

# Brain Injury Guide for Youth

A guide to help you understand  
the effects of brain injury



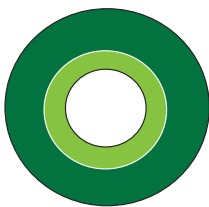
Presented by the Sun Life Financial Chair in Adolescent Mental Health  
[www.teenmentalhealth.org](http://www.teenmentalhealth.org)

The Sun Life Financial Chair in Adolescent Mental Health, is a knowledge translation team at the IWK Health Centre and Dalhousie University. The team has been working together with young people, parents, educators and health providers to develop resources and programs that can be used in schools and other educational settings to effectively address youth mental health.

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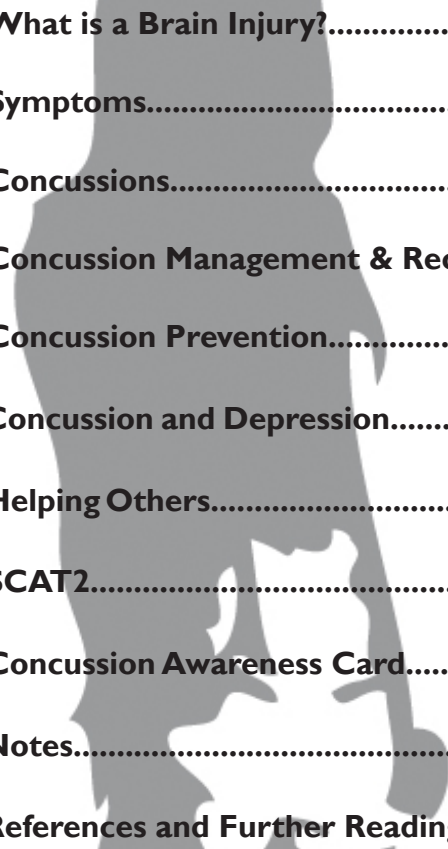
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## A Brain Injury.....

- ⊙ Means the brain has been damaged, but can often return to its functions by following the proper procedures
- ⊙ Frequently occurs suddenly, without warning
- ⊙ Acquired brain injuries happen after you are born and are common in adolescence
- ⊙ These can be divided into two groups: traumatic and non-traumatic
- ⊙ A concussion is one common type of brain injury



“I feel that I get so easily irritable ever since I had my brain injury. I wish I wore my helmet. I thought it wasn’t a cool thing to wear, now I know better. Having a brain injury and suffering is what’s really not cool”  
-Jeremy



## Traumatic

## Non-traumatic

Is caused by something external, like a blow/ hit to the head or body.	Not caused by a hit or blow, occurs naturally inside the brain
Common in sports, physical activity and car collisions.	Usually not instant, happens over time.
Can be mild, moderate or severe.	Can be caused by strokes, tumors and infections.

**Most brain injuries fall into the mild category**

<p><b>Mild</b> 85-90%</p>	<p><b>Moderate/ Severe</b> 10-15%</p>
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**Quick fact:** Most common traumatic brain injuries are a result of a hit to the head or body, also known as a closed brain injury or concussion.

- A:** Imagine you fall off your skateboard and hit your forehead on the ground.
- B:** This can damage the front of the brain and can then force your head backward.
- C:** This causes the brain to move around inside your skull, damaging both the front and back of the brain.

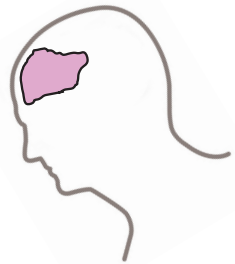
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**B:**



