



A Parent's Guide to Concussions

The Concussion Center at Nationwide Children's is a national leader in the care and management of concussions. We want you to be aware of concussions and how to keep your young athlete safe. Safety begins by educating yourself!

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 function which can affect mental stamina and performance, 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 disrupting sleep. The table indicates common symptoms for each category.



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Physical	Cognitive	Emotional	Sleep
Headache	Feeling mentally foggy	Irritability	Trouble falling asleep
Dizziness	Feeling slowed down	Sadness	Sleeping more than usual
Balance problems	Difficulty concentrating	Nervousness	Sleeping less than usual
Nausea/Vomiting	Difficulty remembering	More emotional than usual	
Fatigue	Difficulty focusing		
Sensitivity to light			
Sensitivity to noise			

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.

Underreporting of Concussions: The Importance of Honesty

Even though concussions are very serious to the young athlete, studies show that less than 50% 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 be avoided. Almost all athletes who have suffered serious complications from 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 causes brain swelling, resulting in severe consequences such as brain damage, paralysis, and even death. Although rare, this is a condition that occurs in children. Therefore, no child should be allowed to participate in sport or other activity with risk of head impact if he or she has sustained a possible concussion. In addition, no child should return to participation after sustaining a concussion before 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 are present, the child should be evaluated by a physician immediately.

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



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Second, follow these recommendations:

- Do not let the child perform any strenuous activity or go back to playing in sports until cleared by a medical provider. They can do light exercise such as walking.
- Do not use aspirin or ibuprofen for headaches for the first 24 hours. Use acetaminophen (Tylenol) only.
- Encourage your child to reduce screen time in the first 24-48 hours after injury.
- Allow them to use ice packs on the head and/or neck to ease pain.
- Encourage a regular sleep schedule and regular diet, and plenty of water.

Third, arrange for your child to be evaluated by a qualified medical professional educated in concussion evaluation and management, such as a physician. Knowledge about concussions is rapidly evolving. Don't be afraid to ask the healthcare provider if he or she is aware of up-to-date concussion protocols.

Concussion Recovery

Concussion recovery should be a collaborative approach.

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, and stressing the brain can make symptoms worse. Resting the brain from screens and other demanding cognitive tasks for the first 24-48 hours can improve recovery.

What Can I Do To Help My Child Achieve Mental Rest?

For the first 24-48 hours, mentally demanding activities should be limited

- Computer work/Internet use
- Video games
- Television
- 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?

After the first 24-48 hours, the amount of mental activities should be guided by how your child is feeling and what types of activities are making symptoms worse. On days where the symptoms are severe (which often occur in the first few days after injury), it may be better to limit mental activities (i.e. school, work, homework, etc.).

As symptoms improve, the child should increase 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 take a break. However, try to avoid over-focusing on symptoms and asking your child too often how they feel.



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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 can be affected by a concussion. Academic accommodations, ranging from partial day attendance to tutoring or extra time to complete assignments or tests, may be helpful to decrease symptoms and help the learning process.

Notify your child's teachers that your child has sustained a concussion and provide them with any written recommendations you were given during your visit to your healthcare professional. Nationwide Children's has a document specifically for teachers, called [An Educator's Guide to Concussions in the Classroom](#) which highlights academic accommodations for students recovering from concussion.

Why Is Physical Activity Important to Recovery?

Engaging in light exercise within the first week after the injury can help improve recovery. Graduated Return to Sport (RTS) Strategy: deconditioning and help to reduce symptoms after concussion. It is important to find the right type and amount of exercise after concussion that does not significantly increase symptoms. This might start with walking, but can increase to moderate and more involved exercise as tolerated. Activities that put your child at risk for another head impact, such as gym class and sports, should be avoided until cleared by a medical professional.

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 sports or other activities with risk of head impact until cleared by an appropriate healthcare provider. The child should be free of concussion symptoms and participating in school fully. Your child's physician may also utilize balance testing, computerized neurocognitive testing, and other concussion assessment tools to help determine recovery from concussion. Once cleared, your child should proceed through the Return To Sport progression as shown below. Ideally, a certified athletic trainer should supervise the child during this timeframe.

Each stage should take a minimum of 24 hours, so your child will take at least one week to proceed through the full protocol, assuming symptoms do not return. (Note that this timeframe may be extended by the health care provider in younger athletes, those with especially severe or long-lasting symptoms, or those that have suffered previous concussions.) If your child has an increase or return of symptoms at any stage, they should stop and attempt again the next day.

An example of the progression is shown below, adapted from the Amsterdam Consensus Statement on Concussion in Sport.



Graduated Return to Sport (RTS) Strategy

Engaging in light exercise within the first week after the injury can help improve recovery. Steps 1-3 can be started while still symptomatic and are part of the treatment of concussion. Steps 4-6 should begin only after symptoms and any cognitive or clinical findings related to the concussion have resolved, including with exertion.

	Step	Activities	Goal
1	Symptom-limited activity	Daily activities that do not provoke symptoms.	Gradual reintroduction of work/school activities
2	Light then moderate aerobic exercise	Walking, stationary bike at slow then medium pace.	Increase heart rate
3	Individual sport-specific exercise	Running or skating drills. No activities with risk of head impact.	Add movement and change of direction
4	Non-contact training drills	High intensity and more challenging drills, with teammates	Usual intensity of exercise, coordination and increased thinking
5	Full contact practice	Participate in normal training activities.	Return confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play.	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 and are more likely to experience persisting symptoms. 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 an in-service 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.



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What if I Want To Learn More?

We provide further educational resources, presentations, and print materials on concussion management and other sports-related injuries and fitness well-being.

The Concussion Center at Nationwide Children's utilizes the expertise of pediatric sports medicine doctors, physical medicine and rehabilitation doctors, neurologists, neuropsychologists, along with physical therapists, athletic trainers, neurosurgeons, and radiologists, to best manage pediatric concussions.

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](https://www.cdc.gov).

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