



# ISWO's Concussion Strategy

## Introduction

ISWO has developed a Concussion Strategy to help guide the management of Athletes who may have a concussion or a suspected concussion, as a result of participation in ISWO Events. This strategy aligns with the Canadian Guideline on Concussion in Sport and is adapted from *Canadian Guideline on Concussion in Sport (Parachute, 2017)*. "Recognition, diagnosis and timely clinical assessment of suspected concussions may help facilitate earlier recovery, reduce the risk of early complications and avoid further head and musculoskeletal injuries (3)". All sport stakeholders in ISWO's events and programming including Athletes, parents, coaches, officials, volunteers, and staff are responsible for the recognition and reporting of Athletes who may demonstrate visual signs of a head injury or who report concussion-related symptoms.

## Purpose

This Concussion Strategy covers the recognition, medical diagnosis, and management of Athletes, players, and sport participants who may sustain a suspected concussion during a sport activity. It aims to ensure that Athletes with a suspected concussion receive timely and appropriate care and proper management to allow them to return back to their sport safely. This Concussion Strategy may not address every possible clinical scenario that can occur during sport-related activities but includes critical elements based on the latest evidence and current expert consensus.

This Concussion Strategy is intended for use by all individuals who interact with Athletes within the context of ISWO Competitions or Programs, including Athletes, parents, coaches, officials, teachers, trainers and licensed healthcare professionals.

Please refer to **Appendix B** for a summary of the **ISWO Sport Concussion Strategy (Concussion Pathway)**.

## Head Injury Recognition

Although the formal diagnosis of concussion should be made following a medical assessment, all sport stakeholders including Athletes, parents, teachers, coaches, teachers, officials and licensed healthcare professionals are responsible for the recognition and reporting of Athletes who may demonstrate visual signs of a head injury or who report concussion-related symptoms. This is particularly important because many sport and recreation venues will not have access to on-site licensed healthcare professionals.

A concussion should be suspected:

in any Athlete who sustains a significant impact to the head, face, neck, or body and demonstrates *any* of the visual signs of a suspected concussion or reports *any* symptoms of a suspected concussion as detailed in Appendix A: Concussion Recognition Tool 5; or

if an Athlete reports *any* concussion symptoms to one of their peers, parents, teachers, or coaches or if anyone witnesses an Athlete exhibiting any of the visual signs of a concussion.

In some cases, an Athlete may demonstrate signs or symptoms of a more severe head or spine injury including convulsions, worsening headaches, vomiting or neck pain. If an Athlete demonstrates any of the 'Red Flags' indicated in Appendix A: Concussion Recognition Tool 5, a more severe head or spine injury should be suspected, and Emergency Medical Assessments should be pursued.

### **Onsite Medical Assessment**

Depending on the suspected severity of the injury, an initial assessment may be completed by emergency medical professionals or by an on-site licensed healthcare professional where available. In cases where an athlete loses consciousness, or it is suspected an Athlete might have a more severe head or spine injury, Emergency Medical Assessment by emergency medical professionals should take place. If a more severe injury is not suspected, the Athlete should undergo Sideline Medical Assessment or Medical Assessment, depending on if there is a licensed healthcare professional present.

### **Emergency Medical Assessment**

If an Athlete is suspected of sustaining a more severe head or spine injury during a game or practice, an ambulance should be called immediately to transfer the Athlete to the nearest emergency department for further Medical Assessment.

Coaches, parents, teachers, trainers and officials should not make any effort to remove equipment or move the Athlete until an ambulance has arrived and the Athlete should not be left alone until the ambulance arrives. After the emergency medical services staff has completed the Emergency Medical Assessment, the Athlete should be transferred to the nearest hospital for Medical Assessment. In the case of youth (under 18 years of age), the Athlete's parents or guardians should be contacted immediately to inform them of the Athlete's injury. For Athletes over 18 years of age, their emergency contact person should be contacted if one has been provided.

### **Sideline Medical Assessment**

If an Athlete is suspected of sustaining a concussion and there is no concern for a more serious head or spine injury, the Athlete should be immediately removed from the field of play, using the Removal-From-Sport Protocol.

**Scenario 1: If a licensed healthcare professional is present**

The Athlete should be taken to a quiet area and undergo a Sideline Medical Assessment using the Sport Concussion Assessment Tool 5 (SCAT5) or the Child SCAT5. The SCAT5 and Child SCAT5 are clinical tools that should only be used by a licensed healthcare professional that has experience using these tools. It is important to note that the results of SCAT5 and Child SCAT5 testing can be normal in the setting of acute concussion. As such, these tools can be used by licensed healthcare professionals to document initial neurological status but should not be used to make sideline return-to-sport decisions in youth athletes. Any youth Athlete who is suspected of having sustained a concussion must not return to the game or practice and must be referred for Medical Assessment.

