

Sports Medicine



A Parent's Guide to Concussions

3rd Edition



**NATIONWIDE
CHILDREN'S**

Concussion Identification:

What is a concussion?

A concussion may be caused by a blow, bump or jolt to the head or by any fall or hit that jars the brain. This “invisible” injury disrupts the brain’s normal physiology, which can affect mental stamina and function, causing the brain to work longer and harder to complete even simple tasks. A concussion may involve loss of consciousness (being “knocked out”), but the majority do not. Ultimately, ALL concussions are serious because they are brain injuries!

How do I tell if my child has sustained a concussion?

A concussion can affect a child in many different ways: physically, cognitively, emotionally and by disturbing sleep. The table below indicates common symptoms for each category.

Common Concussion Symptoms

| PHYSICAL | COGNITIVE | EMOTIONAL | SLEEP |
|----------------------|--------------------------|---------------------------|------------------------|
| Headache | Confusion | More emotional than usual | Drowsiness |
| “Pressure in head” | Feeling like “in a fog” | Irritability | Fatigue or low energy |
| Neck Pain | Difficulty concentrating | Sadness | Trouble falling asleep |
| Nausea or Vomiting | Difficulty remembering | Nervous or Anxious | |
| Sensitivity to light | “Don’t feel right” | | |
| Sensitivity to noise | Feeling slowed down | | |
| Balance problems | | | |
| Dizziness | | | |
| Blurred Vision | | | |

While a blow to the head may not seem serious immediately, concussion symptoms can develop upon impact or up to 48 hours after the incident. Ignoring any signs or symptoms of a concussion is putting the child’s long- and short-term health at risk.

What is Ohio’s Concussion Law?

Ohio’s Concussion Law (HB 143) went into effect April 26, 2013. This bill promotes the protection of young athletes involved in sports activities at the youth, middle school, and high school levels. It states that if an athlete exhibits signs or symptoms of a concussion while practicing or participating in an athletic event, the athlete must be removed from participation by his/her coach, the referee, or a supervising youth sports organization official. The athlete is not allowed to return-to-play on the same day he or she was removed from activity under any circumstances. The athlete cannot return to play until he or she is evaluated by a physician or certain other licensed medical professionals and provides written clearance from the medical professional that it is safe to return to practice and competition. Interscholastic sports and youth sports organizations must collect a signed concussion/head injury information sheet from all athletes participating in an athletic activity. A parent or guardian will also be required to sign the form. This information sheet is available on Ohio Department of Health website and the signed form is valid for one year. HB 143 also requires interscholastic and youth sport organization coaches to complete concussion education training that has been approved by the Ohio Department of Health.

Underreporting of concussions: The importance of honesty.

Even though concussions are very serious and potentially life threatening to the young athlete, studies show that less than 50 percent of high school athletes will report their concussions. Even after being diagnosed, many athletes feel pressured to say they do not have symptoms when they still do. This is dangerous and should always be avoided. Almost all athletes who have died or suffered serious complications from repeated concussions did not report their continued concussion symptoms to their parents, athletic trainer or doctor. Therefore, it is vitally important that parents, coaches and athletes recognize the signs and symptoms of concussions and encourage honesty in reporting them.

Is it dangerous for my child to play sports with a concussion?

Yes, without question. Second Impact Syndrome is a catastrophic event that can occur when a second blow to the head happens before an athlete has completely recovered from a concussion. This second impact, which may be even a minor blow, causes brain swelling, resulting in severe consequences, such as brain damage, paralysis and even death. This condition occurs only in youth and adolescents up to age 21. Therefore, no child should be allowed to participate in any physical activity if he or she has sustained a possible concussion. In addition, no child should return to participation after sustaining a concussion before he or she is cleared by a qualified medical professional.

Concussion Management:

If my child sustains a concussion, what should I do?

First, the child should be monitored for worsening signs and symptoms in the 24 to 48 hours following the injury. If any of the following danger signs present themselves, the child should be evaluated by a physician immediately.

