



Concussion Information Package

Returning to play safely requires patience, attention and caution, and will be a different experience for every athlete.

Be headstrong, know the facts.



Dear Ringette Ontario Member,

The goal of concussion management is to allow complete recovery of the patient's concussion by promoting a safe and gradual return to school and sport activities. Athletes, coaches, and officials alike can all experience a concussion in the sport of Ringette, and we are upholding our promise of making Ringette a safe and inclusive sport.

“Sports are important to Canadians. They play a major role in who we are as a country. They make us healthier and happier. They bring us together as teams, fans and competitors. But unfortunately, the benefits of sports don't come without inherent risks.

Concussions are a serious risk for athletes in any sport. A concussion is more than just a headache or a temporary loss of cognitive ability — it's an invisible injury that can result in permanent brain damage if not treated correctly. But with proper identification and management, concussions are also treatable.”

Sport Information Resource Centre

The following is a simple information package that can help with recognizing concussions, and using the best practices in order to treat, manage, and safely return to play.

Yours in sport,



Ringette Ontario



RINGETTE ONTARIO CONCUSSION PROTOCOL

Adapted from: Parachute. (2017). *Canadian Guideline on Concussion in Sport*.
www.parachutecanada.org/guideline

Ringette Ontario has developed the **Ringette Ontario Concussion Protocol** to help guide the management of athletes who may have a suspected concussion as a result of participation in **ringette** 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. This protocol 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.

Who should use this protocol?

This protocol is intended for use by all individuals who interact with athletes inside and outside the context of school and non-school based organized sports activity, including athletes, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals.

For a summary of the **Ringette Ontario Concussion Protocol** please refer to the **RO Sport Concussion Pathway** figure.

1. Pre-Season Education

Despite recent increased attention focusing on concussion there is a continued need to improve concussion education and awareness. 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
- ▶ **Who:** Athletes, parents, coaches, officials, teachers, and trainers, licensed healthcare professionals
- ▶ **How:** Pre-season Concussion Education Sheet



All parents and athletes are required to review and submit a signed copy of the *Ministry Concussion Safety Guidelines* to their coach prior to the first practice of the season. In addition to reviewing information on concussion, it is also important that all sport stakeholders have a clear understanding of the **Ringette Ontario Concussion Protocol**. For example, this can be accomplished through pre-season in-person orientation sessions for athletes, parents, coaches and other sport stakeholders.

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.

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 by the *Concussion Recognition Tool 5*, a more severe head or spine injury should be suspected, and Emergency Medical Assessment should be pursued.

- ▶ **Who:** Athletes, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals
- ▶ **How:** [Concussion Recognition Tool 5](#)

3. 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 (see 3a below). 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 (see 3b below).

3a. 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 patient 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 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

- ▶ **Who:** Emergency medical professionals

3b. 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.

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. Players 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 medical doctor or nurse practitioner, and the athlete must not return to play until receiving medical clearance.

- ▶ **Who:** Athletic therapists, physiotherapists, medical doctor
- ▶ **How:** [Sport Concussion Assessment Tool 5 \(SCAT5\)](#), [Child Sport Concussion Assessment Tool 5 \(Child SCAT5\)](#)



4. 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, must 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 doctors¹ 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 can return to school, work and sports activities without restriction.

- ▶ **Who:** Medical doctor, nurse practitioner, nurse
- ▶ **How:** *Ringette Ontario's Medical Assessment Letter*

5. Concussion Management

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* 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 medical doctor or nurse practitioner. Because the *Medical Assessment Letter* 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 sport organization officials that are responsible for injury reporting and concussion surveillance 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 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

¹ 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.



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 stepwise 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 return to sport participation.

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. Depending on the severity and type of the symptoms present student-athletes will progress through the following stages at different rates. If the student-athlete experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. 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.

Ringette-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. An initial period of 24-48 hours of rest is recommended before starting the *Ringette-Specific Return-to-Sport Strategy*. 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 Ringette-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 -Light intensity jogging or stationary cycling for 15-20 minutes at sub-symptom threshold intensity	Increase heart rate
3	Sport-specific exercise	Running or skating drills. No head impact activities - Moderate intensity jogging for 30-60 minutes at sub-symptom threshold intensity - Low to moderate impact passing, dribbling, shooting, and agility drills	Add movement
4	Non-contact training drills	Harder training drills, i.e. passing drills. May start progressive resistance training - Participation in high intensity running and drills - Non-contact practice without heading - Participation in resistance training work-outs	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	

McCroory 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.

