration, balance, memory/reaction time and amnesia. If your child is experiencing any symptoms of concussion, they must not return to play the same day.

The athlete who has suffered a concussion should be monitored for deterioration and should not be left alone.

Returning to Play

While many athletes experience only temporary neurological impairment lasting one to two weeks, some athletes have symptoms lasting weeks to months. That is why it’s important for athletes to undergo a more thorough evaluation by a physician before returning to play. The National Collegiate Athletics Association (NCAA) and the National Federation of State High School Associations (NFSHSA) recommend physical activity be restricted after a concussion has been diagnosed until symptoms completely resolve.

In an effort to decrease the risk of injury and re-injury, many sports governing bodies, including the NFL, NCAA, NAAHL, MLB and NFSHSA, have developed new recommendations for concussive injuries. These recommendations continue to evolve as more scientific information becomes available. They require athletes suspected of concussion to be removed from practices or games immediately and be evaluated by medical professional. Several states have begun passing laws regarding concussion evaluation and management.



Helping Your Athlete Through Education

Awareness about concussions is your first line of defense in prevention and diagnosis. Educate your child that it's not a sign of weakness to report symptoms of concussion and to rest and fully recover before returning to play. Discourage others from pressuring injured athletes to play. Don't let your child convince you he or she is "just fine." Tell your athlete's coaches and the school nurse about any concussion.

"Playing while still symptomatic from a concussion significantly increases your risk of another more serious concussion."

Leonardo Oliveira, MD, *Sports Health Specialist at Cleveland Clinic Florida*

A concussion is a brain injury, and like all other injuries, needs time to heal. Recovery from a concussion starts immediately with mental and physical rest. **This means no activity.** Your child may have to limit activities such as studying, driving, watching TV, playing video games or texting, while recovering from a concussion. Some of these activities worsen symptoms and can prolong recovery.

Timely intervention by a health care provider experienced in diagnosing for concussion could mean the difference between sitting on the sidelines or a season of healthy play for your child.

We Can Help

Cleveland Clinic Florida Sports Health offers evaluation and diagnosis for concussion and post-concussive syndrome as well as comprehensive management and guided return to play. Our Sports Health team also collaborates with other Cleveland Clinic Florida experts in neurology, neurosurgery, neuropsychology, pediatrics and basic science research to further improve understanding, diagnosis and treatment of this traumatic brain injury.

Because conventional imaging techniques, such as MRI and CT scans, do not detect concussions, Cleveland Clinic Florida Sports Health experts use a well-accepted computerized test known as Immediate Post-concussion and Cognitive Testing (ImPACT™) to make a more precise sports-related concussion diagnosis and to monitor the progress of the athlete and assist in return to play decision making.

Ideally, the ImPACT test is taken before an athlete steps onto the playing field. The half-hour test is administered to gather baseline data on the athlete's memory, balance, reaction time and other cognitive functions.

If the athlete then sustains a concussion, another ImPACT test is administered after the concussion. Comparing these results with baseline, physicians can determine the severity of the concussion and design an appropriate treatment plan, which is shared with the parents, referring physician, athletic trainer and coach. If necessary, the athlete undergoes concussion rehabilitation which may include vestibular, or balance, training through physical therapy. ImPACT testing may be repeated later to help in deciding when the athlete can safely return to play.

THINK YOU OR YOUR ATHLETE MAY HAVE A SPORTS-RELATED CONCUSSION?

Cleveland Clinic Florida Sports Health offers comprehensive concussion evaluations and management from one experienced team.

To schedule a consultation with a concussion specialist, call **800.597.2037** or or visit **ClevelandClinicFlorida.org/Concussion** to schedule online.

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