

Frequently Asked Questions

1. What is a Concussion?

A concussion is a form of a mild traumatic brain injury that causes a disturbance in brain function that can result in a wide variety of symptoms. Concussion can occur without a loss of consciousness and can occur in any sport.

Concussion can result from a direct blow to the head or be the result of a blow elsewhere on the body that creates an impulsive force to the brain (such as a body check). When managed appropriately, the majority of sport concussions resolve over a short time. However, the amount of time varies from person to person and can be prolonged in some people.

Recognition and proper management of concussions when they **first occur** can help prevent further injury or even death.

2. How do Concussions Occur?

A concussion can occur with or without a direct blow to the head. A force to the body that causes the head to be rapidly accelerating /decelerating or rotating can result in a concussion. Sport concussions occur more frequently in sports such as football, rugby, hockey, soccer, and basketball, where contact is part of the game. However, a concussion can happen in any sport, so early recognition is vital.

3. How do I know if I have a Concussion?

Concussion symptoms differ with each person and with each injury. They may begin immediately or may not be noticeable for hours or days. So it is important to STOP activity if you suspect you have a concussion and do NOT return to play for the rest of the day.

4. What are the Signs and Symptoms of a Concussion?

Signs and symptoms may evolve minutes to hours after the injury and may include (1):

Symptom/Signs	Behaviour Changes	Cognitive Impairments	Sleep Disturbances
Headache	Irritability	Slow reaction time	Drowsiness
Neck Pain	Emotional lability	Difficulty concentrating	Trouble falling asleep
Nausea/vomiting	Sadness	Difficulty remembering	Sleeping more than usual
Dizziness	Nervousness	Confusion	Sleeping less than usual
Visual Disturbances	Anxiety	Feeling in a fog	
Sensitivity to light	Inappropriate emotions	Feeling dazed	
Sensitivity to noise			
Amnesia			
Loss of balance			
Decrease playing ability			

5. Are there any Tests available that can tell me I have a Concussion?

Concussion is largely a clinical diagnosis based on mechanism of injury followed by the development of signs and symptoms. At present there is no specific diagnostic test or marker that can diagnose concussion.

Concussions are NOT seen on standard imaging of the head such as CT or MRI

The Sport Concussion Assessment Tool – (SCAT3) is a standardized tool that can be used on the sideline for those

SPORT CONCUSSION



providing care for athletes. Along with clinical judgment, it is a useful tool for evaluating injured athletes for concussion and can be used for athletes aged 13 years and over. There is a Child SCAT3 available for children aged 12 and under (2,4).

6. I was diagnosed “on the field” as having a Concussion, what do I do now?

DO NOT ignore your symptoms - ignoring your symptoms and trying to “tough it out” often makes symptoms worse. Tell your coach, parent, and athletic trainer if you think you or one of your teammates may have a concussion. Don’t let anyone pressure you into continuing to practice or play with a concussion.

If you have been diagnosed with concussion or suspect that you have sustained a concussion, it is important that you DO NOT return to the playing field.

You should be assessed on site by a licensed healthcare professional that has experience in concussion care, but if this is not available, then you should see a doctor as soon as possible for evaluation. There should be someone to observe you for the next few hours to watch for any deterioration as this could indicate a more severe injury.

Warning signs include (2):

- Worsening headache
- Disorientation - Can’t recognize people or places
- Repeated vomiting
- Unequal pupils
- Unusual behaviour
- Increasing confusion, irritability
- Seizures (arms and legs jerk uncontrollably)
- Numbness or weakness in arms or legs
- Decreased balance and coordination - unsteady on their feet;
- Slurred speech
- Decreasing level of consciousness – drowsy, can’t be awakened
- Significant neck pain

If any of these are present ... Go to the closest Emergency Room

Once medically cleared, an initial period of complete mental and physical rest period of 24-48 hours may be of benefit. This means avoiding the use of TV, video games, texting, and schoolwork along with no physical activity. It is advised that you should not drive a motor vehicle until cleared to do so by a medical professional. A follow up appointment should be booked with a physician as soon as possible after injury to determine your readiness for return to activity, school work, etc.

7. Do I need an MRI or other Imaging?

NO --- Concussions are not a structural injury; therefore no abnormality is seen on standard imaging. However, if there is concern for more severe injury, such as a suspected intra-cerebral bleed or skull fracture imaging is useful.

8. How long will it take for me to get better?

The majority of athletes with sport concussion recover within 7-10 days from their concussive injury (3). However, the recovery is longer in the younger athlete and may take several weeks.

9. What are the long term consequences of getting a Concussion?

Most sport concussions resolve spontaneously if identified early and managed appropriately. Unfortunately, there are some athletes (15 to 20%) who develop persistent symptoms or long term consequences. These may include chronic symptoms such as headaches or dizziness, mood disorders like depression and anxiety, sleep disturbance, cognitive issues interfering with school or work, etc. It is not absolutely clear who is at higher risk, though there are some identified risk factors including a prior history of concussion, more severe concussion, pre-existing medical conditions, associated injury, etc.

These athletes require advanced multidisciplinary care from those providers with expertise in concussion.

Chronic traumatic encephalopathy (CTE) represents a distinct neurodegenerative disease that has gained media attention. There is an unknown incidence in the general athletic populations and it is not yet possible to conclude a definite cause and effect relationship of concussions and risk for the development of CTE.