- ▶ **Who:** Medical doctor, nurse practitioner and team athletic therapist or physiotherapist (where available)
- ▶ **How:** *Return-to-Learn Strategy, Sport-Specific Return-to Sport Strategy, Medical Assessment Letter*

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. 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.



- ▶ **Who:** Multidisciplinary medical team, medical doctor with clinical training and experience in concussion (e.g. a sports medicine physician, neurologist, or rehabilitation medicine physician), licensed healthcare professionals

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 [Name of Sport]-Specific Return-to-Sport 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 medical doctor 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 medical doctor or nurse practitioner has personally evaluated the patient and has cleared the athlete to return to sports. 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 sports organization officials 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, coaches, trainer or teachers, and undergo follow-up *Medical Assessment*. In the event that the athlete sustains a new suspected concussion, the **Ringette Ontario Concussion Protocol** should be followed as outlined here.

- ▶ **Who:** Medical doctor, nurse practitioner
- ▶ **Document:** *Medical Clearance Letter*

What is a concussion?

- A concussion is a type of traumatic brain injury (TBI), caused by a bump, blow, or jolt to the head, face, or neck, or hit to the body that causes the brain to rapidly move back and forth

How do I know if I have a concussion?

- Just like every athlete and every injury, every concussion is different, and can present itself in a variety of ways through symptoms. Although considered a brain injury, concussions are not seen through routine X-rays, CT scans, or MRIs.
- The **Concussion Recognition Tool 5© (CRT-5)** is an easy-to-use tool for anyone to assist in recognizing the signs and symptoms of a concussion.

I wasn't knocked unconscious, does this mean I don't have a concussion?

- You do not need to lose consciousness in order to be diagnosed with a concussion. Here are



some signs and symptoms to look out for:

Thinking Problems	What You Might Feel	Other Signs
<ul style="list-style-type: none">• Difficulty with short-term memory: time, date, what arena you're playing in, score of the game, who the opposing team is, etc.• General confusion	<ul style="list-style-type: none">• Headache• Dizziness• Dazed/Confused• Loss of vision• Blurry vision• Stomach ache, pain, or nausea	<ul style="list-style-type: none">• Poor coordination or balance• Slurred speech• Vomiting• Poor concentration/focus• Strange or inappropriate emotions (i.e., irritability, crying, laughing, etc.)• Decreased athletic ability during game

*Adapted from: <http://horizon.parachutecanada.org/wp-content/uploads/2014/10/Concussion-Athletes.pdf>

How long will it take me to get better?

- Concussion symptoms can typically last for one to four weeks, however, it is important to understand that not all concussions follow the same trajectory. In some cases, it can take some months to fully recover. If you have had a concussion in the past, you may have a longer healing time when compared to others.
- It is important that anyone who has sustained a concussion, or experienced an injury associated with a suspected concussion, seek medical attention and follow the Sport-Specific Return to Play Guidelines according to the *Canadian Guideline on Concussion in Sport*.



CONCUSSION INCIDENT REPORTING FORM

Injury Information: RTP Guidelines

General Principles for Recovery:

- ✓ Each stage (including activities and exercises) should be completed without symptom production either during, or following the exercises
- ✓ In the event that symptoms arise with any stage, the injured party **MUST** return to the previous symptom-free stage. As long as you are able to complete 24 – 48 hours of symptom-free exercises then you may resume the Return to Play protocol with caution

Frequency:

- ✓ Exercise progressions are limited to once daily following a concussion
- ✓ Exceptions will be based on clinical judgement of your supervising health individual. As this is dependent on the severity of injury and duration of symptoms, you may be further limited to exercising on alternate days OR if you have experienced mild injuries with fleeting symptoms, you may be allowed to exercise twice daily.

Duration:

- ✓ The length of time that you are allowed to exercise is variable and dependent on which stage you are in, and increases as you recover.

