BC Netball Concussion Protocol

June 2020

Key sources: Parachute. (2017). Canadian Guideline on Concussion in Sport. Toronto: Parachute, Ontario Neurotrauma Foundation, Consensus Statement on Concussion in Sport.

Purpose

BC Netball has developed a Concussion Protocol to help guide the management of athletes who may have suffered a concussion during participating in BC Netball activities. This protocol has been adapted from the Canadian Guideline on Concussion in Sport (Parachute, 2017). Although concussion in netball is reasonably uncommon, BC Netball recognises that the inherent nature of 'semi-contact' in the sport, particularly in high-level competitive matches, may pose as a higher-risk environment for sustaining a concussion. This protocol aims to ensure that athletes with a suspected concussion receive timely and appropriate care and management to allow safe return-to-play.

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 organised sports activity, including athletes, parents, coaches, officials, teachers, trainers and licenced healthcare professionals.

For a summary of this protocol, please see the Sport Concussion Pathway Figure at the end of this document.

1) Pre-season Education and Concussion-related Resources

Despite recent increased attention focusing on concussion, there is a continued need to improve concussion awareness and education. Optimising prevention and management of concussion depends highly on the education of all stakeholders on current evidence-informed approaches, to prevent concussion and more serious forms of head injury.

Key Points on Concussion:

- Concussion is a mild traumatic brain injury caused by trauma to the head, neck or body
- Among children and youth (10-19 years old) who visit an emergency department for a sports-related head injury, 43.7% are diagnosed with concussions (*source: The Electronic Canadian Hospitals Injury Reporting and Prevention Program (eCHIRPP), Centre for Surveillance and Applied Research, Public Health Agency of Canada (records entered into the system as of June 6, 2018).*
- Many concussions are undiagnosed, or mis-diagnosed, often due to the lack of physical symptoms. These symptoms may take time to manifest and may vary between individuals
- Women are generally more likely to be diagnosed with a concussion than men

Key Resources for Netball Clubs/Teams in BC: (located at the end of this document)

- Canadian Sport Concussion Pathway
- BC Netball Concussion in Netball Coaches Guides: (recommended for kit-bags)
    - Immediate Response for On-Court Injury
    - Managing Return to Play for the Athlete
- Concussion Recognition Tool 5th Edition (CRT5, to be used by untrained stakeholders to recognise, *but not diagnose*, a suspected concussion)

- Sports Concussion Recognition Tool 5th Edition (SCAT5, to be used by trained healthcare professionals to evaluate sports-related concussions)
- Medical Assessment Letter (for results of concussion assessment and evaluation)
- Medical Clearance Letter (for return-to-sport)

As part of pre-season education, stakeholders should read, review and be familiar with the above documents, outlining detailed information on concussion mechanisms, signs and symptoms, prevention and management steps.

2) Head injury recognition

Although the formal diagnosis of concussions should be made by a medical professional, all stakeholders are responsible for the recognition of a suspected concussion from sport-related activities. This is particularly important for club and school-level sport, since access to an on-site licensed healthcare professional may be limited or not available. See the Concussion Recognition Tool 5th Edition (CRT5) for an on-court tool to recognise head injury.

A concussion should be suspected if an athlete who
- sustains a significant impact to the head, face, neck or body
- demonstrates ANY of the visual signs of a suspected concussion or
- reports ANY symptoms of a suspected concussion as detailed in the CRT5.

3) Onsite medical assessment

Depending on the severity of the injury, an initial assessment may be completed by emergency medical professionals or by an on-site healthcare professional where available.

a. Emergency medical assessment

If an athlete loses consciousness or if a more severe spinal injury is suspected, emergency medical attention should take place **immediately.**

Seek medical help **immediately** if any 'Red Flags' are suspected:
- neck pain or suspected spinal cord injury
- growing confusion
- seizures
- loss in consciousness
- weakness in arms or legs
- increasingly restless or agitated

b. Sideline Medical Assessment

If a concussion is suspected and there is no concern for a more serious head injury requiring emergency medical attention, the player should be removed from the court.

If a licenced healthcare professional is present:
- The athlete should be taken to a quiet area and undertake the **Sport Concussion Assessment Tool 5 (SCAT5)**. This should only be conducted by a trained medical professional with experience in these tools and can be used to evaluate and document initial neurological status.