10. How can I prevent a Concussion?

There will always be an inherent risk for concussion in contact sport. Prevention of concussion and head injury is most successful when athletes, coaches, athletic trainers, and health care providers are properly educated and the safety rules of sporting environment are enforced. Respect and fair play are paramount.

Wearing protective equipment can reduce the risk and severity of injuries to the face and skull - however, there is no evidence that any helmet will prevent concussion. Mouth guards also have not been shown to help prevent concussion but they have a definite role in preventing dental and orofacial injuries (3).

11. Can I go to school when I have a Concussion?

The cornerstone of concussion management is physical AND cognitive rest until the acute symptoms resolve. This is often 24 to 48 hours but is quite individual. Pacing your activity is important. It has been suggested if a student can tolerate 30-45 minutes of mental stimulation through light reading, watching TV, or interacting with the family, the parent or student may consider increasing academic activity as below. If they are a student athlete the emphasis should be on returning to school successfully with no post concussive symptoms, before trying to return to play.

RETURN TO LEARN PROTOCOL (1)

- Step 1** **Cognitive Rest:** No school at this time. Limit activities that require concentration and attention
- Step 2** **Increase Cognitive Tasks:** As symptoms improve, slowly increase cognitive tasks at home in 15-20min increments
- Step 3** **Resume Modified School Attendance:** Start with half days or certain classes (avoid gym, music, and shop). Keep homework to 15-20min blocks.
- Step 4** **Increase School Attendance:** Increase to full days gradually. Accommodations may be required to avoid symptom exacerbation.
- Step 5** **Return to Play:** Once fully back to school without accommodations then start RTP protocol (below)

For elementary and secondary school children in Ontario, please visit the link below as this website provides guidelines and information on concussion identification and management for school and school board staff, coaches, and parents.

Ontario Physical and Health Education Association (OPHEA) See Appendix C-1 to C-4:
<http://safety.ophea.net/safety-plan/168>

12. When can I get back to my sport or physical activity?

NO athlete with suspected concussion should be allowed to return to play on the same day as the injury, despite the level of play (even if they are varsity or elite athletes). Proper identification and early management will increase the chance of successful recovery.

Once acute symptoms have improved and the athlete has been medically cleared, he or she may begin a stepwise progression of activity as outlined below (2)(3). Each step should take 24 hours but if any symptoms return, the athlete should drop back to the previous level and try to progress again after a 24 hour period of rest.

For the younger athlete, it is recommended to follow a more prolonged return to play protocol with 48 hours per step. As well, it is suggested that a student athlete needs to return to school successfully before trying to engage in returning to their sport.

RETURN TO PLAY PROTOCOL (2, 3):

- Step 1** No Activity (symptoms at rest)
- Step 2** Light Aerobic Exercise (Walking, swimming, or stationary cycling with a maximum intensity of <70%)
- Step 3** Sport Specific Exercise (Skating drills in hockey, running drills in soccer. No head impact activities)
- Step 4** Noncontact Training Drills (Progression to more complex training drills – eg, passing drills. May start progressive resistance training)
Medical clearance by a medical professional should be obtained before progressing to Step 5 and 6.
- Step 5** Full Contact Practice (Participate in normal training activities)
- Step 6** Return to Play (Normal game play)

13. What happens if I don't get better?

Persistent symptoms lasting more than 10 days are generally reported in 10-15% of concussions. It is at this point where multidisciplinary care by those with special knowledge in concussion should be considered. This may include physical therapy, occupational therapy, speech therapy, psychological counseling, optometry, audiology, cognitive therapy, etc

Fowler Kennedy Sport Medicine Clinic offers a multidisciplinary approach to managing ACUTE sport concussions in the active and athletic population. Medical professionals at our clinic work together to assess, treat, and rehabilitate ACUTE injuries, and when needed will refer to other services including the Paediatric Acquired Brain Injury Community Outreach Program (PABICOP) and Parkwood Outpatient Acquired Brain Injuries program. These centres provide a comprehensive multidisciplinary care approach to those with persistent symptoms or complex issues. Those patients with non-sport related injury or chronic problems should be directed to their family physician who can refer to Parkwood or PABICOP directly.

For More Information on Concussion Please Visit

www.fowlerkennedy.com

www.cdc.gov/concussion

www.onf.org

References

1. Purcell LK. Sport-related concussion: Evaluation and management Canadian. Paediatric Society, [Healthy Active Living and Sports Medicine Committee](#). Paediatric Child Health 2014;19(3): 153-8
2. SCAT 3: Sport Concussion Assessment Tool 3 <http://bjsm.bmj.com/content/47/5/259.full.pdf> rd edition. Concussion in Sport Group. 2013. Br J Sports Med 2013(47):259
3. McCrory P, Meeuwisse WH, Aubry M, et al. Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport Held in Zurich, November 2012. *Br J Sports Med* <http://bjsm.bmj.com/content/47/5/250.full> 2013 (47):250-258.
4. ChildSCAT 3: Child sport concussion assessment tool 3 <http://bjsm.bmj.com/content/47/5/263.full.pdf> rd edition. Concussion in Sport Group. 2013. Br J Sports Med 2013(47):259