Rate of Progression:

- ✓ There is no specific timeline for concussion recovery
- ✓ The rate at which the injured party moves through each stage is based on 'milestones'. For a stage milestone to be reached, **you must be able to successfully complete the activity or exercises symptom-free**

RINGETTE-SPECIFIC RETURN TO PLAY PROTOCOL

Stage 1: Rest and energy conservation – NO activity (at least 24 hours) <ul style="list-style-type: none">• AVOID cognitive-heavy activities. Rest your mind, and body (no playing, practicing, studying, or work)• Absolutely no screen time during this stage• AVOID brightly lit spaces or noisy areas if they exacerbate your symptoms• NO physical activity that raise your heart rate above resting rate• This stage is important in allowing your body and brain to heal for recovery and future training
Stage 2: Light aerobic exercise (at least 24 hours) <ul style="list-style-type: none">• Off-ice activities• Include aerobic activities that require no head movements. This is to indicate that Heart Rate (HR) measurement cause symptoms, rather than head/neck movement• Always begin with light warm-up (stretching/flexibility) for approximately 10 minutes. Only progress through the following substages if you are symptom free:



<ul style="list-style-type: none">a. 15 minutes @ 60% max heart rateb. Increase duration to 30 minutes @ 60% max heart ratec. 30 minutes @ 70% max heart rated. 30 minutes @ 70% max heart rate with 1 minute maximal effort every 4 minutes <ul style="list-style-type: none">• Subject should be supervised by someone who can help monitor signs and symptoms
Stage 3: Sport-Specific Exercise (at least 24 hours)
<ul style="list-style-type: none">• Off-ice activities• NO resistance training• RE-INTRODUCE Ringette specific drills with no “cognitive burden” (i.e. decision-making, pattern recognition).• Always begin with warm-up (stretch/flexibility) for approximately 10 minutes• Increase intensity and workout duration to 20 – 30 minutes• 50 – 60% intensity
Stage 4: Non-contact training drills (at least 24 hours)
<ul style="list-style-type: none">• Establish the capacity for at least 30-minutes daily of sport-specific training that includes decision-making drills, co-ordination of set plays, and bodyweight resistance exercises, but does not exacerbate symptoms• Can begin to incorporate on-ice practice of Ringette skills• Can begin on-ice activities (i.e. warm-ups etc.)• Begin resistance training and include exercises to strengthen the neck and core muscles<ul style="list-style-type: none">○ Add 15 minutes per day of body-weight floor exercises such as plank, sit-ups, push-ups, squats, seated stability exercises on BOSU• DO NOT HOLD BREATH
PROCEED TO STAGE 5 ONLY AFTER YOU HAVE BEEN CLEARED BY A MEDICAL PROFESSIONAL (attach medical clearance with submission of this form)
Stage 5: Full contact practice (at least 24 hours)
<ul style="list-style-type: none">• Establish freedom of symptoms in situations that stimulate all aspects of normal training, EXCEPT for the risk of collision• Drills with increased complexity simulating game-specific situations• Resistance training may now use additional weights or machines• If subject is still experiencing symptoms, return to rest until they have cleared.• If symptoms persist, consult a physician
Stage 6: Return to Ringette!

*Acknowledgement: Montreal Children’s Hospital “Return To Hockey Following A Concussion”

*McCroly P, Meeuwisse W, Johnston K et al. Consensus Statement on Concussion in Sport: The 4th International Conference on Concussion in Sport Held in Zurich, Nov. 2012. British Journal of sports medicine 2013 47: 250-258

*All information collected on this form of a personal nature is strictly confidential and will only be shared as per RO Privacy Policy Guidelines



Medical Assessment Letter

Date: _____

Athlete's Name: _____

To whom it may concern,

Athletes who sustain a suspected concussion should be managed according to the *Canadian Guideline on Concussion in Sport*. As such, I have personally completed a Medical Assessment on this patient.

Results of Medical Assessment

- This patient has not been diagnosed with a concussion and can resume full participation in school, work, and sport activities without restriction
- This patient has not been diagnosed with a concussion but the assessment led to the following diagnosis and recommendations:

- This patient has been diagnosed with a concussion

Additional Notes:

Thank you in advance for understanding.

Yours sincerely,

Signature/print _____ M.D./N.P. (circle appropriate designation)*

We recommend that this document be provided to the athlete without charge