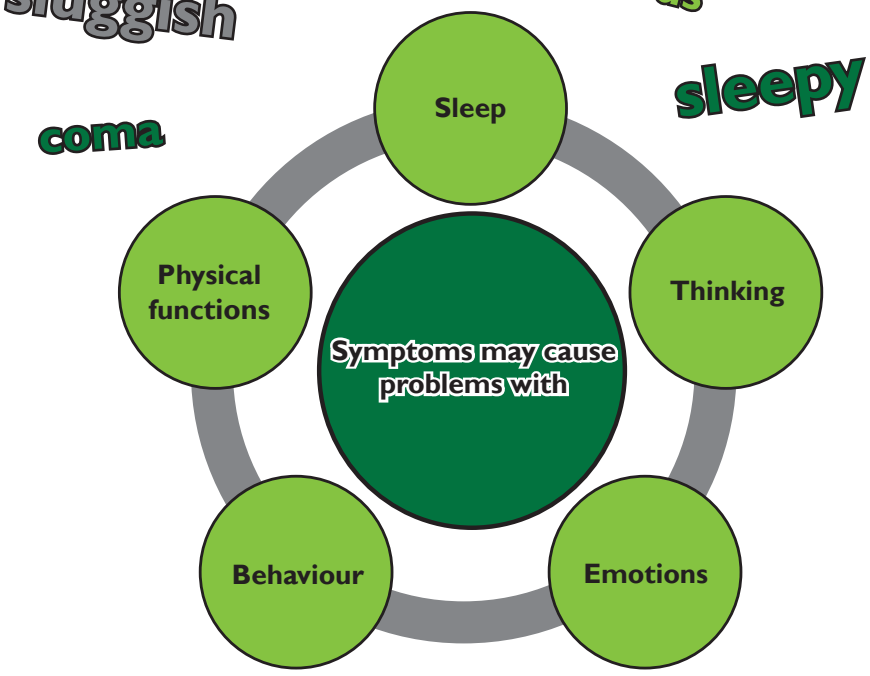
**C:**



The extent of brain damage depends on:

- Ⓐ The type of injury
- Ⓑ The strength of the impact from the hit
- Ⓒ Where the hit occurred in the brain

sensitive  
paralysis  
confusion  
vomiting  
sadness  
anxiety  
ringing  
dizziness  
fatigue  
mood swings  
sluggish  
coma  
loss of consciousness  
epilepsy  
balance problems  
irritable  
neck pain  
headaches  
vision problems  
difficulty concentrating  
difficulty speaking  
body numbness  
memory loss  
depression  
anxious  
nervous







**Quick fact:** Wearing a helmet can help prevent a head injury, but concussions can happen even if you're wearing a helmet.

When a person gets a head injury, the brain tends to move around inside the skull and bang against it. This can cause damage to different parts of the brain. When this happens, the person can get a concussion, which is a temporary loss of normal brain function.



If you suspect you may have a concussion, immediately stop what you are doing	Do not go back to play
Tell your coach/parent that you may have a concussion	Do not drink alcohol or take medicine that can make you sleepy
Get a medical check up right away	Do not drive

## Remember...

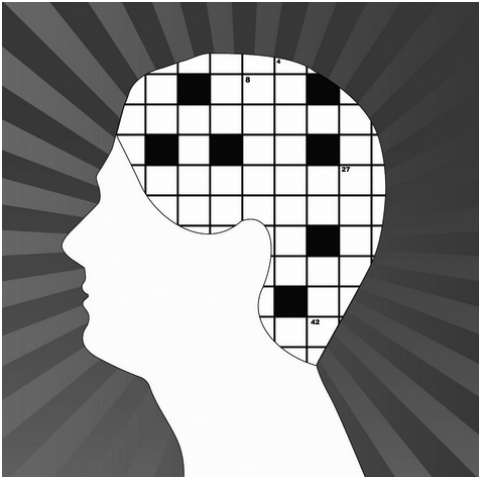
- ⦿ You can have a concussion even if you don't lose consciousness or pass out.
- ⦿ Never return to play the day of any head injury and until a doctor gives permission.

“After my concussion I feel like my brain is too sensitive to noise. I find it difficult to concentrate in school. Luckily, I had made an appointment with a specialist and now I am getting special help in my classes.”

- John



When the brain is damaged, its usual functions can become disorganized. It can't do what it usually does as well as it usually did. Symptoms can last for a long time. More often than not, there is no timetable for a full recovery after a concussion.



Imagine you are doing a crossword puzzle and can't use certain letters to make up words. This would make it hard to generate meaningful words and complete the puzzle. When there is damage to certain parts of the brain, it can make it hard for the brain to take in the information it needs, make sense of it and then follow through.



**Quick fact:** Young people may take longer to recover from a concussion compared to adults.

## If you think you have a concussion.....

1

See your doctor right away or go to an emergency room to get a medical evaluation.

2

If symptoms are not improving, ask your doctor about making an appointment with a specialist.

3

Don't go back to your usual activities until your doctor gives you clearance to return.

4

Don't get discouraged by what you hear or read about tragic brain stories. Focus on what you can do to make your situation better.

