FIELD HOCKEY CANADA

CONCUSSION MANAGEMENT PROTOCOL

REVISED MAY 3RD, 2018

Field Hockey Canada has developed the **Field Hockey Canada Concussion Protocol** to help guide the management of athletes who may have a suspected concussion as a result of participation in field hockey-related activities.

Purpose
This protocol covers the recognition, medical diagnosis, and management of athletes 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.

Who should use this protocol?
This protocol is intended for use by all individuals who interact with athletes inside and outside the context of sports activity, including athletes, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals.

1. Pre-Season Education

Optimizing the prevention and management of concussion depends highly on annual education of all sport stakeholders (athletes, parents, coaches, officials, teachers, trainers, licensed healthcare professionals) on current evidence-informed approaches that can prevent concussion and more serious forms of head injury and help identify and manage an athlete with a suspected concussion.

Concussion education should include information on:

- the definition of concussion,
- possible mechanisms of injury,
- common signs and symptoms,
- steps that can be taken to prevent concussions and other injuries from occurring in sport,
- what to do when an athlete has suffered a suspected concussion or more serious head injury,
- what measures should be taken to ensure proper medical assessment,
- *Return-to-School* and *Return-to-Sport Strategies*, and
- Return to sport medical clearance requirements

2. 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 the *Concussion Recognition Tool 5*.

- if a player 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 concussion.

Concussion Red Flags:

If an athlete exhibits or reports any of the following, call an ambulance for emergency medical assessment.

- Neck pain or tenderness
- Severe or increasing headache
- Deteriorating conscious state
- Double vision
- Seizure or convulsion
- Loss of consciousness

3. On Field Management

Basic First Aid
- DRSABCD
- Cervical Spine Precautions
- Call emergency services if indicated

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 patient to the nearest emergency department for further Medical Assessment.

Coaches, parents, 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 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 player should be immediately removed from the field of play.

Scenario 1: If a licensed healthcare professional is present
The athlete should be taken to a quiet area and undergo 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.**

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 SCAT 5. 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. Players that have been cleared to return to games or practices should be monitored for delayed symptoms. **If a concussion is suspected or a player 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 medical doctor or nurse practitioner, and the athlete must not return to play until receiving medical clearance.

4. Medical Assessment

The medical assessment is responsible for determining whether the athlete has been diagnosed with a concussion or not and may be completed by a medical doctor or nurse practitioner. Athletes with a diagnosed concussion should be provided with a *Medical Assessment Letter i*ndicating a concussion has been diagnosed. Athletes that are determined to have not sustained a concussion should be provided with a *Medical Assessment Letter* indicating a concussion has not been diagnosed and the athlete can return to school, work and sports activities without restriction.

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.

5. Management: Graduated Return to Play

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 medical doctor or nurse practitioner*.* When available, athletes should be encouraged to work with the team athletic therapist or physiotherapist to optimize progression through their *Sport-Specific Return-to-Sport Strategy.* 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 medical doctor or nurse practitioner can consider the athlete for a return to full sports activities and issue a *Medical Clearance Letter*.

The progressions for *Return-to-School* and *Return-to-Sport Strategies* are outlined below. As indicated in stage 1 of the *Return-to-Sport Strategy*, reintroduction of daily, school, and work activities using the *Return-to-School Strategy* must precede progressions 5 and 6 of the *Return-to-Sport Strategies*.

Return-to-School Strategy

The following is an outline of the *Return-to-School Strategy* that should be used to help student-athletes, parents, and teachers to collaborate in allowing the athlete to make a gradual return to school activities. Athletes should also be encouraged to ask their school if they have a school-specific Return-to-Learn Program in place to help student-athletes make a gradual return to school.

Stage	Aim	Activity	Goal of each step
1	Daily activities at home that do not give the student-athlete symptoms	Typical activities during the day as long as they do not increase symptoms (i.e. reading, texting, screen time). Start at 5-15 minutes at a time and gradually build up.	Gradual return to typical activities
2	School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work
3	Return to school part-time	Gradual introduction of schoolwork. May need to start with a partial school day or with increased breaks during the day.	Increase academic activities
4	Return to school full-time	Gradually progress	Return to full academic activities and catch up on missed school work

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

Field Hockey-Specific 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 sport activities.. The athlete should spend 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 *Field Hockey-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 or make symptoms worse	Gradual re-introduction of work/school activities
2	Light aerobic activity	Walking or stationary cycling at slow to medium pace, 15-20 minutes. No resistance training.	Increase heart rate
3	Sport-specific exercise	- Warm-up and flow through drills - Individual passing or shooting drills - No head impact activities - No resistance training.	Add movement
4	Non-contact training drills	- Participation in high intensity running and drills - May start progressive resistance training Proceed to Stage 5 after medical clearance.	Exercise, coordination and increased thinking

5	Full contact practice	Following medical clearance, participation in full practice without activity restriction	Restore confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play	

6. Multidisciplinary Concussion Care

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 time frame.

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.

7. Return to Sport

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 Hockey-Specific Return-to-Sport Strategy* can be considered for return to full sports activities.

Prior to returning to full contact practice and game play, each athlete that has been diagnosed with a concussion must provide their coach or therapist with a standardized *Medical Clearance Letter* that specifies that a medical doctor or nurse practitioner has personally evaluated the patient and has cleared the athlete to return to sports.

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, coaches, or trainer, and undergo follow-up *Medical Assessment*.

Resources

- Pre-Season Concussion Education Sheet
- Concussion Recognition Tool 5 (CRT5)
- SCAT 5 (Physical)
- Medical Assessment Letter
- Medical Clearance Letter

References:

McCrory et al. The international conference on consensus statement on concussion in sport held in Berlin, October 2016. British Journal of Sports Medicine 2017

Parachute. (2017). Canadian Guideline on Concussion in Sport. Toronto: Parachute. http://www.parachutecanada.org/guideline.