



<http://neurosciences.beaumont.edu/concussion>

What is a Concussion??

A concussion is a disturbance in brain functioning that occurs following a blow to the head, a violent shaking of the head, or an abrupt fall, causing a jarring of the brain.

Common Signs & Symptoms of a Concussion

Possible Observed Signs: Individual appears dazed or stunned, looks confused. They are unsure of the game, score, or opponent. Their movement appears impaired (they move clumsily), they answer questions slowly, they have loss of consciousness, or change in behaviour or personality. They may also forget events prior to or after the incident.

Possible Reported Symptoms: Headache, nausea, dizziness, balance problems, vision issues, sensitivity to light or noise, feeling tired, feeling foggy, trouble concentrating, trouble with memory.

Important Steps to Take When a Concussion May be Possible

- If the individual reports or you observe any of the above signs or symptoms, remove the player immediately from the game or practice.
- The affected individual should see a medical doctor to be correctly diagnosed after the incident, the sooner the better. Do not give the individual medication → allow the doctor to make that decision (only a medical doctor can diagnose a Concussion).
- If a Concussion has been confirmed, return to sport should only come when you have received written confirmation from a doctor that they have been cleared to participate.
- When an individual suffers any of the above signs or symptoms, he or she has suffered a Concussion (not a bell ringer, or dazed, etc.).
- There is NO 1st, 2nd, or 3rd Concussion; there is NO mild, moderate, or severe Concussion → there is only a Concussion.

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- When an individual suffers a Concussion they are "Indefinitely" out. They are not to play until a doctor deems them fit to return to sport. Every individual is different and recovery rates differ from person to person → no two brains are the same.
- Rest is imperative in order for the brain to recover.
- Approximately 30% of Concussion victims have no signs or symptoms, but their cognitive levels (reaction time, memory, thought processing, etc.) are not back to normal previous to injury. This is why Concussion Baseline Testing is essential to be done prior to the start of the season
 - If a Concussion occurs, a post-concussion test can be completed and then the doctors can compare it to the baseline test.

Recovery from Post-Concussion Syndrome

- The individual must rest until there are no signs or symptoms → this means avoiding anything that causes the brain to work, such as: school or work, physical activity, TV, reading, video games, texting or e-mails, computer, etc. If the individual is light-sensitive, he or she should wear sun glasses.
- Once signs and symptoms are gone then light physical activity is introduced. If the individual suffers the symptoms again, he/she must stop immediately. At any time during recovery if the individual suffers from the symptoms they must stop and rest again until symptoms have subsided for at least a 24-hour period before resuming.
 - 1) Light aerobic activity (raising heart rate)
 - 2) Sport-specific training (off-ice)
 - 3) Non-contact drills (on ice)
 - 4) Light contact drills (pushing and being pushed)
 - 5) Full contact drills
- 6) Re-do Concussion Cognitive Test (if a baseline test was performed prior to the season)
- 7) Re-evaluation by doctor to give clearance to play

Concussion and Neck Disorders

- With any concussion the neck is involved and needs to be evaluated and treated as soon as possible. Issues with the neck can cause all symptoms that you would see with a concussion. This can make it very difficult to determine which issue (concussion vs. neck) is causing the symptoms.
- 95% of headaches are caused by tightness from four small muscles that attach from the base of the skull to the neck region → these muscles are usually affected when a concussion occurs.
- A medical doctor must diagnose a concussion; a neck injury can be diagnosed by an Athletic Therapist or Physiotherapist after the fact. The neck injury does not always show up immediately after the injury due to the patient's various symptoms.

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Prevention of Concussions

- This is very difficult as in any sport there are collisions, some by purpose and some accidental
- Properly fitted dental mouth guards have not been proven to totally prevent a concussion from occurring, but we know it does not hurt to have one
- Neck strength is being discussed at length but no definitive answer as of yet
- Coaching: "keep your head up"
- Refereeing? It must get better at enforcing head shot rules

Concussions and Concussion treatment is, and will continue to be, an ever-evolving issue. The brain is the most complex and dynamic organ in our body, and fixing it baffles the world's leading experts.

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