- Severe or increased headache
- Unequal pupils
- Unusual/increased drowsiness
- Projectile or repeated vomiting
- Severe personality changes
- Numbness in the face/extremities
- Double vision
- Convulsions
- Bleeding/clear fluid from the ear/nose
- Unusual stiffness in the neck area
- Weakness in either arm(s) or leg(s)

Second, follow these recommendations:

- Do not let the child perform any strenuous activity or go back to playing in sports.
- Do not use aspirin or ibuprofen for headaches for the first 48 hours. Use acetaminophen (Tylenol) only.
- Encourage your child to rest and eat a light diet.
- Allow them to use ice packs on the head and/or neck to ease pain.
- Let them sleep in a cool, dark, quiet room.

Third, arrange for your child to be evaluated by a medical professional qualified and educated in concussion evaluation and management, such as an athletic trainer or sports medicine physician. Knowledge about concussions is rapidly evolving. The previous severity scales, such as a grade 1 or grade 3 concussion, are no longer used. Preventing your child from going to sleep or to wake him or her every hour after a concussion is also an outdated practice. Don't be afraid to ask the healthcare provider if he or she is aware of the up-to-date concussion protocols.

The Concussion Clinic at Nationwide Children's Hospital utilizes a multidisciplinary team of specialists to best manage concussions in youth and adolescent athletes. This clinic is offered at five different locations throughout central Ohio. Call (614) 355-6000 for more information or to schedule an appointment.

Concussion Recovery:

Concussion recovery should be a collaborative effort.

A concussion can affect school, work and sports. Along with coaches and teachers, the child's school nurse, athletic trainer, employer and other school administrators, such as a guidance counselor, should be aware of the child's injury and their roles in helping the child recover. Varying or mixed messages from any of these parties may cause the child unnecessary distress and confusion, so clear communication among the group is vital.

Why is mental rest important to recovery?

A concussion affects how the brain works, so resting the brain as much as possible is necessary for recovery. In this context, mental activities are defined as those in which the brain must work hard to process information. This includes critical thinking and problem-solving activities, such as schoolwork, homework and technology use.

What can I do to help my child achieve mental rest?

Restrictions from the following should be considered, because these activities increase brain function, and therefore may worsen symptoms and delay recovery:

- Computer work/Internet use
- Video games
- Television
- Excessive text messaging/cell phone use
- Bright lights, such as strobe lights at school dances
- Listening to loud music or music through headphones
- Loud noises
- Parties, concerts, pep rallies, etc.
- Driving
- Work



How do I know when my child is using his or her brain too much?

Continued activity when symptoms are moderate to severe can prevent the brain from healing. Therefore, the key to concussion recovery is to reduce mental activities until symptoms improve and then gradually begin increasing the length and difficulty of those activities as symptoms allow.

On days where the symptoms are severe (which often occur in the first few days after injury), it may be better to suspend any scheduled mental activities (i.e. school, work, homework, etc.) and have the child rest at home.

As symptoms improve, the child may begin to gradually resume simple, school-related mental activities. As difficulty is increased, continue monitoring symptoms. Ask, “Do you have any symptoms? Are your symptoms getting worse since you started this activity?” If the child states symptoms are worsening, have him or her stop what they are doing and rest. If the symptoms resolve with rest in a short period of time (20 minutes or less), the child may be allowed to resume the mental activity. If symptoms remain elevated, the child should discontinue the activity and rest and re-attempt when symptoms have improved (such as the next day).

Note that there may be good days when symptoms are very mild and bad days when symptoms may be a little worse. This is a normal part of recovery. Sometimes there is a fine line between how much mental activity is okay and how much is too much. The key is to try to figure out where that line is to minimize symptoms as much as possible.

How is school affected by a concussion?

Schoolwork demands focus, memory, and concentration – all brain processes that are affected by a concussion. Academic accommodations, ranging from medically necessary absences to tutoring or extra time for test taking, may be necessary in some cases to decrease symptoms and begin the healing process.