- Any athlete who has sustained a suspected concussion should NOT return to the court and should be referred for a medical assessment.
- If no concussion is suspected (ie there are no visual signs and the athlete does not report any symptoms), the athlete can be returned to play but should be monitored for delayed symptoms.

If no licensed healthcare professional is present:

- After The **CRT5** has been used to identify head injury or suspected concussion, the athlete should be referred immediately for medical assessment by a medical doctor or nurse.
- The athlete must not return to play until receiving medical clearance.

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 geographic regions of BC with limited access to medical doctors (i.e. rural 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.

5) Concussion management

All athletes with a diagnosed concussion should be provided with a standardised Medical Assessment Letter notifying the athlete and their parent/guardian/spouse that they have been diagnosed with a concussion and should not return to any physical activities until medically cleared. It is the responsibility of the athlete or their parent/guardian/spouse to provide this documentation to the athletes coach, teachers or employers, we well as sports officials that are responsible for injury reporting.

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 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 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.

The following Return to Sport strategy can be used to aid collaboration between stakeholders, including the athlete, to enable a safe and gradual return to sport. The BC Netball Concussion in

Netball Coaches Guide (Managing Return to Play for the Athlete) also outlines the following steps for return to sport.

After an initial rest period of 24-48 hours, the following steps can be followed for return to sport (Parachute Return to Sport Strategy, Consensus Statement on Concussion in Sport (2018)

- There should be at least 24 hours between each stage of the process
- The athlete only move to the next stage if there are no new or worsened symptoms
- If new symptoms develop or symptoms worsen, the athlete should return to the previous stage for at least 24 hours.

Stage	Aim	Activity	Goal & Considerations for Netball
1	Symptom-limiting activity	Daily symptoms that do not provoke symptoms.	Gradual re-introduction of work/school activities.
2	Light aerobic activity	Walking/stationary cycling, slow-medium pace. No resistance training.	Increase heart rate.
3	Sport-specific exercise	Running drills, no cognitive drills or head contact.	Add movement. Use pre-planned drills (ie with no decision-making) with no contest or contact.
4	Non-contact training drills	Harder training drills, eg passing drills. May start resistance training.	Increased coordination and cognitive element. Introduce more complex drills, no contact.
5	Full contact practice	Following medical clearance.	Restore confidence and assess functional skills.
6	Return to sport	Normal game play.	Monitor for any return of symptoms.

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 sporting activities within 1-4 weeks of injury. However, approximately 15-30% of individuals will experience symptoms that persist beyond this timeframe (>4 weeks for adults, >2 weeks for youth athletes). In this case, athletes who experience post-concussion symptoms may benefit from referral to a medically supervised multidisciplinary clinic, with access to professionals with licensed training in traumatic brain injury.

Referral to such clinic should be made at the discretion of an athletes medical doctor or nurse practitioner. If a clinic is not available, a referral to a medical doctor with clinical training and experience in concussion should be considered for developing an individualised treatment plan. This may involve a variety of health professions with areas of expertise address the specific needs of the athlete, including vestibular, psychological, musculoskeletal and physiological, as well as neurological.

7) Return to Sport

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. 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 BC Netball Concussion Protocol should be followed as outlined here.

