MANITOBA BATON TWIRLING SPORTIVE ASSOCIATION

MBTSA CONCUSSION PROTOCOL

Revised September 2024

Manitoba Baton Twirling Sportive Association

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Adapted: (2022) Canadian Guideline on Concussion in Sport Parachute – Canada's Leader in Injury Prevention

Manitoba Baton Twirling Sportive Association (MBTSA) has developed the **MBTSA Concussion Protocol** to help guide the management of athletes who may have a suspected concussion as a result of participation in **MBTSA** 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 **MBTSA Concussion Protocol** please refer to the **MBTSA Sport Concussion Pathway** figure at the end of this document.

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

- **Who:** Athletes, parents, coaches, officials, teachers, and trainers, licensed healthcare professionals.
- **How**: Pre-season Concussion Education Sheet
- **Parents and/or athletes (> 18 years) are required to review and submit a signed copy of the Pre-season Concussion Education Sheet at the time of registration.**

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In addition to reviewing information on concussion, it is also important that all sport stakeholders have a clear understanding of the **MBTSA 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 6.
- 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 6, a more severe head or spine injury should be suspected, and Emergency Medical Assessment should be pursued.

- **Who**: Athletes, parents, coaches, competition directors, trainers, and licensed healthcare professionals.
- **How:** Concussion Recognition Tool (CRT6)

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. 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 6 (SCAT6) or the Child SCAT6. The SCAT6 and Child SCAT6 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 SCAT6 and Child SCAT6 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 a 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 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 a 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 6 (SCAT6) Child Sport Concussion Assessment Tool 6 (Child SCAT6)

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 doctors 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 *i*ndicating 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:** Medical Assessment Letter

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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 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.

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.

BATON TWIRLING-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. **Athletes with a possible head injury should be seen by a physician as soon as possible and return for a follow-up if there is a worsening of symptoms: increased confusion, increasing headaches, vomiting >2x, trouble with movement, seizure, strange behavior.**

For the first 24-48 hours after the injury, screen time should be minimized for 48 hours and the athlete can engage in activities of daily living (light walking, preparing meals, social interactions at home) before starting the **BATON TWIRLING**-Specific Return-to-Sport Strategy.

The athlete should spend a minimum of 24 hours symptom-free, increases at each stage before progressing to the next one. If the athlete experiences new symptoms or worsening of symptoms of any stage, they should go back to the previous stage and contact their physician for a reassessment.

Stage	Aim	Specific Return to Sport Strategy – Baton Twirling Activities	Goal of each step
1	Activities of Daily Living	Daily activities that do not provoke symptoms, must precede return to sport: - Moving around the home - Preparing meals - Light walking - Minimize screen time for 48 hours	Gradual re-introduction of work/school activities
2	Light – moderate effort aerobic exercise	- Walking - Stationary cycling at slow to medium pace, - Light stretching (no inverted positions) - No resistance training. - Gradually increase the intensity of the aerobic exercise such as a brisk walk. - Take breaks and modify activities as needed - Exercise up to 55 % maximum heartrate gradually increasing to 70 % if no worsening of symptoms at each phase	Increase heart rate and respirations but not enough to prevent you from walking comfortably
3	Sport-specific exercise	- Baton twirling conditioning only. - Walking, stationary bike, light jogging - Mild to moderate resistance - Stretching (no inverted positions) - Dance throughs - Practice should be done away from other participants. - Activities to be supervised by a coach - No gymnastic moves (cartwheels etc. - Avoid jumping exercises - No spins, high tosses to avoid risk of inadvertent head impact. - Continue progressing until symptom free, even when exercising.	Add movement
4	Medical Clearance is required before the next 3 steps	- Athletes should be able to participate in full school activities before progressing to this stage - Progress to usual intensity practices and Interval training - Gradually progress to more challenging baton skills/moves - Participate in multi-athlete training (groups) & non-impact activities - Recommend coach stand by support for more intricate baton moves.	Exercise, coordination and increased thinking
5	Return to non-competitive activities	- Introduce gymnastic moves: cartwheels, intricate leaps, multi-spins - May participate in non-contact competitions with medical clearance	^ confidence assess functional skills

6	Return to sport	- Full training - Progression to full routines - Participate in baton competitions. - Participate in both individual and team practices/competitions - Return to sport and physical activity without restrictions	Return to sport without restrictions

- **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 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 **BATON TWIRLING**-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; for example: neuropsychological testing, diagnostic imaging, etc. Each athlete, diagnosed with a concussion must provide their coach with a standardized Medical Clearance Letter that specifies the physician has 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 **MBTSA Concussion Protocol** should be followed as outlined here.

