



Bowls Alberta



CONCUSSION PROTOCOL

Bowls Canada Boulingrin (BCB) has developed the **BCB Concussion Protocol** to help guide the management of athletes who may have a suspected concussion. Bowls Alberta has adopted the BCB Protocol.

Purpose

This protocol covers the recognition, medical diagnosis, and management of participants who may sustain a suspected concussion during or outside of bowls activities. It aims to ensure that participants with a suspected concussion receive timely and appropriate care and proper management to allow them to return back to their sport, school, and work safely. This protocol may not address every possible clinical scenario that can occur during 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 participants inside and outside the context of school and non-school based organized sports activity, including participants, parents, coaches, officials, teachers, trainers, and licensed healthcare professionals.

For a summary of the **BCB Concussion Protocol** please refer to the **BCB Sport Concussion Pathway** figure at the end of this document.

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 (participants, 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 a participant 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 a participant has suffered a suspected concussion or more serious head injury
- what measures should be taken to ensure proper medical assessment
- *Return-to-School/Work* and *Return-to-Sport Strategies*, and
- Return to sport medical clearance requirements.

- ▶ **Who:** Participants, parents, coaches, officials, teachers, and trainers, licensed healthcare professionals
- ▶ **How:** Pre-season Concussion Education Sheet

2. Head Injury Recognition

Although the formal diagnosis of concussion should be made following a medical assessment, all sport stakeholders including participants, parents, teachers, coaches, officials, and licensed healthcare professionals are responsible for the recognition and reporting of participants 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 participant who sustains a significant impact to the head, face, neck, or body (for example, from a fall) 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 participant reports *ANY* concussion symptoms to one of their peers, parents, teachers, or coaches or if anyone witnesses a participant exhibiting any of the visual signs of concussion.

Concussion signs or symptoms may result from an incident that happened outside of bowls (e.g., a fall, motor vehicle crash, or workplace incident). In this case, if a concussion is suspected, this protocol should be followed in the same way.

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

3. Emergency Medical Assessment

If a participant loses consciousness, demonstrates any of the Red Flags indicated in the *Concussion Recognition Tool 5*, or otherwise is suspected of having 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 Medical Assessment (see 4. Medical Assessment below).

In an emergency situation, coaches, parents, teachers, trainers and officials should not make any effort to remove equipment or move the participant until an ambulance has arrived and the participant should not be left alone until the ambulance arrives.

In the case of youth participants (under 18 years of age), the participant's parents should be contacted immediately to inform them of the participant's injury. For participants over 18 years of age, their emergency contact person should be contacted if one has been provided.

- ▶ **Who:** Emergency medical professionals

4. Medical Assessment

Any participant with a suspected concussion should undergo medical assessment by a medical doctor or nurse practitioner. The medical assessment is responsible for determining whether the athlete has been diagnosed with a concussion or not.

Participants should be provided with a *Medical Assessment Letter* indicating a concussion has or has not been diagnosed. Participants that are determined to have not sustained a concussion can return to school, work and sports activities without restriction.

If a participant is diagnosed with a concussion, whether it is sustained during or outside of bowls activities, the participant or their parent/guardian should communicate this information to the participant's sport team(s), school and/or workplace.

- ▶ **Who:** Medical doctor, nurse practitioner
- ▶ **How:** *Medical Assessment Letter*

5. Concussion Management

Participants diagnosed with a concussion are to be managed according to their *Return-to-School/Work and Return-to-Sport Strategy* under the supervision of a medical doctor or nurse practitioner.

The stepwise progressions for *Return-to-School/Work* 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/Work Strategy* must precede return to sport participation.

Return-to-School/Work Strategy

The following is an outline of the *Return-to-School/Work Strategy* that should be used to help participants, parents, teachers, and employers to collaborate in allowing the participant to make a gradual return to school and/or work activities. Depending on the severity and type of the symptoms present, participants will progress through the following stages at different rates. If the participant experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. Participants should also be encouraged to ask their school and/or workplace if there are resources available to support individuals returning after concussion.

Stage	Aim	Activity	Goal of each step
1	Daily activities at home that do not give the participant 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/Work-type activities	Homework, reading or other cognitive activities outside of the school/workplace.	Increase tolerance to cognitive work
3	Return to school/work part-time	Gradual introduction of schoolwork/workload. May need to start with partial attendance or with increased breaks during the day.	Increase academic/work activities
4	Return to school/work full-time	Gradually progress	Return to full academic/work activities and catch up on missed work.

Bowls-Specific Return-to-Sport Strategy

The following is an outline of the Bowls-Specific Return-to-Sport Strategy that should be used to help participants, coaches, trainers, and licensed healthcare professionals to partner in allowing the participant to make a gradual return to sport activities. An initial period of 24-48 hours of rest is recommended before starting the Return-to-Sport Strategy. If the participant experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. It is important that participants return to full-time school and/or work activities before progressing to stage 5 and 6 of the Strategy.

Stage	Aim	Activity	Goal of each step
1	Symptom-limiting activity	Daily activities that do not provoke symptoms	Gradual re-introduction of school/work activities
2	Light aerobic activity	Walking or stationary cycling at slow to medium pace. No resistance training.	Increase heart rate
3	Sport-specific exercise and drills	Moderate intensity jogging for 30-60 minutes. Delivering bowls (moderate intensity and duration). No head impact activities. No resistance training.	Add movement
4	Full bowls participation	Bowls practice and competition. May start progressive resistance training.	Exercise, coordination and increased thinking
Bowls participants who also participate in other sports should receive medical clearance before proceeding to Stages 5 and 6 in non-bowls activities.			
5	Full contact practice (outside bowls)	Following medical clearance. Participation in full practice without activity restriction.	Restore confidence and assess functional skills by coaching staff
6	Return to sport (outside bowls)	Normal game play.	