Resources and Tools

- Canadian Sport Concussion Pathway
- BC Netball Concussion in Netball Coaches Guides: (recommended for kit-bags)
    - Immediate Response for On-Court Injury
    - Managing Return to Play for the Athlete
- Concussion Recognition Tool 5th Edition (CRT5, to be used by untrained stakeholders to recognise, *but not diagnose*, a suspected concussion)
- Sports Concussion Recognition Tool 5th Edition (SCAT5, to be used by trained healthcare professionals to evaluate sports-related concussions)
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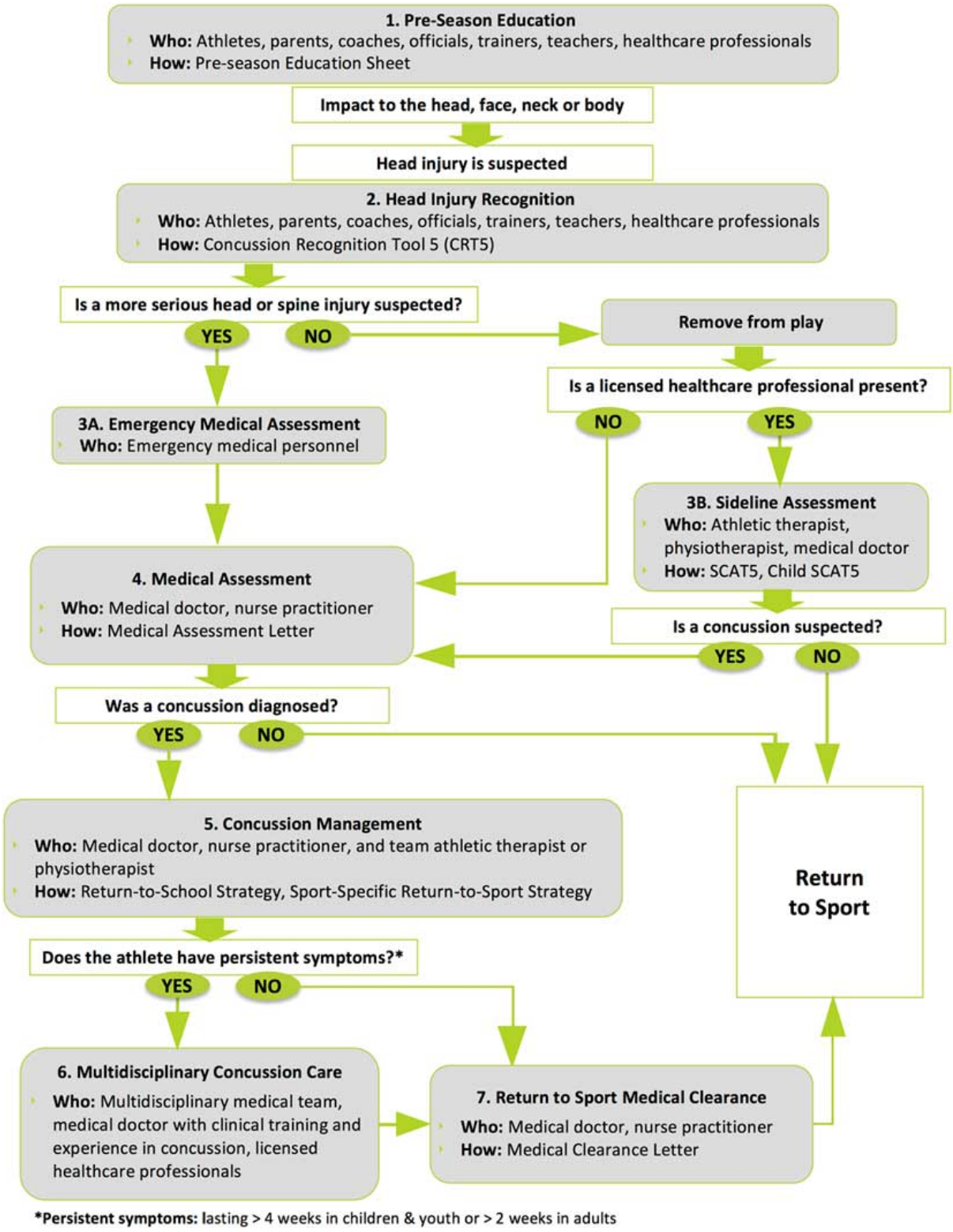
Canadian Sport Concussion Pathway

The following flowchart summarises the processes involved in concussion management, as per the Canadian Guideline on Concussion in Sport (Parachute, 2017).



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

BCNETBALL

CONCUSSION IN NETBALL:
A GUIDE FOR COACHES

Immediate Response for On-Court Injury

(Consensus Statement on Concussion in Sport, Parachute Canada, Ontario Neurotrauma Foundation)

Concussion is a mild traumatic brain injury, commonly caused by sport, assault or a motor-vehicle accident. Although uncommon in netball, concussions can occur during training or games.

Any time a concussion is suspected, the athlete should be removed from play.