Talk to your parents, teachers and/or guidance counsellor. You may need more help at school. Check out more information at: [www.ThinkFirst.ca](http://www.ThinkFirst.ca) and [www.TeenMentalHealth.org](http://www.TeenMentalHealth.org)



**Quick fact:** A concussion can be the result of a head injury and can even happen without a direct blow to the head.

Your brain is an amazing organ capable of healing and recovering. The amount of healing and recovery depends on many things - the kind of injury, how severe it was, how you functioned before the injury and the kinds of social supports you have now.



## Some key things to remember during recovery:

- ⦿ Stay positive
- ⦿ Have patience with yourself, recovery takes time
- ⦿ Spend time with others, don't isolate yourself
- ⦿ Drugs and alcohol will only make things worse
- ⦿ Get lots of rest

## Remember...

- ⦿ Every brain is different. Recovery can take a long time, sometimes even after doctors think no more recovery is possible - it happens!
- ⦿ Never give up at getting better. Focus on what you can do today, that you couldn't yesterday. Try not to compare yourself to how you were before the brain injury.



**Quick fact:** It may take days, months or longer to return to play after a concussion. Some teens with a concussion may need mental rest, including time away from school

After concussion symptoms are no longer experienced, a gradual (medically supervised) return to play can begin.

## Steps to return to play/activity are:

- 1** No activity, complete rest  
Once cleared by a doctor, go to step 2
- 2** Light aerobic exercise (this could include walking, yoga or tai chi) - no resistance training
- 3** Sport-specific exercise (for example - running in soccer or skating in hockey)
- 4** Non-contact practice
- 5** Full contact training after medical clearance
- 6** Return to game play

**\*\*If concussion symptoms return during any step, you must stop activities and see your doctor right away. Each step should take a minimum of one day. If symptoms return during ANY step, return to step one.\*\***

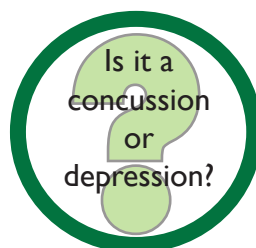


- ⦿ Always wear a seat belt in the car
- ⦿ Never use alcohol, drugs or your cell phone when you're driving a car, bicycle or any other vehicle
- ⦿ Never get into a car if the driver has been using alcohol or drugs
- ⦿ Wear appropriate head gear and safety equipment when playing sports (including biking, blading, snowboarding, etc)
- ⦿ Use the right equipment for game, position or activity
- ⦿ Be sure to wear equipment that fits correctly
- ⦿ Follow safety rules and laws
- ⦿ Play safe and fair, practice good sportsmanship at all times
- ⦿ Keep a record of any concussions that you have

Depression is one of the most common mental disorders in young people. Sometimes the effects of a concussion can mimic depression and sometimes depression may begin following a concussion.

## Symptoms of depression may include:

- ⦿ Mostly in a low or depressed mood
- ⦿ Lack of interest or pleasure in once enjoyed activities
- ⦿ Low (or no) motivation
- ⦿ Lack of energy
- ⦿ Feeling tired most of the time
- ⦿ Difficulty speaking
- ⦿ Headaches



## **DON'T GIVE UP, GO GET HELP!**

Sometimes a concussion can make you feel depressed and this can affect your school, work or personal life. Speak to your parent, school counsellor, doctor or call **Kids Help Phone** at 1-800-668-6868.

For more information about depression visit:  
[www.teenmentalhealth.org](http://www.teenmentalhealth.org) or watch our video on depression at  
[www.youtube.com/teenmentalhealth1](http://www.youtube.com/teenmentalhealth1)



It's not unusual to feel low after a concussion. That feeling will get better over time as your brain heals. There are some things you can do to help your brain get well. Once your symptoms have improved and your doctor has given you permission, you can try some of these out:

- ◎ **Light exercise:** 20-30 minutes of walking every day, when your doctor says you're ready
- ◎ **Eating:** Enjoy healthy foods like fruits and vegetables and drink plenty of water
- ◎ **Avoid drugs:** Do not use alcohol, tobacco or any illegal drugs
- ◎ **Social Activities:** Spend some time each day with people you like
- ◎ **Music and Art:** Listen to music that makes you feel good - draw, paint or write
- ◎ **Light:** Spend part of each day outside, don't shut yourself in a gloomy room
- ◎ **Sleep:** Try for 9 hours of sleep every night, nap during the day if you need to
- ◎ **Talk:** If it helps you, talk to people you like and trust about how you are feeling



“My doctor said that alcohol may worsen my symptoms and cause a slow recovery from my brain injury. I wish I didn’t drink and drive in the first place, I wouldn’t have had this brain injury. I learned my lesson the hard way”

- Sam



## Remember...

- ⦿ It’s important to extend a helping hand to friends or family members who’ve had a brain injury. Be sure you are patient with them, you may notice a change they don’t see themselves.
- ⦿ Try to understand the changes that may take place in their functioning, emotions, sleep patterns and personality.



