

**CONCUSSION:
GUIDELINES FOR PATIENTS, FAMILY MEMBERS & CAREGIVERS**

What is a concussion?

A concussion is a brain injury that causes alteration in the way an individual thinks and remembers things, and can cause a variety of symptoms. A concussion cannot be seen on x-rays or CT scans.

What are the symptoms and signs of concussion?

It is important to know that the individual does not need to be knocked out (lose consciousness) to have had a concussion.

A variety of problems may happen after a concussion, including:

Thinking Problems	Complaints	Other Problems
<ul style="list-style-type: none"> • May not know time, date, place, details of their circumstance • General confusion • Cannot remember things that happened before and after the injury • Knocked out 	<ul style="list-style-type: none"> • Headache • Dizziness • Feels dazed • Feels “dinged” or stunned; “having my bell rung” • Sees stars, flashing lights • Ringing in the ears • Sleepiness • Loss of vision • Sees double or blurry • Stomachache/stomach pain, nausea 	<ul style="list-style-type: none"> • Poor coordination or balance • Blank stare/glassy eyed • Vomiting • Slurred speech • Slow to answer questions or follow directions • Easily distracted • Poor concentration • Strange or inappropriate emotions (ie. laughing, crying, getting mad easily) • Not performing as well

What causes a concussion?

Any blow to the head, face or neck, or a blow to the body which causes a sudden jarring of the head, may cause a concussion (for example, motor vehicle crash, hit on the head by an object, fall).

What should you do if the individual gets a concussion?

The individual should stop activity right away. He/she should not be left alone and should be seen by a doctor as soon as possible on that day. If a loss of consciousness (knock out) has occurred, call an ambulance to take him/her to a hospital immediately. Do not move the individual until the paramedics arrive.

How long will it take to get better?

The signs and symptoms of concussion (see above) often last for approximately 7-10 days, but may last much longer. In some cases, healing may take many weeks or months. Having had previous concussions may increase the time needed to heal.

How is a concussion treated?

The most important treatment for a concussion is physical and mental rest. The individual should not exercise, go to work, or do any activities that may make him/her worse, like driving a car, reading or working on the computer. No snow shoveling, chopping wood, cutting the lawn, moving heavy objects, etc. If the individual goes back to activities before he/she is better, he/she is more likely to get worse, and to have symptoms longer. Even though it is very hard for active individuals to rest, this is the most important step. Once the individual is completely better at rest, he/she can start a step-wise increase in activities (see “When can the individual return to work?”). Being seen by a doctor before beginning the steps needed to return to activity is important to make sure he/she is completely better. In most cases a family doctor can make these decisions, but in some cases a concussion expert may be required.

Returning to activities can be an individualized plan, but follows the same principles. Some examples of graded activities to get back to school, work and sport are:

- Increasing time out of the home;
- Increasing social interactions;
- Increasing time spent on the computer, using electronics, or reading;
- Modifying hours at school, work, or while playing sport; and
- Modifying school, work or athletic activities that place fewer demands (especially physical and cognitive) on the individual at first.

As a caregiver, if a child has sustained a concussion, there are return-to-school guidelines that can be followed, which are outlined below. For an adult or a child, if the injury occurred while participating in sport, there are specific return-to-play guidelines, also outlined below, which must be followed.

Return-to-School Guidelines

Sometimes children who have a concussion may find it hard to concentrate in school and may get a worse headache or feel sick to their stomach if they are in school. Children should stay home from school if their symptoms get worse while they are in class. Once they feel better, they can try going back to school at first for half days and, if they are okay with that, then they can go back full time.

Return-to-Sport Guidelines

It is very important that a concussed individual not go back to sports if he/she has any concussion symptoms or signs. Return to sport and physical activity must follow a step-wise approach:

<i>Step</i>	<i>Type of Activity</i>	<i>Activity Description</i>	<i>Time Period</i>
1	<ul style="list-style-type: none"> • No activity 	<ul style="list-style-type: none"> • Complete rest. 	<ul style="list-style-type: none"> • Must not present any symptoms and be cleared by a doctor to proceed to Step 2.
2	<ul style="list-style-type: none"> • Light exercises 	<ul style="list-style-type: none"> • Walking or stationary cycling. • NO resistance training. 	<ul style="list-style-type: none"> • Participate in activity for 10-15 minutes without experiencing symptoms.
3	<ul style="list-style-type: none"> • Sport specific activity 	<ul style="list-style-type: none"> • Progressive addition of resistance training. • Activities such as skating in hockey, running in soccer. 	<ul style="list-style-type: none"> • Participate in activity for 20-30 minutes without experiencing symptoms.
4	<ul style="list-style-type: none"> • “On field” practice 	<ul style="list-style-type: none"> • No body contact (e.g. no checking, no heading the ball) • Progressive addition of resistance training. • Activities such as ball drills, shooting drills. 	
5	<ul style="list-style-type: none"> • “On field” practice 	<ul style="list-style-type: none"> • Activities with body contact. 	<ul style="list-style-type: none"> • Must be cleared by a doctor.
6	<ul style="list-style-type: none"> • Regular game play 		

Note: Symptoms may get worse not just during activity, but later that day and the next. Each step must take a minimum of one day. If any symptoms of a concussion (e.g. headache, feeling sick to his/her stomach) return either during activity or later that day, all activity should be stopped immediately and the individual should rest for 24 hours. The concussed individual should be seen by a doctor and cleared again before starting the step wise protocol again.

When should you see the doctor?

Every person who gets a head injury should be seen by a doctor as soon as possible. You should take him/her back to the doctor IMMEDIATELY if, after being told the individual has a concussion, he/she has worsening of symptoms such as:

1. increased confusion.
2. worsening headache.
3. vomiting.
4. not waking up.
5. trouble walking.
6. experiencing seizures.
7. exhibiting strange behavior.

Problems caused by a concussion can get worse later that day or night. The individual should not be left alone and should be checked during the night. If you have any concerns about the person's breathing or how he/she is sleeping, wake him/her up. Otherwise, let him/her sleep. If he/she seems to be getting worse, you should see your doctor immediately. **No individual should go back to full activity until they have been cleared to do so by a doctor.**