



CONCUSSION MANAGEMENT & RETURN TO COMPETITION GUIDELINES			
Reviewed:	February 26, 2017	Effective:	February 26, 2017
Next Review:	February 2020	Approval:	Board of Directors

These guidelines provide general information only and are not intended to, and do not, constitute any medical advice, medical diagnoses, symptom assessments or medical opinions.

Athletics Ontario takes the health and well being of all its participants seriously, whether they are training, in competition or engaged in related events. While concussions and suspected concussions occur occasionally in the sport of athletics (track and field, cross country, road running, trail running or race walking), they do happen.

Athletics Ontario is committed to increasing awareness, amongst its members on head injury prevention and concussion identification and management.

1. APPLICATION

- (a)** These guidelines bring attention to the issue of concussions, highlight best practices and provide resources for clubs, coaches, athletes, and parents for dealing with a concussion.
- (b)** AO will comply with the Concussion Guidelines from the Ministry of Tourism, Culture and Sport and subsequent legislation once enacted.
- (c)** During AO Championship competitions, AO officials will follow best practice for managing events where an athlete is suspected of suffering a head injury. Meet organizers will facilitate the call to and access for medical personnel.
- (d)** AO requires all clubs and their members, including parents, to adhere to these guidelines and enact club procedures for dealing with athlete concussions at training, competition and related events.

2. DEFINITION

- (a) "Concussion"** is a brain injury and is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces. This biomechanical force can be caused by a direct blow to the head, face, neck or elsewhere in the body creating a whiplash affect. An athlete DOES NOT require direct contact with the head or loss of consciousness to acquire a concussion.
- (b) "Member"** refers to any entity approved for membership as defined in the AO By-Law (person, group of persons organized and associated for the purpose of athletics and registered as a Member of AO), as well as all individuals engaged in activities with AO (including, but not limited to, athletes; coaches; officials; volunteers; team managers; club administrators, coaches or board members; committee members, directors and officers of AO; employees; spectators at AO sanctioned events; and parents/guardians of athletes.

3. CONCUSSION GUIDELINES

A concussion is a brain injury that cannot be seen. It affects the way a person may think and remember things, and can produce a variety of symptoms. Any blow to the head, face or neck, or a blow to the body which causes a sudden jarring of the head may cause a concussion.

While most children and teens with concussions recover quickly and fully, some may have concussion symptoms that last for days, weeks, months – even years. Repeat concussions can result in brain swelling or permanent brain damage. Concussions should be treated on a case by case basis as no two concussions are the same.

(a) Awareness

A concussion can happen at home, school, practice or competition. So everyone from parents, coaches, sport and recreation leaders, school professionals, athletes, and officials can play an important role in learning how to identify signs and symptoms of concussion; and understanding what to do if they think an athlete has experienced one.

(b) Concussion

Any blow to the head, face or neck, or a blow to the body which causes a sudden jarring of the head may cause a concussion.

If an athlete receives such a blow, the athlete should stop training/competition right away. They should not be left alone and should be seen by a doctor as soon as possible that day. If an athlete is knocked out, call an ambulance to take them to a hospital immediately. Do not move the athlete or remove athletic equipment (i.e., like a helmet or other protective gear) as there may also be a cervical spine injury; wait for paramedics to arrive.

An athlete with a concussion should not continue to train or compete that day, regardless of external pressures (teammates, coaches, parents/guardians, etc.) or even if the athlete says they are feeling better. **WHEN IN DOUBT, SIT THEM OUT!!!**

Problems caused by a head injury can get worse later that day or night. They should not return to sports until he/she has been seen by a doctor.

(c) Symptoms and Signs

An athlete does not need to be knocked out (lose consciousness) to have suffered a concussion.

There are many signs and symptoms associated with a concussion and they can be divided into 3 categories: Physical, Behavioral/Emotional and Cognitive. The following chart includes some of the more common signs and symptoms but is not exclusive.

PHYSICAL	BEHAVIORAL/EMOTIONAL	COGNITIVE
Headache or “Pressure in head” Neck pain Nausea/vomiting Dizziness Blurred vision Balance problems Sensitivity to light or noise	Fatigue or low energy Confusion Drowsiness Trouble falling asleep More emotional Irritability Sadness Nervous/anxious	Feeling slowed down Feeling like “in a fog” “Don’t feel right” Difficulty concentrating Difficulty remembering

Adapted from: Guidelines for Concussion/Mild Traumatic Brain Injury & Persistent Symptoms 2nd ed. and SCAT 3

The signs and symptoms of a concussion often last for 7-10 days but may last much longer. In some cases, athletes may take many weeks or months to heal. Having had previous concussions may increase the chance that an individual may take longer to heal.

It is very important that an athlete not participate in any training and/or competition if they have any signs or symptoms of concussion. The athlete must rest until they are completely back to normal. When he/she is back to normal and has been seen by a doctor, the athlete can then go through the steps of increasing activity described below. When the athlete has progressed through these steps with no symptoms or problems, and has received clearance from their doctor, they may return to training and/or competition. If you are unsure if an athlete should train and/or compete remember, **WHEN IN DOUBT, SIT THEM OUT!!!**

(d) Management

If concussions are identified immediately and managed properly, including using a step-by-step return to sport guideline, then the chance of persistent symptoms and complications can be drastically decreased.

