

## Back to School, Back to Sports, Back to Concussion Risk

For youth who play school sports, "back to school" means increased athletic exposures and increased risk of mild brain injury, also known as "concussion." Concussion, often referred to as a "ding" or a "bell ringer," is no joke. Concussions can have enduring cognitive, physical, and emotional effects. They are often undiagnosed and improperly managed because many health care professionals, coaches, and school/athletic personnel have not kept abreast of the most recent identification and treatment guidelines. Thus, it is especially important for parents and athletes to stay informed.

With the guidance of athletic trainers, neuropsychologists, and physicians with specific expertise in concussions, high schools across the country are facing this public health menace head on. Concussion education and management programs, though not mandatory as in the NFL, NHL, and other pro sports, are sprouting up in response to new national and international athletic guidelines, pending state and federal legislation, and dramatic injury lawsuits.

A concussion is any alteration in mental state or consciousness that occurs as a result of a hit or a blow to the head. Signs of concussion may include, but are not limited to, feeling dazed or confused, dizziness, headache, nausea, fatigue, sensitivity to light or sound, visual disturbance, irritability, and attention, concentration, and memory problems. One does not need to experience loss of consciousness or amnesia in order to sustain a concussion. And one does not have to hit one's head, as a whiplash or strong rotational force can shake the delicate structures of the brain. No helmet or mouth guard can prevent concussion.

Once a concussion is sustained, an athlete is four to six times more likely to sustain another. Youth are more vulnerable than adults, experience longer recovery periods, and may exhibit delayed symptoms which may not be fully evident until the next day or later. Youth up to the age of 21 or so are also susceptible to Second Impact Syndrome, a rare but serious condition that results in swift death or catastrophic neurological injury when a youth sustains a second blow before fully recovering from the first.

It is essential that any youth suspected of sustaining a concussion should not be allowed to continue in sports or athletic activity. The motto is: "When in doubt, sit them out." The concussed athlete should be examined by a physician to be sure that there are no serious complications, such as slow brain hemorrhaging that might not be immediately detected. With concussion, if a CT

scan is performed, it is expected to be normal, unless there is a more complicated condition.

Rest is the key to recovery. Recently concussed youth should be placed on immediate physical and mental rest. That means no physical exercise, no computer games, no texting, no parties, no going to the mall with friends, no homework etc. That may also mean no school the next day or longer, especially when headaches are present. Youth who do not rest immediately tend to have much longer recovery periods. Recent guidelines suggest that youth remain out of sports for three weeks or more after they are symptom free.

A neuropsychologist can greatly assist in return to play decisions, as well as in the management of post concussion symptoms and recommendations for academic accommodations while the youth is recovering. Once cleared from a cognitive perspective, physical exertional testing and balance assessment, as provided by the school's athletic trainer, should take place prior to return to play.

To assist in return to play decisions, youth should undergo baseline testing when they are healthy, such as during the pre-season. Many schools have implemented concussion testing programs. This type of computerized testing documents performance on memory, reaction time, processing speed, and attention tasks. If a youth sustains a concussion, he/she can be retested to help determine when scores are back to pre-concussion levels. This type of assessment increases the accuracy in decisions about recovery, as many athletes who feel physically better may still have brains that are not fully healed. Importantly, post-concussion test results should be interpreted by a health care professional trained in brain and cognitive functions and in concussion assessment.

For more information: [www.sportsconcussionNJ.com](http://www.sportsconcussionNJ.com) or [www.CDC.org](http://www.CDC.org).



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