# **HELMET SAFETY**

# WHAT HAPPENS WHEN YOU FALL

When you fall off your bike, scooter, or skateboard, your brain can be injured in a number of ways.

#### a) Linear motion

Traditionally, helmets have protected against the impacts of linear motion. Linear head motion can cause a skull fracture or contusion.



#### b) Rotational motion

When you crash and hit your head, it's most often an angled impact. This creates rotational motion and the brain is very sensitive to this. Rotational motion is a common cause of injuries such as concussions, subdural hematoma, or diffuse axonal injury. Not all helmets are equipped to reduce the effect of rotational motion.

## CONCUSSION

A **concussion** is a brain injury that can't be seen on routine X-rays, CT scans or MRIs. It affects the way a person may think and remember things, and can cause a variety of symptoms. Any blow to the head, face or neck, or a blow to the body that jars your head, could cause a concussion.

In all suspected cases of concussion, the person should stop the activity right away. Continuing increases their risk of more severe, longer-lasting concussion symptoms, as well as increases their risk of other injury.

Anyone with a suspected concussion should be checked out by a medical doctor.



If any **red flag symptoms** are present, call an ambulance right away. These may be signs of a more serious injury.

Helmets are not proven to prevent concussions. However, helmets can prevent serious head injuries that can have lifelong impacts. A brain injury can happen to anyone, anywhere, at any time. It is important for adults and children to wear a helmet.

#### CONCUSSION SYMPTOMS

- Person appears dazed, stunned, or confused
- Answers questions slowly or with slurred speech
- Complains of headache and/or nausea
- Moves clumsily or has difficulty with balance
- Has sensitivity to light or noise
- Feels sluggish or foggy
- Unable to concentrate or remember date, time, or location
- Experiences double or blurred vision
- Neck pain or tenderness
  - Weakness or tinging/burning in limbs
  - Severe or increasing headache
  - Seizure or convulsions
  - Loss of consciousness or deteriorating conscious state
  - Vomiting
  - Increasingly restless, agitated, or combative

## WHAT TO LOOK FOR IN A HELMET



#### Mips = Multi-directional Impact Protection System

Mips is a brain protection system. Should you have an accident and hit your head, the Mips system in your helmet is designed to help reduce the rotational motion of certain impacts that may otherwise be transferred to your head.

The Mips system consists of a low friction layer that is mounted inside the helmet. In a crash, the low friction layer is designed to move slightly inside the helmet to help redirect forces away from the head. This is intended to help reduce the risk of brain injury.

Look for the yellow dot on the back of the helmet. On many helmets, you can see an extra layer inside of it. On other helmets, the layer is integrated in the comfort padding and therefore may not be as visible. The product packaging for the helmet should confirm the inclusion of a Mips system.





You should get a new helmet...after 5 years.

Helmets should generally be replaced every 5 years. After 5 years, the plastics of the helmet dry out and may become brittle with age. As well, older helmets may not meet current safety standards. Replace your bike helmet every 5 years to protect your head.

### WHEN TO GET A NEW HELMET

You should get a new helmet...when your helmet doesn't fit correctly or has missing parts.

Follow the 2-V-1 rule to make sure your helmet fits correctly. You can adjust the fit by tightening/loosening the straps, adding extra padding to the inside front or back of the helmet, or using the adjustable dial at the back of some helmets. If your helmet doesn't fit or has missing parts, it's time to get a new helmet.

You should get a new helmet...after a crash in which you have hit your head.

Bike helmets are designed to protect your head against only one crash. The foam inside the helmet is compressed when you fall and hit your head and may not provide the same level of protection if you hit your head again. You can't tell if the foam inside the helmet is compressed just by looking at the outside. **Replace your helmet even if you see no cracks or scratches on the outside of the helmet.** 

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