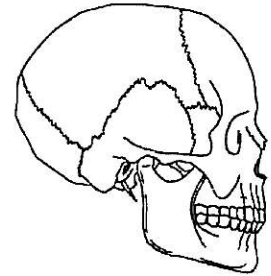


## 12.2 Concussions

Because of the contact nature of the game and the speed with which the game is played, the brain is vulnerable to injury. Trauma may occur through direct contact to the head or face or indirectly through a whiplash effect. Injuries to the brain are characterized by an altered state of consciousness. It is the **altered state of consciousness** that is the key thing to look for with any head injury.

Definition: A concussion is a brain injury. A concussion may involve loss of consciousness. However, a concussion most often occurs **without a** loss of consciousness.



Mechanism: Blow to the head, face or jaw, or even elsewhere on the body.

Note: Children are more sensitive to the effects of a concussion and may need to have a longer period of rest prior to returning to activity and the sport.

### Common Symptoms and Signs

- Symptoms and signs may appear immediately upon injury, have a delayed onset or may be worse later that day or even the next morning, so players should continue to be observed even after the initial symptoms and signs appear to have returned to normal.
- Concussion is a "symptom" injury - there are fewer outward signs than symptoms. This may make it more difficult for the observer to detect and easier for the player to mask/hide the symptoms.

#### Symptoms

- Headache
- Dizziness
- Feeling dazed
- Seeing stars
- Sensitivity to light
- Ringing in ears
- Tiredness
- Nausea, vomiting
- Irritability
- Confusion, disorientation

#### Signs

- Poor balance or coordination
- Slow or slurred speech
- Poor concentration
- Delayed responses to questions
- Vacant stare
- Decreased playing ability
- Unusual emotions, personality change, and inappropriate behaviour

**ANY ONE OF THESE SIGNS OR SYMPTOMS IS ENOUGH TO REMOVE A PLAYER FROM ACTION.**

#### Mental Status Testing

**For information only. Do not attempt to treat a concussion. Always have the player consult a physician.**

Orientation: Does the player know what the exact time and place is?

Concentration: Can the player spell "world" backwards?

Memory: Does the player know the score of the game?



## Initial response

**If there is any loss of consciousness – Initiate Emergency Action Plan and call an ambulance. Assume possible neck/spinal injury.**

- Stabilize the head and neck.
- Check **A** (Airway), **B** (Breathing), **C** (Circulation) and continue to monitor the A, B, C's if unconscious.
- Never give players aspirin, Tylenol or other medications.
- Notify a parent or guardian of any player with a concussion.

## Concussion Management

- Remove the player from the current activity.
- Do not leave the player alone; monitor signs and symptoms.
- Do not administer medication.
- Inform the coach, parent or guardian about the injury.
- The player should be evaluated by a medical doctor. All players should consult a physician after a concussion. Coaches, trainers, players and parents should not attempt to treat a concussion without a physician's involvement.
- The player must not return to play in that game or practice and must have a physician's approval prior to return to play.

**Note: If there is no loss of consciousness but the symptoms persist, become worse, or new symptoms appear, immediate medical attention is necessary.**

## Return to Play

The return to play process is gradual, and begins after a doctor has given the player clearance to return to activity.

If any symptoms/signs return during this process, the player must be re-evaluated by a physician. No return to play if any symptoms or signs persist. Remember, symptoms may return later that day or the next, not necessarily when exercising!

**Step 1.** No activity, only complete rest. Proceed to step 2 only when symptoms are gone. This includes avoiding both mental and physical stress.

**Step 2.** Light aerobic exercise, such as walking or stationary cycling. Monitor for symptoms and signs. No resistance training or weight lifting.

**Step 3.** Sport specific activities and training (e.g. skating).

**Step 4.** Drills without body contact. May add light resistance training and progress to heavier weights.

The time needed to progress from non-contact to contact exercise will vary with the severity of the concussion and the player. Go to step 5 after medical clearance. (Reassessment and note)

**Step 5.** Begin drills with body contact.

**Step 6.** Game play. (The earliest a concussed athlete should return to play is one week).

**Note that each step should be a minimum of one day.**



Note: Players should proceed through return to play steps only when they do not experience symptoms or signs and a physician has given clearance. If symptoms or signs return, the player should return to the previous step, and be re-evaluated by a physician. Each step should be a minimum of one day.

### REMEMBER

A second concussion on top of the first concussion can lead to substantially more damage than one concussion alone. The effect of concussions is cumulative and the end result of several concussions could be long term/permanent impairment and the end of a player's participation in sport if not properly managed. Sufficient time must be allowed between the concussion and return to play because the risk of a second concussion and its effects are too great. Parents should always be instructed to advise the physician that there has been more than one concussion.

Children are more sensitive to the effects of a concussion and may need to have a longer period of rest before returning to activity and the sport without necessarily having a set time frame.

### Prevention Tips

Players	Coach/Trainer/Referee
<ul style="list-style-type: none"><li>• Make sure your helmet fits snugly and that the strap is fastened</li><li>• Respect other players</li><li>• No hits to the head</li><li>• No hits from behind</li><li>• Get a custom fitted mouth guard</li></ul>	<ul style="list-style-type: none"><li>• Eliminate all checks to the head</li><li>• Eliminate all hits from behind</li><li>• Recognize signs and symptoms of concussion</li><li>• Inform and educate players about the risks of concussion</li></ul>