

Sport Concussions

All too often when we hear about the ding or bell ringer incurred by an athlete, we dismiss it as unimportant or as a quickly passing event. In reality, we might be failing to recognize something more serious—a sports concussion.

Parents, coaches and other individuals involved in youth sports should be educated about sports concussions, their symptoms, prevention and follow up care.

What is a concussion?

A concussion is a temporary change in the way the brain works when it is abruptly moved or jarred. During a bump, blow or jolt to the head, the brain bumps against the inner wall of the skull, causing injury. The symptoms can be mild to severe.

Dr. Michael Collins, a concussion expert and leading researcher at the University of Pittsburgh Medical Center's Sports Medicine Program, says, "Mild concussions, often called dings or bell ringers, are by far the most common type incurred by high school athletes. Recent studies have proven that mild concussions can have significant effects... in many cases, difficulties can be prevented if the athlete is allowed time to recover and return to play decisions are carefully made."

Common symptoms of concussion reported by an athlete include:

- headache
- nausea or vomiting
- balance problems or dizziness
- double or blurred vision
- sensitivity to light or noise
- feeling "foggy," "hazy," or "out of it"
- impaired concentration or memory problems
- confusion

Signs of concussion can also be observed by coaches and parents; they include:

- appears dazed or stunned
- staring, vacant facial expression
- is confused about assignment
- forgets play
- is unsure of game, score or opponent
- moves clumsily
- answers questions slowly
- loses consciousness



- shows behavior or personality changes
- can not recall events prior to hit
- can not recall events after hit

When to seek medical advice

After any blow to the head where there are signs or symptoms of a concussion, it is best to seek medical advice. The myth that concussions only occur when someone has been knocked out is untrue. An estimated 90% of concussions do not result in any loss of consciousness. It's also important to watch for signs of subsequent physical, mental or emotional changes after the event. All changes should be reported to a doctor.

Cumulative Concussions & Second Impact Syndrome

The most dangerous practice among coaches and parents is allowing athletes who suffer an initial concussion to return to play too soon. Common practice used to be that if an athlete was symptom free for 20 minutes, it was safe to get back into the game. We now know that returning an athlete to play prior to a complete recovery may greatly increase the risk of serious brain injury. These injuries can be chronic and permanent. "We know that injuries are cumulative in nature when not managed properly. With each concussion, the likelihood that brain functioning will return to normal diminishes," said Dr. Collins.

Returning kids to play too soon can also result in a rare, often fatal phenomenon called Second Impact Syndrome. Second Impact Syndrome can occur when the brain has not had adequate time to heal from an initial injury and is jolted again in a second event. This second blow does not have to be violent or strong to be deadly. While very rare, the injury can cause acute, fatal brain

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swelling. Given that there are some 2 to 3 million concussions yearly in terms of both sports and recreational activities in the United States alone, knowing when it is safe for athletes to return to play is an important objective.

Return to play

How does an athlete, coach or parent decide when it's safe to return to play? This is a topic that has long been debated. Today, there are several key agreement areas, one of which is the implementation of post-injury neuropsychological evaluation—essential to understanding the severity of concussion and the subsequent restrictions of play.

Test modules such as software that measures concussions allows trained users to evaluate athletes post-concussion and assess when it is safe for the player to return to active sports. Among adolescents, “If you’re not using the right tools and not asking the right questions, you can really put them at risk,” stated Dr. Collins.

For sports teams without the sophistication of software programs on the sidelines, individuals involved in youth sports can use the following guidelines to help reduce the number of concussions and prevent life-threatening consequences.

Return to Play Guidelines

If you suspect that an athlete has a concussion, take the following steps:

1. Remove the athlete from play and keep them out—period. Coaches and parents must know that athletes who return to play too soon, while the brain is still healing, risk a secondary concussion. This can lead to possible chronic, long-term or potentially life threatening problems.
2. Seek medical evaluation following the injury and follow the medical professional’s advice on when to return to sports.
3. Before returning to play, make sure the athlete is completely symptom-free at rest and with physical exertion and also demonstrates intact neuro-cognitive function.

Preventing Sports Concussions

Sports carry an inherent risk of injury, some more than others. Being an educated parent, spectator or coach is important. Consider these prevention tips:

1. Insist players wear appropriate protective gear in practice and games.

2. Know the signs and symptoms of concussion. If an athlete has a known or suspected concussion, they should stay out of play until evaluated by a medical professional.
3. Make sure the club or association where athletes participate in sports have year-round concussion action plans that keep players from returning to games or practices until after they have been evaluated by a medical professional. ❖

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