**BE SUPPORTIVE**  
**RECOVERY TAKES TIME**

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## Pocket SCAT2



Concussion should be suspected in the presence of **any one or more** of the following: symptoms (such as headache), or physical signs (such as unsteadiness), or impaired brain function (e.g. confusion) or abnormal behaviour.

### 1. Symptoms

Presence of any of the following signs & symptoms may suggest a concussion.

- Loss of consciousness
- Seizure or convulsion
- Amnesia
- Headache
- "Pressure in head"
- Neck Pain
- Nausea or vomiting
- Dizziness
- Blurred vision
- Balance problems
- Sensitivity to light
- Sensitivity to noise
- Feeling slowed down
- Feeling like "in a fog"
- "Don't feel right"
- Difficulty concentrating
- Difficulty remembering
- Fatigue or low energy
- Confusion
- Drowsiness
- More emotional
- Irritability
- Sadness
- Nervous or anxious

### 2. Memory function

Failure to answer all questions correctly may suggest a concussion.

- "At what venue are we at today?"
- "Which half is it now?"
- "Who scored last in this game?"
- "What team did you play last week/game?"
- "Did your team win the last game?"

### 3. Balance testing

**Instructions for tandem stance**

*"Now stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

Observe the athlete for 20 seconds. If they make more than 5 errors (such as lift their hands off their hips; open their eyes; lift their forefoot or heel; step, stumble, or fall; or remain out of the start position for more than 5 seconds) then this may suggest a concussion.

**Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, urgently assessed medically, should not be left alone and should not drive a motor vehicle.**

This SCAT2 is an internationally endorsed tool to help coaches, trainers and players assess the possibility of having a concussion.

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## CONCUSSION AWARENESS

### Definition:

A head-trauma-induced alteration in mental status that may or may not involve a loss of consciousness.

*People who have lost consciousness have a concussion or worse!  
A person does not need to lose consciousness to have a concussion!*

*A concussion may be caused by a direct blow to the head, face, neck or anywhere else on the body that causes a severe and sudden movement to the head.*

### COMMON SIGNS AND SYMPTOMS

Symptoms are often subtle

- headache
- pressure in head
- neck pain
- dizziness
- balance problems
- nausea and vomiting
- vision problems
- hearing problems/ringing
- “don’t feel right”
- feeling “dinged” or “dazed”
- confusion
- feeling slowed down
- feeling like in “a fog”
- drowsiness
- fatigue or low energy
- more emotional than usual
- irritability
- difficulty concentrating
- difficulty remembering

### PREVENTION - Reduce the risk of brain injury:

1. Appropriate protective equipment should be worn properly and replaced when damaged. Approved helmets should be used in all activities with a risk of head trauma.
2. Adhere to the rules of the sport or activity. Play fair and play smart!
3. Respect all participants.

Printed: December 31, 2010

IWK Department of Pediatrics



Capital Health



[www.thinkfirst.ca](http://www.thinkfirst.ca)



A Helping Hand to a New Beginning

**BIANS**

Brain Injury Association of Nova Scotia  
bians1@ns.sympatico.ca  
phone: 902 473-7301

This page can be used to help teach players, coaches, teachers and parents about concussions.

## For more information about concussions and young athletes check out these resources:

### ThinkFirst.ca

ThinkFirst teaches school-aged children and youth, sports teams, and community volunteers, to safely participate in the activities they enjoy. Their primary goal is to strive towards a future free of traumatic brain injury and spinal cord injuries. They have an abundance of online resources in both of these categories.

### Centers for Disease Control and Prevention

[www.cdc.gov](http://www.cdc.gov)

The CDC works to protect public health and safety by providing information to enhance health decisions, and it promotes health through partnerships with state health departments and other organizations.