If a youth Athlete is removed from play following a significant impact and has undergone assessment by a licensed healthcare professional, but there are NO visual signs of a concussion and the Athlete reports NO concussion symptoms then the Athlete can be returned to play but should be monitored for delayed symptoms.

In the case of national team-affiliated Athletes (age 18 years and older), an experienced certified athletic therapist, physiotherapist or medical doctor providing medical coverage for the sporting event may make the determination that a concussion has not occurred based on the results of the Sideline Medical Assessment. In these cases, the Athlete may be returned to the practice or game without a *Medical Clearance Letter* but this should be clearly communicated to the coaching staff. Athletes that have been cleared to return to games or practices should be monitored for delayed symptoms. If the Athlete develops any delayed symptoms the Athlete should be removed from play and undergo medical assessment by a medical doctor or nurse practitioner.

**Scenario 2: If there is no licensed healthcare professional present**

The Athlete should be referred immediately for medical assessment by a Licensed medical or nurse practitioner, and the Athlete must not Return-To-Play until receiving written medical clearance.

**Offsite Medical Assessment**

In order to provide comprehensive evaluation of Athletes with a suspected concussion, the medical assessment must:

rule out more serious forms of traumatic brain and spine injuries,  
rule out medical and neurological conditions that can present with concussion-like symptoms, and;  
must make the diagnosis of concussion based on findings of the clinical history and physical examination and the evidence-based use of adjunctive tests as indicated (i.e. CT scan).

In addition to nurse practitioners, medical doctors (medical doctors and nurse practitioners are the only healthcare professionals in Canada with licensed training and expertise to meet these needs; therefore all Athletes with a suspected concussion should undergo evaluation by one of these professionals) that are qualified to evaluate patients with a suspected concussion include: pediatricians; family medicine, sports medicine, emergency department, internal medicine, and rehabilitation (physiatrists) physicians; neurologists; and neurosurgeons.

In geographic regions of Canada with limited access to medical doctors (i.e. rural or northern communities), a licensed healthcare professional (i.e. nurse) with pre-arranged access to a medical doctor or nurse practitioner can facilitate this role. The medical assessment is responsible for determining whether the Athlete has been diagnosed with a concussion or not. Athletes with a diagnosed concussion should be provided with a *Medical Assessment Letter* indicating a concussion has been diagnosed. Athletes that are determined to have not sustained a concussion must be provided with a *Medical Assessment Letter* indicating a concussion has not been diagnosed and the Athlete may return to school, work and sports activities without restriction.

### **Concussion Management - Sport Specific**

When an Athlete has been diagnosed with a concussion, it is important that the Athlete's parent/legal guardian is informed. All Athletes diagnosed with a concussion must be provided with a standardized **Medical Assessment Letter (Appendix D)** that notifies the Athlete and their parents/legal guardians/spouse that they have been diagnosed with a concussion and may not return to any activities with a risk of concussion until medically cleared to do so by a licenced medical or nurse practitioner. Because the **Medical Assessment Letter (Appendix D)** contains personal health information, it is the responsibility of the Athlete or their parent/legal guardian to provide this documentation to the Athlete's coaches, teachers, or employers. It is also important for the Athlete to provide this information to ISWO where applicable.

Athletes diagnosed with a concussion should be provided with education about the signs and symptoms of concussion, strategies about how to manage their symptoms, the risks of returning to sport without medical clearance and recommendations regarding a gradual return to school and sport activities. Athletes diagnosed with a concussion are to be managed according to their *Return-to-School and Sport-Specific Return-to-Sport Strategy* under the supervision of a licenced medical or nurse practitioner. Once the Athlete has completed their *Return-to-School and Sport-Specific Return-to-Sport Strategy* and are deemed to be clinically recovered from their concussion, the licenced medical or nurse practitioner can consider the Athlete for a return to full sports activities and issue a **Medical Clearance Letter (Appendix E)**.

### **Return-to-Sport Strategy**

The following is an outline of the Return-to-Sport Strategy that should be used to help Athletes, coaches, trainers, and medical professionals to partner in allowing the athlete to make a gradual return to play. An initial period of 24-48 hours of rest is recommended before starting the *Return-to-Sport Strategy*. The Athlete spending a minimum duration of 24 hours without symptom increases at each

stage before progressing to the next one. If the Athlete experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage.

It is important that youth and adult student-Athletes return to full-time school activities before progressing to stage 5 and 6 of the Specific Return-to-Sport Strategy. It is also important that all Athletes provide their coach with a *Medical Clearance Letter* prior to returning to full contact sport activities.