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

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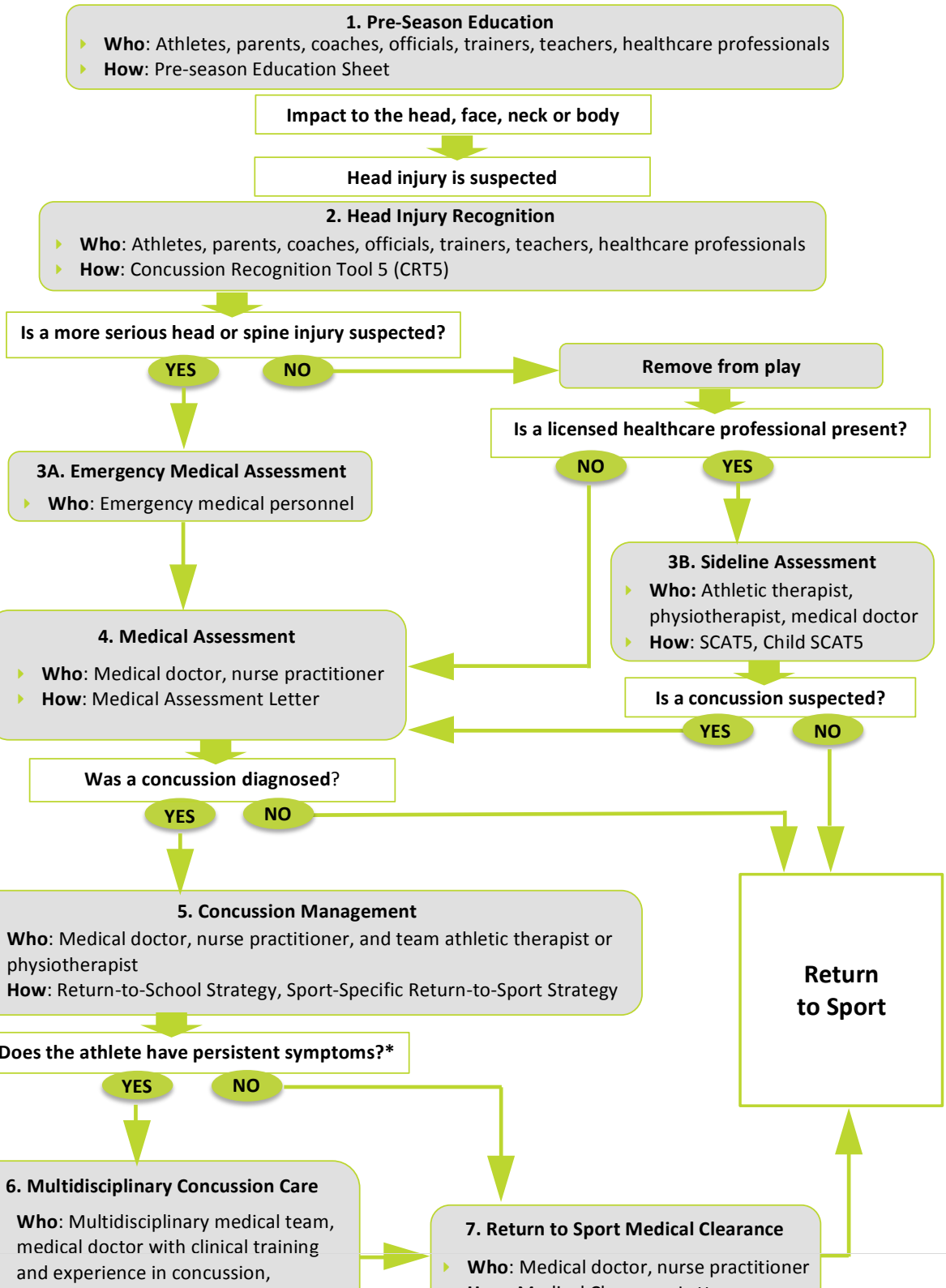
Manitoba Baton Twirling Sportive Association Concussion Pathway



Sport Manitoba Concussion Clinic

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Revenue generated from clinic services is reinvested in amateur sport and community programs across the province.

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