Notify your child’s teachers that he or she has sustained a concussion and provide them with any written recommendations you were given during your visit to your health care professional. Nationwide Children’s Hospital Sports Medicine has a document specifically for teachers, which highlights academic accommodations for students healing from concussion. This document, *An Educator’s Guide to Concussions in the Classroom*, can be found on our website at:

NationwideChildrens.org/Concussions

Why is physical rest important to recovery?

In the context of concussions, physical activity is any situation in which a child has an elevated heart rate. Such activities include, but are not limited to, sports, gym class, weight lifting and active play. The level of activity tolerated after a concussion may vary from person to person and should be directed by a health care provider experienced in concussion evaluation and management. Due to the risk of Second Impact Syndrome and other complications, no child who has been diagnosed with a concussion should return to contact sports until they have been cleared by their health care provider and completed the gradual Return to Play progression.

When can a child who has sustained a concussion safely go back to participating in gym class and/or sports?

A child who has sustained a concussion should not return to physical activity until cleared by an appropriate health care provider. The child should be completely symptom free and participating in school fully. Once cleared, the child should participate in a gradual progression back to activity. Ideally, a certified athletic trainer should supervise the child during this timeframe. This gradual progression is critical because a return of any signs or symptoms of concussion during mild physical activity signals that the brain has not healed and the child is not ready to return to activity.

How can I keep my child from getting a concussion?

There are a few things you can do to decrease your child's chances of getting a concussion.

- Ensure your child's equipment fits properly and is checked and maintained regularly.
- Encourage your child to follow the rules of your sport and practice good sportsmanship.
- Encourage your child to listen to your coaches and practice good technique.

If recognized and treated properly, most children will recover fully from a single concussion. However, children who sustain multiple concussions during an early sports career tend to take longer to recover after each concussion and are more likely to experience prolonged post-concussion symptoms or cognitive impairment. Therefore, make sure your child is getting the best care and management possible for his or her concussion.

How can I share this resource with others?

Nationwide Children's Hospital Sports Medicine provides a presentation on this topic free of charge. The length of the presentation and content can be tailored to fit the specific needs of the group. Please call (614) 355-6000 for more information.

A PDF version of this document is also available on our website at NationwideChildrens.org/concussions.

How can I learn more?

We provide further educational resources, presentations and print materials on concussion management and other sports-related injuries and fitness well-being. Visit NationwideChildrens.org/Sports-Medicine or call (614) 355-6000.

The Concussion Clinic at Nationwide Children's Hospital utilizes the expertise of sports medicine specialists and physical medicine and rehabilitation specialists, along with neurologists, neurosurgeons, radiologists, neuropsychologists, physical therapists and athletic trainers to best manage concussions in kids and teens.

Nationwide Children's Hospital Sports Medicine also offers baseline neurocognitive (concussion) testing to evaluate a healthy athlete's decision-making ability, reaction time, attention and memory.

Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention provides informational materials about concussions for athletes, parents, coaches and teachers, including a free Heads Up! tool kit. Visit cdc.gov/concussion.



Nationwide Children’s Hospital Sports Medicine provides care at eight locations throughout central Ohio. For maps, directions and office hours of our locations, visit NationwideChildrens.org/Sports-Medicine-Locations.

To schedule an appointment at any location, call (614) 355-6000.

Canal Winchester

*Close To Home*SM Center
7901 Diley Road, Suite 150
Canal Winchester, OH 43110

Downtown

Orthopedic Center
479 Parsons Ave.
Columbus, OH 43215

Dublin

Sports Medicine and Orthopedic Center
5680 Venture Drive
Dublin, OH 43017

East Columbus

*Close To Home*SM Center
6435 East Broad St.
Columbus, OH 43213

Hilliard

*Close To Home*SM Center
4363 All Seasons Drive
Hilliard, OH 43026

Marysville

*Close To Home*SM Center
100 Colemans Crossing Blvd.
Marysville, OH 43040

New Albany

Philip Heit Center for Healthy New Albany
150 West Main St.
New Albany, OH 43054

Westerville

Sports Medicine and Orthopedic Center
584 County Line Road West
Westerville, OH 43082

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