Stage	Aim	Activity	Goal of each step
1	Symptom-limiting activity	Daily activities that do not provoke symptoms	Gradual re-introduction of work/school activities
2	Light aerobic activity	Walking or stationary cycling at slow to medium pace. No resistance training <i>-Light intensity jogging or stationary cycling for 15-20 minutes at sub-symptom threshold intensity</i>	Increase heart rate
3	Sport-specific exercise	Running or skating drills. No head impact activities <i>- Moderate intensity jogging for 30-60 minutes at sub-symptom threshold intensity</i> <i>- Low to moderate impact passing, dribbling, shooting, and agility drills</i>	Add movement
4	Non-contact training drills	Harder training drills, i.e. passing drills. May start progressive resistance training <i>- Participation in high intensity running and drills</i> <i>- Non-contact practice without heading</i> <i>- Participation in resistance training workouts</i>	Exercise, coordination and increased thinking
5	Full contact practice	Following medical clearance <i>- Participation in full practice without activity restriction</i>	Restore confidence and assess functional skills by coaching staff
6	Return-To-Play	Normal game play	

McCroory et al. (2017). Consensus statement on concussion in sport – the 5<sup>th</sup> international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, 51(11), 838-847.

Most Athletes who sustain a concussion while participating in sport will make a complete recovery and be able to return to full school and sport activities within 1-4 weeks of injury. However, approximately 15-30% of individuals will experience symptoms that persist beyond this timeframe. If available, individuals who experience persistent post-concussion symptoms (>4 weeks for youth Athletes, >2 weeks for adult Athletes) may benefit from referral to a medically supervised multidisciplinary concussion clinic that has access to professionals with licensed training in traumatic brain injury that

may include experts in sport medicine, neuropsychology, physiotherapy, occupational therapy, neurology, neurosurgery, and rehabilitation medicine.

Referral to a multidisciplinary clinic for assessment should be made on an individualized basis at the discretion of an Athlete's medical doctor or nurse practitioner. If access to a multidisciplinary concussion clinic is not available, a referral to a medical doctor with clinical training and experience in concussion (e.g. a sport medicine physician, neurologist, or rehabilitation medicine physician) should be considered for the purposes of developing an individualized treatment plan. Depending on the clinical presentation of the individual, this treatment plan may involve a variety of health care professionals with areas of expertise that address the specific needs of the athlete based on the assessment findings.

### **Return-To-Play**

Athletes who have been determined to have not sustained a concussion and those that have been diagnosed with a concussion and have successfully completed their *Return-to-School and Return-to-Play Strategy*, can be considered for return to full sports activities. The final decision to medically clear an Athlete to return to full game activity should be based on the clinical judgment of the licenced medical or nurse practitioner taking into account the Athlete's past medical history, clinical history, physical examination findings, and the results of other tests and clinical consultations where indicated (i.e. neuropsychological testing, diagnostic imaging).

Prior to returning to full contact practice and game play, each Athlete that has been diagnosed with a concussion must provide their coach with a standardized *Medical Clearance Letter* that specifies that a licenced medical doctor or nurse practitioner has personally evaluated the Athlete and has cleared the Athlete to Return-To-Play.

In geographic regions of Canada with limited access to medical doctors (i.e. rural or northern communities), a licensed healthcare professional (such as a nurse) with pre-arranged access to a medical doctor or nurse practitioner can provide this documentation. A copy of the *Medical Clearance Letter* should also be submitted to ISWO that have injury reporting and surveillance programs where applicable.

Athletes who have been provided with a *Medical Clearance Letter* may return to full sport activities as tolerated. If the Athlete experiences any new concussion-like symptoms while returning to play, they should be instructed to stop playing immediately, notify their parents/guardians, coaches, trainer or teachers, and undergo follow-up *Medical Assessment*. In the event that the Athlete sustains a new suspected concussion, the **ISWO Concussion Strategy** should be followed as outlined above.

### **Record-Keeping Protocol**

All parents and Athletes are required to review and submit acknowledgement of the *Pre-season Concussion Education Sheet* to their coach prior to the first practice of the season. This will be provided digitally, when registering for any ISWO program.

In addition to reviewing information on concussions, it is also important that all sport stakeholders, involved in ISWO Competitions and Programs (planning, delivery or participation) have a clear understanding of the **ISWO Concussion Strategy**. For example, this may be accomplished through ISWO's online orientation sessions for Athletes, parents, coaches and other sport stakeholders or specific training, education and awareness programs that are mandatory for all ISWO sport stakeholders to complete. All materials, waivers and acknowledgements will be provided digitally when registering for any ISWO program.