Seek medical help **immediately** if any 'Red Flags' are suspected:

- neck pain or suspected spinal cord injury
- growing confusion
- seizures
- loss in consciousness
- weakness in arms or legs
- increasingly restless or agitated

Signs and Symptoms:

- Headache
- Dizziness
- Feeling 'dazed' or confused
- Ringing in the ears
- Loss or impairment of vision
- Stomachache or nausea

Other Problems:

- Poor coordination
- Slurred speech
- Poor concentration
- Strange or inappropriate emotions
- Impaired sports performance

Memory Assessment: failure to answer the following questions (or similar) may also indicate a concussion:

- 'Where are we training/playing right now?'
- 'Who scored the last goal?'
- 'What was the last drill we were doing?'
- 'What was the warm up we did today?'

Next steps for the athlete:

- do NOT leave alone initially
- do NOT drink alcohol
- do NOT drive a car
- SEEK an in-depth medical assessment by a healthcare professional

BCNETBALL

CONCUSSION IN NETBALL:
A GUIDE FOR COACHES

Managing Return to Play for the Athlete

(Consensus Statement on Concussion in Sport, Parachute Canada, Ontario Neurotrauma Foundation)

After a concussion has been diagnosed by a medical profession, a safe return to the court should be managed appropriately by the coach and other health professionals who are involved.

It is important that the athlete does not return to full participation in sport if continued symptoms are present. **A medical clearance letter should be provided to the coach before full contact sport resumes.**

After an initial rest period of 24-48 hours, the following steps can be followed for return to sport (Parachute Return to Sport Strategy, Consensus Statement on Concussion in Sport (2018)

- There should be at least 24 hours between each stage of the process
- The athlete only move to the next stage if there are no new or worsened symptoms
- If new symptoms develop or symptoms worsen, the athlete should return to the previous stage for at least 24 hours.

Stage	Aim	Activity	Goal & Considerations for Netball
1	Symptom-limiting activity	Daily symptoms that do not provoke symptoms.	Gradual re-introduction of work/school activities.
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3	Sport-specific exercise	Running drills, no cognitive drills or head contact.	Add movement. Use pre-planned drills (ie with no decision-making) with no contest or contact.
4	Non-contact training drills	Harder training drills, eg passing drills. May start resistance training.	Increased coordination and cognitive element. Introduce more complex drills, no contact.
5	Full contact practice	Following medical clearance.	Restore confidence and assess functional skills.
6	Return to sport	Normal game play.	Monitor for any return of symptoms.

CONCUSSION RECOGNITION TOOL 5 ©

To help identify concussion in children, adolescents and adults

Supported by

RECOGNISE & REMOVE

Head impacts can be associated with serious and potentially fatal brain injuries. The Concussion Recognition Tool 5 (CRT5) is to be used for the identification of suspected concussion. It is not designed to diagnose concussion.

STEP 1: RED FLAGS — CALL AN AMBULANCE

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported then the player should be safely and immediately removed from play/game/activity. If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- **Neck pain or tenderness**
- **Double vision**
- **Weakness or tingling/ burning in arms or legs**
- **Severe or increasing headache**
- **Seizure or convulsion**
- **Loss of consciousness**
- **Deteriorating conscious state**
- **Vomiting**
- **Increasingly restless, agitated or combative**

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Assessment for a spinal cord injury is critical.
- Do not attempt to move the player (other than required for airway support) unless trained to so do.
- Do not remove a helmet or any other equipment unless trained to do so safely.

If there are no Red Flags, identification of possible concussion should proceed to the following steps:

STEP 2: OBSERVABLE SIGNS

Visual clues that suggest possible concussion include:

- Lying motionless on the playing surface
- Slow to get up after a direct or indirect hit to the head
- Disorientation or confusion, or an inability to respond appropriately to questions
- Blank or vacant look
- Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements
- Facial injury after head trauma

STEP 3: SYMPTOMS

- Headache
- "Pressure in head"
- Balance problems
- Nausea or vomiting
- Drowsiness
- Dizziness
- Blurred vision
- Sensitivity to light
- Sensitivity to noise
- Fatigue or low energy
- "Don't feel right"
- More emotional
- More Irritable
- Sadness
- Nervous or anxious
- Neck Pain
- Difficulty concentrating
- Difficulty remembering
- Feeling slowed down
- Feeling like "in a fog"

STEP 4: MEMORY ASSESSMENT

(IN ATHLETES OLDER THAN 12 YEARS)

Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion:

- "What venue are we at today?"
- "Which half is it now?"
- "Who scored last in this game?"
- "What team did you play last week/game?"
- "Did your team win the last game?"

