



# Concussions

## What is a concussion?

A concussion is a mild traumatic brain injury. It happens when a blow (hit) to the head disrupts normal brain function. Some people lose consciousness (get 'knocked out') after a concussion, but others are just dazed or confused. People don't need to be 'knocked out' to have a concussion. X-rays and CTs of the head are normal with a concussion.

## What causes a concussion?

In a concussion, the brain hits the inside of the skull, injuring the brain. A concussion can be caused by a blow to the head, face or neck, or sometimes the body. Concussions are most often caused by motor vehicle crashes, falls, assaults and sports.

## What is post-concussion syndrome?

This term describes the physical, cognitive (thinking), and emotional symptoms that are caused by concussion. Symptoms can last for varying amounts of time after injury. Some symptoms show up right away, but others may appear later. Each person with post-concussion syndrome is different. Children and youth with post-concussion syndrome will differ in:

- The number and severity of symptoms
- How quickly they get better
- How symptoms affect their everyday lives.

## Concussion symptoms

### Cognitive (thinking):

- Difficulty concentrating and paying attention
- Trouble with learning and memory
- Problems finding words and putting thoughts into words
- Easily confused and losing track of time and place
- Slower thinking, acting, reading and speaking
- Easily distracted
- Trouble doing more than one thing at a time
- Lack of organization in everyday tasks

### Physical:

- Headache, neck pain
- Nausea
- Lack of energy
- Dizziness, light-headedness, loss of balance
- Blurred or double vision and sensitivity to light
- Increased sensitivity to sounds
- Ringing in the ears
- Loss of sense of taste and smell
- Change in sleep patterns, especially waking up at night

### Social and emotional:

- Mood changes: irritability, anxiety, depression
- Less motivation
- Easily frustrated, overwhelmed, tearful
- More impulsive and lacking normal inhibitions
- Withdrawn, wanting to avoid social situations with lots of people
- See your family doctor if your child or teen is having trouble coping with moods and emotions. If things don't improve, you may need to consult a mental health specialist.

## How long does it take to get better?

Most people recover completely from a concussion within a couple of weeks. But recovery can sometimes take up to a year or more. In some cases, symptoms improve but do not go away completely. Recovery may be slower in those who have already had one or more concussions.



# Helping your child or teen to recover

## Rest

### Physical Rest

- Take part in usual everyday activities, as tolerated
- Avoid activities that make symptoms worse
- Avoid physical exertion until there are no symptoms at rest
- Avoid leisure activities that have a head injury risk (for example, street hockey or biking)

### Cognitive (mental) Rest

- Increase rest periods, but limit sleep during the day (extra sleep during the day may affect quality of sleep at night).
- Avoid video games, computers and television until symptoms improve.

## School

A temporary leave of absence from school may be needed. Discuss the time frame with your medical team. You can also speak with school staff about helpful accommodations during recovery from a concussion, like:

- Extra help to finish and organize work (for example, a tutor)
- Extra rest time or shorter school day
- Less homework for mentally demanding tasks
- More time for tests, or delaying tests
- More flexible due dates for assignments
- Seating that will decrease distractions
- Access to classmate's or teachers' notes
- Gradual return to school. For example, start with 1 or 2 hours a day, then gradually increase time spent at school.
- Modify the school schedule according to energy and symptoms.

## Headaches

- Avoid things that trigger your headaches, for example, not enough sleep, loud noise or computers
- Keep a diary of your headaches and review with your doctor. Include things like:
  - Time of day
  - How long the headache lasted
  - Triggers (like foods or activities)
  - How painful it was (on a scale of 0-10)
  - Other symptoms (like nausea or vomiting)
  - What helped or didn't help
- Acetaminophen (Tylenol®) \_\_\_\_\_ mg every 6 hours, only as needed
- Ibuprofen (Motrin® or Advil®) \_\_\_\_\_ mg every 6-8 hours, only as needed.

Most post concussion headaches get better over time, and prescription medications are not usually needed. If headaches don't improve, your child or teen may need a referral to a headache specialist. Remember that using ibuprofen (Motrin® or Advil®) or acetaminophen (Tylenol®) more than 15 days each month can cause 'medication-overuse rebound headaches'.

## Getting back in the game

Your child or teen should never return to play while still having symptoms. Return to play should follow a step by step process, where you may go to the next level only if you have no symptoms. If your child or teen has symptoms, then she must fall back to the previous step, and then try to move forward again after 24 hours.

Each step must take at least 1 day.

<b>Step 1</b>	No activity. Recover: complete physical and mental rest. Do not go to Step 2 until your child or teen is symptom free for 24 hours
<b>Step 2</b>	Light aerobic exercise. Increase heart rate (HR): walking, swimming, stationary cycling (intensity <70% predicted HR).
<b>Step 3</b>	Sport-specific exercise. Add movement; skating or running drills. No head impact activities
<b>Step 4</b>	Non-contact training drills. Exercise, coordination, cognitive load; progress to more complex training drills (for example, passing drills)
<b>Step 5</b>	Full contact practice. Restore confidence and allow coach to assess functional skills. Take part in normal training (after medical clearance).
<b>Step 6</b>	Return to normal game play.

Doctor's approval needed before Step 5 →



## Preventing concussions...

- Use a helmet. A well fitting helmet can reduce the frequency and severity of brain injury by as much as 75%.  
Wear a helmet for:
  - Football
  - Rollerblading
  - Skiing and snowboarding
  - Lacrosse
  - Riding an ATV, dirt bike, motorcycle or snowmobile
  - Hockey
  - Skateboarding
  - Riding a horse
  - Riding a bike
- Play with respect. Learning and following the rules of your sport can help to prevent concussions and other serious injuries.

## Want more info?

<http://www.parachutecanada.org/concussion>