

# Physical Therapist's Guide to Concussion

In the past few years, concussion has received a great deal of attention as people in the medical and sports worlds have begun to speak out about the long-term problems associated with this injury. The Centers for Disease Control estimate that in sports alone, more than 3.8 million concussions occur each year. Recent scientific evidence highlights the need for proper care to prevent complications from concussion.

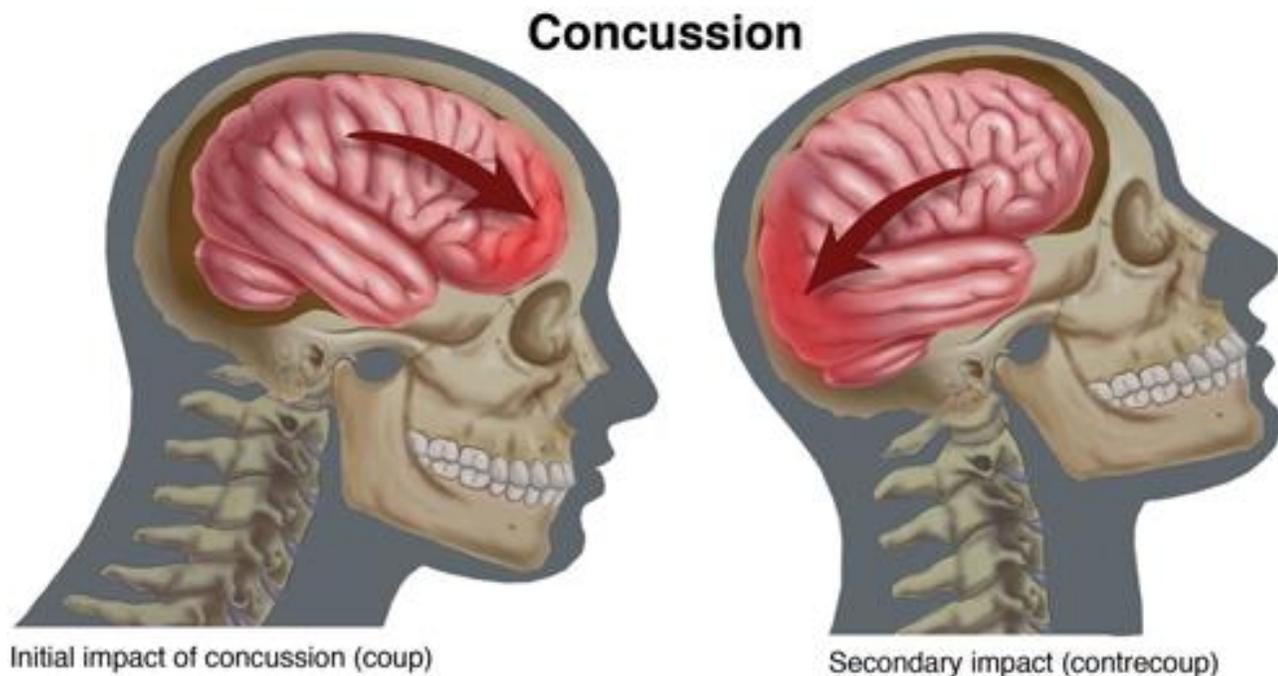
If you think you might have a concussion:

- Seek medical care immediately.
- Avoid any additional trauma to your head—don't engage in any activity that carries a risk of head injury.
- Limit activities of all kinds, including school and work.

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## What Is Concussion?

Concussion is a brain injury that occurs when the brain is shaken inside the skull, causing changes in the brain's chemistry and energy supply. A concussion might happen as a result of a direct blow to the head or an indirect force, such as whiplash. You might or might not lose consciousness.



# Signs and Symptoms

There are many symptoms related to concussion, and they can affect your physical, emotional, and mental well-being.

