

Managing Sport Concussion in Youth: An Integrated Team Effort

Thomas M. Best, M.D., Ph.D., FACSM, Past President, American College of Sports Medicine*



**Leadership Board Member, National Youth Sports Health & Safety Institute.*



A concussion is a traumatic brain injury that alters the way the affected brain functions. Fortunately, the temporary dysfunctional effects are usually short-lived. However, a small number of children and adolescents who sustain a concussion have certain signs and symptoms that last weeks to even months or longer. Returning to school or sports too soon – that is, before the brain is completely healed and functioning properly – can delay recovery and lead to more severe and longer-lasting related problems. Parents, coaches and school administrators all have contributing roles in helping our young athletes, both with the treatment and prevention of concussions. Importantly, an integrated total team effort involving our kids, coaches, administrators, medical personnel, parents and referees working together is the best way to provide a safe environment for every young athlete to play sports. This approach provides young athletes with the opportunity to enjoy all of the benefits of sports participation with minimal risk for incurring a concussion, while ensuring a safe and healthy return to sport should one occur.

We all recognize and appreciate the benefits of regular physical activity. For kids, sport participation can be an effective and enjoyable way to be physically active. A concussion is a traumatic brain injury that is caused by a sudden blow to the head or body that changes the way the affected brain normally works. Fortunately, the temporary dysfunctional effects are usually short-lived. However, a small number of kids who sustain a concussion have certain signs and symptoms that last weeks to even months or longer. And while the incidence of concussions for our youth in sport seems to be on the rise, the vast majority of children and adolescents diagnosed with a concussion recover quickly and uneventfully. Although the true incidence of sport concussion is not known, head trauma is very common in young athletes. It is particularly high in certain sports, including football, soccer, hockey and lacrosse. However, concussions can occur in any sport and should be suspected where there has been obvious head or body trauma or an athlete appears disoriented or is slow to get up from a play.

Signs and Symptoms of Concussions

Concussions can be difficult to recognize in youngsters because kids can't always communicate how they feel. Therefore, parents and coaches need to be aware of the normal behavior of their young athletes, in order to detect some of the subtle indications of a concussion. This is particularly helpful when there is no obvious direct blow to the child's head or body prior to a concussion. Moreover, in by far most cases, there is no loss of consciousness with concussions. Signs and symptoms of a concussion (which may be immediate or delayed) may include:

- Listlessness, tiring easily
- Irritability, crankiness, fatigue
- Sensitivity to light/noise
- Change in eating or sleeping patterns
- Lack of interest in favorite toys
- Loss of balance, unsteady walking
- Headache or feeling of pressure in the head
- Confusion or feeling foggy
- Forgetfulness
- Poor concentration/attention
- Dizziness or "seeing stars"
- Nausea or vomiting
- Slurred speech
- Sleep disturbance

When to See a Doctor

Most medical professional associations recommend contacting a young athlete's doctor for advice, if he or she receives anything more than a light bump on the head. If an affected child or adolescent remains alert, moves normally and responds appropriately to basic questions, the injury is probably mild and usually doesn't need further testing. When in doubt, it's probably best to see the primary care physician or a sports medicine physician, if there are any worrisome signs, symptoms or questions. Notably, a headache that gets worse with time, changes in behavior or physical coordination, slurred speech, confusion or disorientation or pupils of unequal size should prompt urgent medical attention.

Treatment of Concussions

The goal of treatment for any medical condition is first and foremost a diagnosis as early as possible by a qualified health care provider. For sport concussions, this ideally means a physician or other healthcare provider who has experience in diagnosing and managing concussions in athletics. The hallmark of treatment for concussion is rest – both physical and cognitive. Rarely are abnormalities seen on imaging studies such as CT scans or MRIs. Recent work is helping the medical community to fine tune the indications for effective imaging studies and what to look for when making the diagnosis of concussion. Also ongoing are efforts to understand why certain young athletes suffer for longer and which symptoms may predict this pattern. In addition, recent research has contributed greatly to appreciating the importance and value of considering a number of other treatments including:

- Physical therapy – for balance and gait problems, often using specific exercise programs to address balance and gait disturbances
- Occupational therapy – for regaining routine daily tasks, often working with a physical therapist on gait and balance problems
- Vocational therapy – for speech problems
- Cognitive therapy – for memory, concentration, and learning difficulties
- Dietitian consult – for ensuring proper nutrition, including sufficient calories and nutrients to aid healing and recovery
- Academic accommodations – that may involve a graded progression back to school and modified test taking, homework or other classroom activities

There is often considerable regional variation in the availability and delivery of healthcare services. Accordingly, a health care provider will be able to direct the necessary treatments and professionals best qualified to do them in the local service area.

Removing Young Athletes and Return to Play

All current recognized concussion management guidelines make it clear that anyone suspected of having a concussion should be taken out of play immediately and not allowed back to sports and physical activity until he or she is cleared by a trained professional. Neuropsychological, balance and visual testing, when and where available, can be valuable in helping athletes safely return to sport and physical activity following a concussion. However, such evaluations should only be performed by people qualified to interpret their findings. A subsequent concussion that occurs before the brain fully recovers from the first – usually within a short time period (hours, days, weeks) – can slow recovery and increase the chances for long-term related problems.

Role of Parents in Young Athletes with a Concussion

Parents need to be advocates for their child's safe participation in sports. What can parents do when their child is diagnosed with a concussion? Parents who have a young athlete with a concussion can help with his or her care and recovery by:

- Ensuring and supporting the health care provider's recommendation that their child get plenty of rest – this may involve not only good sleep, but also cognitive rest (time away from school, cell phone, TV, etc.), as well as physical rest from exercise and sports
- Making sure their young athlete avoids situations where a second injury is possible, such as bike riding, until the health care provider says it is safe to do so
- Allowing only the medications prescribed
- Closely monitoring their young athlete during the recovery period and promptly reporting to the health care provider any unusual change in behavior or worsening symptoms
- Ensuring good communication with the school teachers and coaches where applicable

Open communication between the parents, child, coaches and school/club administrators is essential. Encouraging children and adolescents that it is OK to tell the coaches if they or a teammate may have a concussion is also important. Parent involvement in the diagnosis (if appropriate) and management of their young athlete's concussion can take some of the pressure and burden off a son or daughter. And working closely with the medical provider and school teachers and nurses can also help to ensure proper and timely communication and reinforce close monitoring of symptoms.

The Message

Everyone involved in the care of athletes, including coaches, athletic trainers, referees, administrators and other school personnel and parents, as well as the athletes themselves, must be educated regarding the serious nature of concussions and the importance and principles of safe return to play after a concussion. Young athletes who have suffered concussions — or are suspected of having them — need to have proper rest and not be thrown back too early into training, practice or competition. Proper rest should include both physical and mental (cognitive) rest, followed by a graded exercise and academic (if appropriate) return to full play. If protocols for safe return to play are properly followed, our young athletes will be far less likely to suffer long-term complications of concussions. An integrated team effort is essential to both minimize risk for concussions as well as safe return to play following a concussion. When done appropriately, our young athletes will enjoy the benefits of sports and other physical activity with minimal risk for incurring concussions and avoid delayed recovery or long-term complications of repeated concussions.



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