

CRT6™



Concussion Recognition Tool

To Help Identify Concussion in Children, Adolescents and Adults

What is the Concussion Recognition Tool?

A concussion is a brain injury. The Concussion Recognition Tool 6 (CRT6) is to be used by non-medically trained individuals for the identification and immediate management of suspected concussion. It is not designed to diagnose concussion.

Recognise and Remove

Red Flags: CALL AN AMBULANCE

If **ANY** of the following signs are observed or complaints are reported after an impact to the head or body the athlete should be immediately removed from play/game/activity and transported for urgent medical care by a healthcare professional (HCP):

- Neck pain or tenderness
- Seizure, 'fits', or convulsion
- Loss of vision or double vision
- Loss of consciousness
- Increased confusion or deteriorating conscious state (becoming less responsive, drowsy)
- Weakness or numbness/tingling in more than one arm or leg
- Repeated Vomiting
- Severe or increasing headache
- Increasingly restless, agitated or combative
- Visible deformity of the skull

Remember

- In all cases, the basic principles of first aid should be followed: assess danger at the scene, check airway, breathing, circulation; look for reduced awareness of surroundings or slowness or difficulty answering questions.
- Do not attempt to move the athlete (other than required for airway support) unless trained to do so.
- Do not remove helmet (if present) or other equipment.
- Assume a possible spinal cord injury in all cases of head injury.
- Athletes with known physical or developmental disabilities should have a lower threshold for removal from play.

If there are no Red Flags, identification of possible concussion should proceed as follows:

Concussion should be suspected after an impact to the head or body when the athlete seems different than usual. Such changes include the presence of **any one or more** of the following: visible clues of concussion, signs and symptoms (such as headache or unsteadiness), impaired brain function (e.g. confusion), or unusual behaviour.

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Developed by: The Concussion in Sport Group (CISG)

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1: Visible Clues of Suspected Concussion

Visible clues that suggest concussion include:

- Loss of consciousness or responsiveness
- Lying motionless on the playing surface
- Falling unprotected to the playing surface
- Disorientation or confusion, staring or limited responsiveness, or an inability to respond appropriately to questions
- Dazed, blank, or vacant look
- Seizure, fits, or convulsions
- Slow to get up after a direct or indirect hit to the head
- Unsteady on feet / balance problems or falling over / poor coordination / wobbly
- Facial injury

2: Symptoms of Suspected Concussion

Physical Symptoms

Headache
 "Pressure in head"
 Balance problems
 Nausea or vomiting
 Drowsiness
 Dizziness
 Blurred vision
 More sensitive to light
 More sensitive to noise
 Fatigue or low energy
 "Don't feel right"
 Neck Pain

Changes in Emotions

More emotional
 More Irritable
 Sadness
 Nervous or anxious

Changes in Thinking

Difficulty concentrating
 Difficulty remembering
 Feeling slowed down
 Feeling like "in a fog"

Remember, symptoms may develop over minutes or hours following a head injury.

3: Awareness

(Modify each question appropriately for each sport and age of athlete)

Failure to answer any of these questions correctly may suggest a concussion:

"Where are we today?"

"What event were you doing?"

"Who scored last in this game?"

"What team did you play last week/game?"

"Did your team win the last game?"

Any athlete with a suspected concussion should be - IMMEDIATELY REMOVED FROM PRACTICE OR PLAY and should NOT RETURN TO ANY ACTIVITY WITH RISK OF HEAD CONTACT, FALL OR COLLISION, including SPORT ACTIVITY until ASSESSED MEDICALLY, even if the symptoms resolve.

Athletes with suspected concussion should **NOT**:

- Be left alone initially (at least for the first 3 hours). Worsening of symptoms should lead to immediate medical attention.
- Be sent home by themselves. They need to be with a responsible adult.
- Drink alcohol, use recreational drugs or drugs not prescribed by their HCP
- Drive a motor vehicle until cleared to do so by a healthcare professional

Table 1. Return-to-School Strategy: Graduated Approach

Step	Activity	Description	Goal of each step
1	Activities of daily living and relative rest (first 24 to 48 hours)	<ul style="list-style-type: none"> • Typical activities at home (e.g. preparing meals, social interactions, light walking) that do not result in more than mild and brief worsening of symptoms • Minimize screen time 	Gradual reintroduction of typical activities
After a maximum of 24 to 48 hours after injury, progress to step 2.			
2	School activities with encouragement to return to school (as tolerated)	<ul style="list-style-type: none"> • Homework, reading or other light cognitive activities at school or at home • Take breaks and adapt activities if they result in more than mild and brief worsening of symptoms • Gradually resume screen time, as tolerated 	Increase tolerance to cognitive work and connect socially with peers
If the student can tolerate school activities, progress to step 3.			
3	Part-time or full days at school with accommodations (as needed)	<ul style="list-style-type: none"> • Gradually reintroduce schoolwork • Build tolerance to the classroom and school environment over time. Part-time school days with access to breaks throughout the day and other accommodations may be required • Gradually reduce accommodations related to the concussion and increase workload 	Increase academic activities
If the student can tolerate full days without accommodations for concussion, progress to step 4.			
4	Return to school full-time	<ul style="list-style-type: none"> • Return to full days at school and academic activities, without accommodations related to the concussion • For return to sport and physical activity, including physical education class, refer to the Return-to-Sport Strategy 	Return to full academic activities
Return to school is complete.			

Table adapted from: Patricios, Schneider et al., 2023; Reed, Zemek et al., 2023

Table 2. Return-to-Sport Strategy: Graduated Approach

Step	Activity	Description	Goal of each step
1	Activities of daily living and relative rest (first 24 to 48 hours)	<ul style="list-style-type: none"> • Typical activities at home (e.g. preparing meals, social interactions, light walking) that do not result in more than mild and brief worsening of symptoms • Minimize screen time 	Gradual reintroduction of typical activities
After a maximum of 24 to 48 hours after injury, progress to step 2.			
2	2A: Light effort aerobic exercise ----- 2B: Moderate effort aerobic exercise	<ul style="list-style-type: none"> • Start with light aerobic exercise, such as stationary cycling and walking at a slow to medium pace • May begin light resistance training that does not result in more than mild and brief worsening of symptoms • Exercise up to approximately 55% of maximum heart rate • Take breaks and modify activities as needed <ul style="list-style-type: none"> • Gradually increase tolerance and intensity of aerobic activities, such as stationary cycling and walking at a brisk pace • Exercise up to approximately 70% of maximum heart rate • Take breaks 	Increase heart rate.
If the athlete can tolerate moderate aerobic exercise, progress to step 3.			
3	Individual sport-specific activities, without risk of inadvertent head impact school with accommodations (as needed)	<ul style="list-style-type: none"> • Add sport-specific activities (e.g., running, changing direction, individual drills) • Perform activities individually and under supervision from a teacher, parent/caregiver or coach • Progress to where the athlete is free of concussion-related symptoms, even when exercising 	Increase the intensity of aerobic activities and introduce low-risk sport-specific movements