### Other Online Resources:

General information about the teen brain and teen mental health:

[www.teenmentalhealth.org](http://www.teenmentalhealth.org)

[www.brainline.org](http://www.brainline.org)

Brain injury and school: a problem solving system for students with brain injury

[www.projectlearnnet.org](http://www.projectlearnnet.org)

Brain injury guides for educators:

[www.bced.gov.bc.ca/specialed/docs/moe\\_abi\\_resource\\_rb0116.pdf](http://www.bced.gov.bc.ca/specialed/docs/moe_abi_resource_rb0116.pdf)

Brain Injury Association of Canada

[www.biac-aclc.ca](http://www.biac-aclc.ca)

Medical care after brain injury

[www.tbirecoverycenter.org/treatment.htm](http://www.tbirecoverycenter.org/treatment.htm)

Sport Concussion Assessment Tool (SCAT)

[www.cces.ca/en/files-116](http://www.cces.ca/en/files-116)

### Books:

Ashley M.J. (2010). Traumatic brain injury: rehabilitation, treatment, and case management, 3rd ed. Boca Raton, FL : CRC Press.

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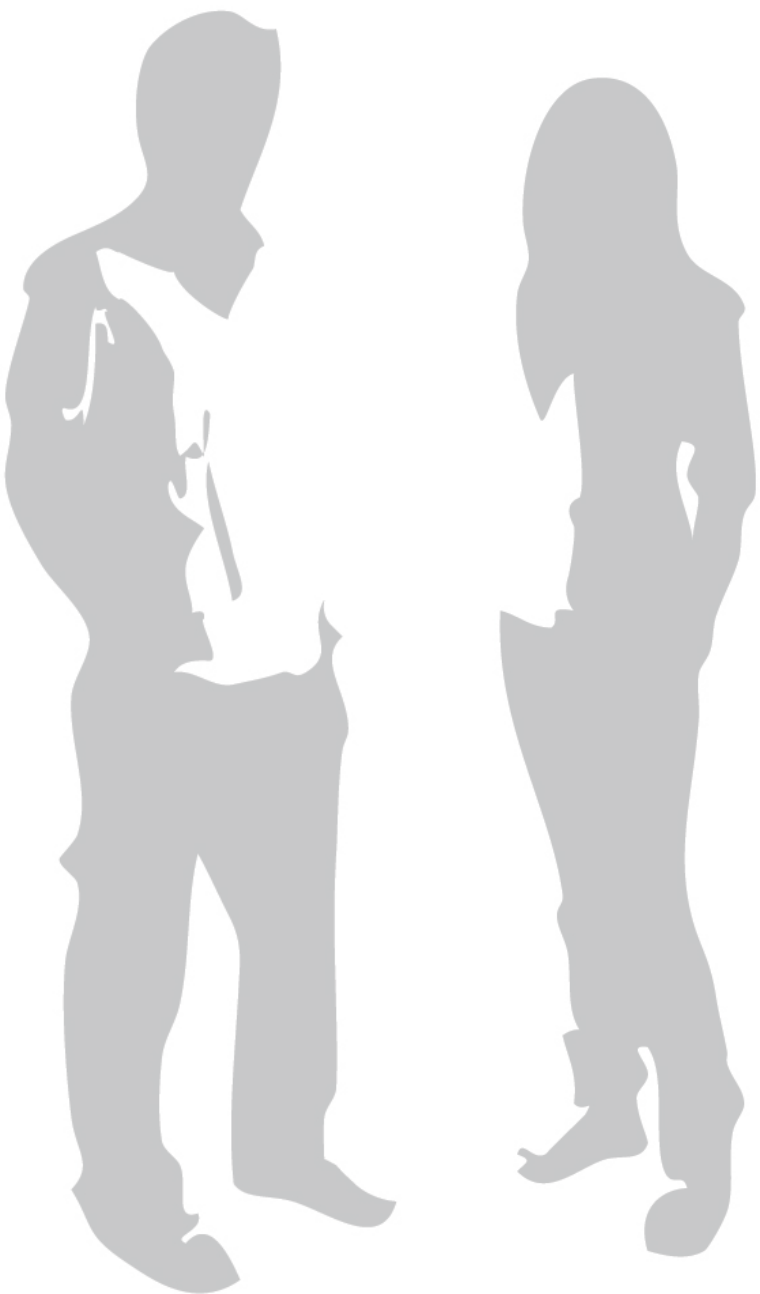
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**Additional funding and support provided by:**



T. R. Meighen  
Family Foundation



**HMCS Toronto**

Kathryn A. Weldon  
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