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# Kids in Sports? A Head's Up on Brain Injuries.

Written by Board Certified Pediatrician

David W. Withrow, MD, FAAP



Sports related concussions account for 13 to 15 percent of all sports related injuries sustained by high school athletes. As a result, it is important for athletes, parents and coaches to be familiar with the symptoms and possible complications associated with concussions. A concussion is a trauma induced brain dysfunction without any obvious brain injury upon imaging of the head. A direct blow to the head, or a blow to the body that causes the head to be whipped can cause a concussion. While concussions are an occasional sports related injury, they can also occur in many other common childhood activities such as biking, skateboarding, and roller blading.

Any potential sign of concussion occurring soon after a head injury should lead to prompt removal of the child from competition. A child suspected of having a concussion needs to be evaluated by a trained health care provider familiar with the symptoms of a concussion and the possible complications. The goal in concussion management is to prevent additional injury.

While most concussions readily resolve, complications can occur,

especially when concussions are not recognized or are sustained multiple times to an athlete. It is estimated that over 90 percent of children are symptom free within one month. However, some children have persistent post-concussion symptoms such as headache, difficulty concentrating, dizziness or mood changes. Expert opinion and clinical experience suggest that strenuous cognitive and physical exertion during the early parts of recovery may prolong or exacerbate the symptoms of a concussion. There are other rare complications associated with concussions including second impact syndrome and chronic traumatic encephalopathy. Second impact syndrome refers to death or devastating neurologic injury related to massive swelling of the brain in an athlete that sustains a second head injury prior to full recovery from a concussion. Chronic traumatic encephalopathy refers to permanent changes in mood, behavior, cognition and persistent concussion symptoms.

The most important part of treatment for concussions is rest - including both cognitive and physical rest. Cognitive

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rest includes absence from school for one to five days depending on the child. In general, a child who is healing from a concussion should not go to school until he or she is able to focus and concentrate for at least 30 minutes without symptoms. It also includes limiting TV, extended texting, loud music, video games and computers. Full physical rest is recommended until there are no concussion symptoms. During this time of physical rest, normal activities of daily living are permitted, but those that raise heart rate should be avoided.

When the child has fully recovered there is a return to play protocol. This is a graduated protocol with light aerobic

exercise advancing to full practice over the course of five days, assuming the athlete remains symptom free. This is a program managed by our athletic trainer if your child attends school in Yankton.

Sports are beneficial to children for a variety of reasons, but unfortunately concussions do occur. With increased awareness of the symptoms of a concussion and the potential complications, we can improve outcomes of our young athletes. Through a coordinated effort between your physician and the athletic trainer at

school, we can get your child back to competing when it is safe for your child. Children and adolescents, who have sustained a concussion, may manifest a variety of symptoms including:

- Headache
- Confusion
- Memory loss
- Dizziness or trouble with balance
- Nausea or vomiting
- Sensitivity to light or noise
- Drowsiness
- Difficulty concentrating
- Acting cranky, strangely, or out of sorts
- Loss of consciousness (but this is not very common)

***For more information or to schedule an appointment please call 605-665-5538.***