Continuing to be active in a sport while concussed or returning too early from a concussion can lead to serious and permanent conditions. These include but are not limited to post-concussion syndrome (persistent headaches, nausea, memory loss, etc.), second impact syndrome (when a mild blow to a previously concussed brain leads to massive brain swelling), multiple impact syndrome (can lead to permanent and irreversible changes), neuropathologic changes such as chronic traumatic encephalopathy (CTE), or in rare cases, death.

An athlete that sustains a suspected concussion must be seen by a medical doctor (preferably one with a sports medicine background) prior to returning to participation. Returning to an activity or sport must be individualized to the athlete, their injury and the event they are returning to.

i. Return to Learn Protocol

Much emphasis has been placed upon return to play protocols following a sport related concussion, however when dealing with athletes, completing a return to learn protocol first must be considered prior to returning to play. The symptoms that occur with a concussion have a direct impact on academic functioning. To effectively learn while recovering from a concussion, an athlete must be supported with academic accommodations that include instructional, assessment, environmental and emotional considerations.

Cognitive overload can precipitate an exacerbation of symptoms and thus delay a full recovery.

Ongoing collaboration between physicians, therapist, school-based staff, parents, coaches and the athlete is essential to facilitate a successful return to learn protocol.

It is important to note that some physical activity may be added during late stages of return to learn to take into consideration factors such as mental health and return to classes with an activity component, etc. This integration of activity is determined on a case by case basis and should be directly monitored by a medical professional to remain in sub-threshold levels.

RETURN TO LEARN MUST BE COMPLETE PRIOR TO STARTING RETURN TO PLAY.

ii. **Return to Play Protocol**

An athlete must be asymptomatic and fully completed their Return to Learn Protocol prior to starting Return to Play.

An athlete that sustains a suspected concussion must be seen by a medical doctor (preferably one with a sports medicine background) prior to returning to participation. Prior to beginning any physical activity the athlete **MUST** be asymptomatic at rest and with mental exertion for at least 24 hours at each step.

Following this, the athlete can be progressed back to full activity following the step-wise process detailed below -- the International Concussion Consensus graduated return to play protocol.

Rehabilitation Stage	Functional exercise	Objective of stage
1. No activity	Complete cognitive (e.g. mental) rest	Recovery
2. Light aerobic exercise	Walking, swimming or stationary bicycle keeping intensity less than 70% of maximum predicted heart rate	Increase heart rate
3. Sport-specific exercise	Light running, polymeric, or medicine ball drills. No head impact activities	Add movement
4. Non-contact training drills	Progression to more complex training drills, e.g., light throwing, jumping with bungee cord or simple hurdle drills	Exercise, coordination and use of brain
5. Full contact practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6. Return to Play	Normal game play	

Source: Concussion Statement on Concussion in Sport: 4th International Conference on Concussion in Sport held in Zurich, November, 2012

iii. **7 + Days to Recover**

Generally, each step should take *at least* 24 hours, so that, assuming the athlete does not experience concussion symptoms at rest or with exercise at the current level, he/she will be able to return to sports in about a week's time. If any post-concussion symptoms occur at any level, the athlete needs to drop back to the previous level at which he/she was symptom-free, and try to progress again after a further 24-hour period of rest has passed.

This progression must be closely supervised by a trained medical professional. Progression through each step is individualized and should be documented and determined on a case by case basis.

Factors that may affect the rate of return to play include: previous history of concussion, duration of symptoms, and age of athlete or other type of activity they are returning to (i.e., a collision sport).

4. RESOURCES

Athletics Ontario encourages its members to familiarize themselves with information on best practices regarding concussions and their treatment. Additional resources are available at:

- **Canadian Sport for Life injury Prevention and Physical Literacy Guide for Organizations**
<http://canadiansportforlife.ca/cs4l-physical-literacy-and-injury-prevention-how-guideclubs>
- **Coaches Association of Ontario**
http://www.coachesontario.ca/events-funding/rtp/?_ga=1.201473303.769180050.1462239783
- **Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012**
<https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/IOC/Who-We-Are/Commissions/Medical-and-Scientific-Commission/EN-Consensus-Statement-on-Concussion-in-Sport-the-4th-International-Conference-2012.pdf>
- **Ontario Ministry of Health Concussion Portal**
<http://www.health.gov.on.ca/en/public/programs/concussions>
- **Ontario Neurotrauma Foundation Guidelines for Concussion**
<http://onf.org/documents/guidelines-for-concussionmtbi-persistent-symptoms-second-edition>
- **Parachute's Active and Safe Concussion Toolkit**
<http://www.parachutecanada.org/active-and-safe>
- **Play Safe Initiative Resources**
<http://www.playsafeinitiative.ca/resources>