



Recommendations for Use of Concussion Baseline testing in Youth Sports in Manitoba

The following document is intended to provide all sport stakeholders (including athletes, parents, coaches, teachers, trainers, officials, organizers, and licensed healthcare professionals) with important recommendations regarding the evidence-informed and best practice use of concussion baseline testing in Manitoba youth athletes (< 18 years of age). This document was developed by the Manitoba Concussion Working Group and provincial experts in sports medicine, pediatrics, physiotherapy, athletic therapy, chiropractic, neuropsychology, and neurosurgery. This statement has also been endorsed by Parachute.

What is concussion baseline testing?

Concussion baseline testing is the practice of having athletes complete concussion assessment tools prior to sport participation to provide baseline measurements that can be compared to post-injury values in the event of a suspected concussion. These tools include those that assess concussion symptoms, balance, vision and cognitive functioning.

Is it necessary for youth athletes to undergo baseline testing?

Baseline testing using any tools or combination of tools is not required to provide post-injury concussion care to youth athletes. In general, baseline testing of youth athletes is not recommended.

When should baseline testing be considered?

Baseline testing may be considered only under certain circumstances:

1. Clinical neuropsychologists may consider baseline neurocognitive or neuropsychological testing in youth athletes with pre-existing conditions that may impact the interpretation of post-injury testing results (including athletes with previous concussions, attention-deficit hyperactivity disorder, learning disorders and mood disorders). Widespread routine use of baseline neurocognitive testing is not recommended in children and adolescents (Davis et al., 2007).
2. Baseline testing may be considered in elite youth teams that have access to dedicated sideline licensed healthcare professionals (team therapists) and medical staff (team physicians, neuropsychologists) working together within a comprehensive concussion protocol. For example, collegiate athletes and those affiliated with provincial sport and junior hockey teams.

Other recommendations:

- Athletes with suspected concussion should be managed according to the sport-specific concussion protocol as outlined by their league or provincial sport organization.
- All sport stakeholders including athletes, parents, coaches, teachers, trainers, officials, organizers, and licensed healthcare professionals are responsible for recognizing suspected concussion in youth athletes.
- Sideline assessment tools (i.e SCAT5, Child SCAT5) can be normal in athletes with acute concussion and should not be used to make sideline return-to-sport decisions in youth athletes (Parachute, 2017).



- All youth athletes with a suspected concussion should be immediately removed from play and undergo medical assessment by a medical doctor, nurse practitioner or physician assistant.
- All youth athletes with a suspected or diagnosed concussion must receive written medical clearance by a medical doctor, nurse practitioner or physician assistant before returning to sport activities.
- If baseline or post-injury neurocognitive or neuropsychological testing is needed, it is recommended that these tests be interpreted by a registered neuropsychologist (McCrory et al., 2017; Echemendia et al., 2009).
- Where available, athletes should work with their team therapist to optimize progression through their Return-to-Learn and Return-to-Sport Strategies.

References:

Davis et al. (2017) What is the difference in concussion management in children as compared with adults? A systematic review. *British Journal of Sports Medicine*, 51(12):949-957

Echemendia R., et al. (2009). Who should conduct and interpret the neuropsychological assessment in sports-related concussion? *British Journal of Sports Medicine*, 43(Suppl 1), i32-35.

McCrory, P., 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), 838R847.

Parachute. (2017). *Canadian Guideline on Concussion in Sport*. Toronto: Parachute.