Physical symptoms may include:

- Headache
- [Dizziness](#)
- Difficulty with balance
- Nausea/vomiting
- Fatigue
- Difficulty with sleeping
- Double or blurred vision
- Sensitivity to light and sound

Cognitive (*thinking*) symptoms may include:

- Difficulty with short-term or long-term memory
- Confusion
- Slowed "processing" (for instance, a decreased ability to think through problems)
- "Fogginess"
- Difficulty with concentration

Emotional symptoms may include:

- Irritability
- Restlessness
- Anxiety
- Depression
- Mood swings
- Aggression
- Decreased tolerance of stress

## How Is It Diagnosed?

Concussion is easy to miss because diagnostic imaging, such as magnetic resonance imaging (MRI) or a computed tomography (CT) scan, usually is normal.

Because of the variety of possible symptoms that can interfere with day-to-day activity, **seek coordinated medical care immediately**. Your health care professionals may include a physician with expertise in concussion, a neuropsychologist, and a vestibular physical therapist (a physical therapist who specializes in treating balance disorders and dizziness).

**After a concussion, limit *any* kind of exertion.** The brain won't have time to heal if you increase physical exertion too soon—such as returning to social activities or sports—or if you increase cognitive demands too soon, such as returning to school or work. You can slowly resume normal activities only once your symptoms have improved and *stay* improved.

# How Can a Physical Therapist Help?

Physical therapists can evaluate and treat many problems related to concussion. Because no 2 concussions are the same, the physical therapist's examination is essential to assess your individual symptoms and limitations. The physical therapist then designs a treatment program.

## Help Stop Dizziness and Improve Your Balance

If you have dizziness or difficulty with your balance following a concussion, vestibular physical therapy may help. The vestibular system, which includes the inner ear and its connections with the brain, is responsible for sensing head movement, keeping your eyes focused when you move your head, and helping you keep your balance. A qualified vestibular physical therapist can provide specific exercises and training to reduce or stop dizziness and improve balance and stability.

## Reduce Headaches

Your physical therapist will examine you for neck problems following a concussion. Neck injuries can cause headaches and contribute to some forms of dizziness. Your therapist also can assess your back for possible injuries to your spine.

As symptoms due to concussion improve, your physical therapist will help you resume physical activity gradually, to avoid overloading the brain and nervous system that have been compromised by concussion.

It's important that you follow the recommendations of all health care professionals so that you can achieve the greatest amount of recovery in the shortest amount of time.

## Real Life Experiences

You've just come home from a soccer game where your 15-year-old daughter was star goalie. She admits to you that she "dinged" her head during a play in the second half and did not tell anyone. She's complaining of headache and dizziness, and she's sensitive to light.

*What do you do next?*

You monitor the next 24 hours closely, seeking care immediately in the local emergency department if your daughter has or you observe any of the following:

- Headache that gets worse and does not go away
- Weakness, numbness or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Extreme drowsiness or cannot be awakened
- One pupil (the black part in the middle of the eye) larger than the other
- Convulsions or seizures
- Inability to recognize people or places
- Increased confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness

During the next couple of days, she's frequently in the nurse's office due to headaches and dizziness. She reports difficulty concentrating and remembering during school and is having trouble falling asleep at night. *What do you do next?*

- Have the concussion evaluated by a licensed medical professional with expertise in treating concussion. Some communities have concussion or mild traumatic brain injury clinics. Evaluation should include an assessment of symptoms, neurologic screening, testing of thinking ability ("cognition"), and testing for balance problems.
- Do NOT allow your daughter to participate in sports or any other activity with risk of head injury until she is cleared by a licensed medical professional with expertise in treating concussion. Repeated concussions can result in many problems.
- Do NOT allow your daughter to engage in physical activity—such as exercise, sports practice, gym class—until she has recovered from her concussion or has been advised by a licensed medical professional with expertise in treating concussion. Physical activity during early stages of concussion robs your brain of the energy it needs for healing.
- Limit thinking ("cognitive") activity until you have recovered from your concussion or have been advised by a licensed medical professional with expertise in treating concussion. Your brain requires additional energy to heal from a concussion, and excessive thinking interferes with recovery.
- Get plenty of sleep and rest. This will help your brain to recover from the concussion.

*This story was based on a real-life case. Your case may be different. Your physical therapist will tailor a treatment program to your specific case.*