- ▶ **Who:** Medical doctor, nurse practitioner
- ▶ **How:** *Return-to-School/Work Strategy, Bowls-Specific Return-to Sport Strategy*

6. Multidisciplinary Concussion Care

Most participants who sustain a concussion will make a complete recovery and be able to return to full school, work 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.

Referral to a multidisciplinary clinic for assessment should be made on an individualized basis at the discretion of a participant's medical doctor or nurse practitioner.

- ▶ **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/Work and Return-to-Sport Strategy* can return to full bowls activities.

Bowls participants who have been diagnosed with a concussion and also participate in other sports should receive medical clearance before full return to non-bowls sport 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 and should be recorded in a *Medical Clearance Letter*.

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

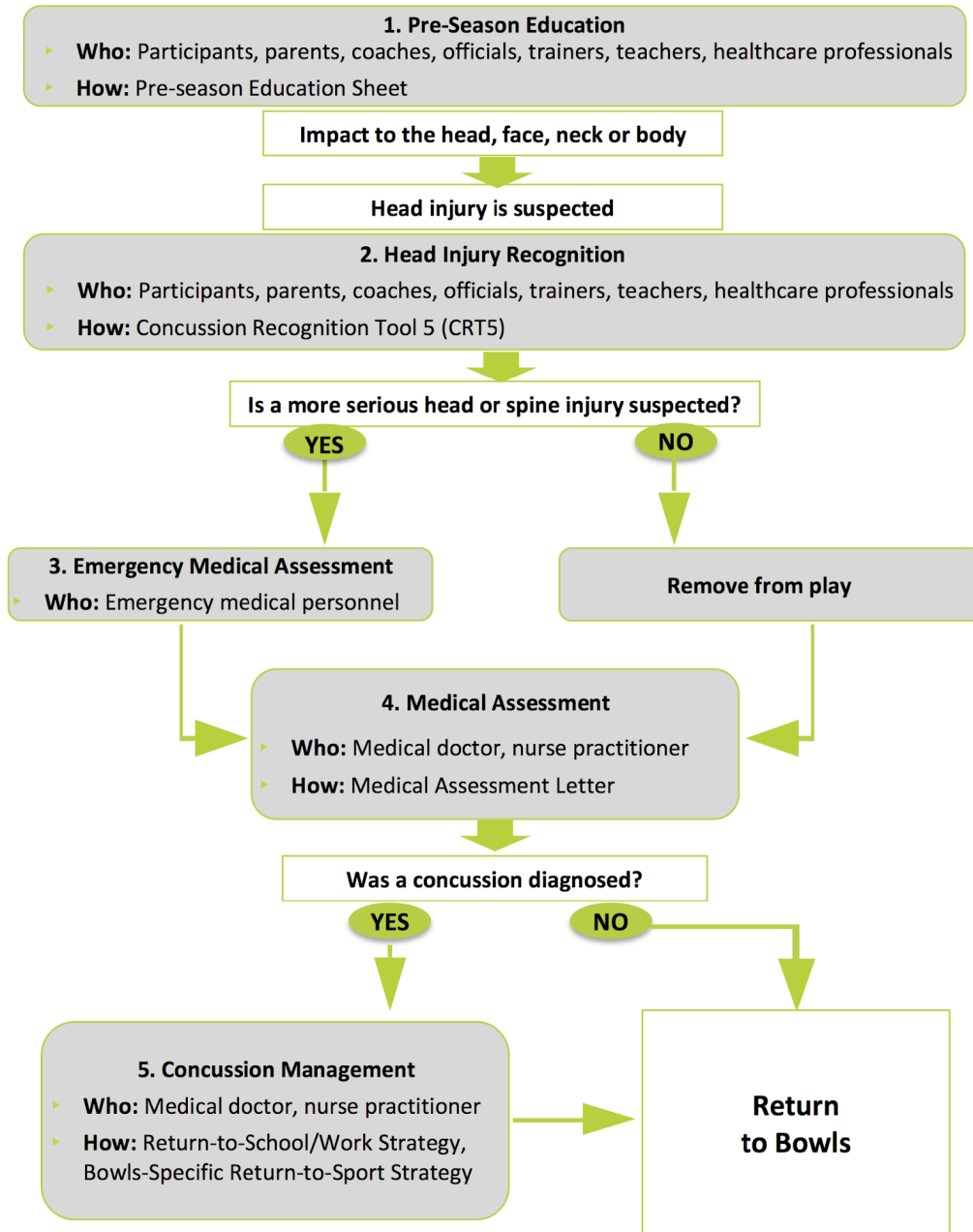
If the participant experiences any new concussion-like symptoms while returning to play, they should be instructed to stop playing immediately, notify their parents, coaches, trainer or teachers, and undergo follow-up Medical Assessment.

If the participant sustains a new suspected concussion, the **Bowls Canada Boulingrin Concussion Protocol** should be followed as outlined here.

8. Approval

This protocol was developed in consultation with Parachute Canada and meets national standards for concussion protocols.

Bowls Canada Boulingrin Concussion Pathway



Important Notes:

- Bowls participants who have been diagnosed with a concussion and also participate in other sports should receive medical clearance before full return to those outside activities.
- Participants with persistent symptoms* may benefit from referral to multidisciplinary concussion care.

*Persistent symptoms: Lasting > 4 weeks in children & youth or > 2 weeks in adults