Athletes with suspected concussion should:

- Not be left alone initially (at least for the first 1-2 hours).
- Not drink alcohol.
- Not use recreational/ prescription drugs.
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a healthcare professional.

ANY ATHLETE WITH A SUSPECTED CONCUSSION SHOULD BE IMMEDIATELY REMOVED FROM PRACTICE OR PLAY AND SHOULD NOT RETURN TO ACTIVITY UNTIL ASSESSED MEDICALLY, EVEN IF THE SYMPTOMS RESOLVE

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Echemendia RJ, *et al*. *Br J Sports Med* 2017;**51**:872. doi:10.1136/bjsports-2017-097508CRT5

BJSM Online First, published on April 26, 2017 as 10.1136/bjsports-2017-097506SCAT5

To download a clean version of the SCAT tools please visit the journal online (http://dx.doi.org/10.1136/bjsports-2017-097506SCAT5)

SCAT5©

SPORT CONCUSSION ASSESSMENT TOOL – 5TH EDITION

DEVELOPED BY THE CONCUSSION IN SPORT GROUP

FOR USE BY MEDICAL PROFESSIONALS ONLY

supported by

Patient details

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date of Injury: _____ Time: _____

WHAT IS THE SCAT5?

The SCAT5 is a standardized tool for evaluating concussions designed for use by physicians and licensed healthcare professionals[1]. The SCAT5 cannot be performed correctly in less than 10 minutes.

If you are not a physician or licensed healthcare professional, please use the Concussion Recognition Tool 5 (CRT5). The SCAT5 is to be used for evaluating athletes aged 13 years and older. For children aged 12 years or younger, please use the Child SCAT5.

Preseason SCAT5 baseline testing can be useful for interpreting post-injury test scores, but is not required for that purpose.Detailed instructions for use of the SCAT5 are provided on page 7. Please read through these instructions carefully before testing the athlete. Brief verbal instructions for each test are given in italics. The only equipment required for the tester is a watch or timer.

Recognise and Remove

A head impact by either a direct blow or indirect transmission of force can be associated with a serious and potentially fatal brain injury. If there are significant concerns, including any of the red flags listed in Box 1, then activation of emergency procedures and urgent transport to the nearest hospital should be arranged.

Key points

- Any athlete with suspected concussion should be REMOVED FROM PLAY, medically assessed and monitored for deterioration. No athlete diagnosed with concussion should be returned to play on the day of injury.
- If an athlete is suspected of having a concussion and medical personnel are not immediately available, the athlete should be referred to a medical facility for urgent assessment.
- Athletes with suspected concussion should not drink alcohol, use recreational drugs and should not drive a motor vehicle until cleared to do so by a medical professional.
- Concussion signs and symptoms evolve over time and it is important to consider repeat evaluation in the assessment of concussion.
- The diagnosis of a concussion is a clinical judgment, made by a medical professional. The SCAT5 should NOT be used by itself to make, or exclude, the diagnosis of concussion. An athlete may have a concussion even if their SCAT5 is "normal".

Remember:

- The basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the athlete (other than that required for airway management) unless trained to do so.
- Assessment for a spinal cord injury is a critical part of the initial on-field assessment.
- Do not remove a helmet or any other equipment unless trained to do so safely.

1

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

IMMEDIATE OR ON-FIELD ASSESSMENT

The following elements should be assessed for all athletes who are suspected of having a concussion prior to proceeding to the neurocognitive assessment and ideally should be done on-field after the first first aid / emergency care priorities are completed.

If any of the "Red Flags" or observable signs are noted after a direct or indirect blow to the head, the athlete should be immediately and safely removed from participation and evaluated by a physician or licensed healthcare professional.

Consideration of transportation to a medical facility should be at the discretion of the physician or licensed healthcare professional.

The GCS is important as a standard measure for all patients and can be done serially if necessary in the event of deterioration in conscious state. The Maddocks questions and cervical spine exam are critical steps of the immediate assessment; however, these do not need to be done serially.

STEP 1: RED FLAGS

RED FLAGS:

- **Neck pain or tenderness**
- **Double vision**
- **Weakness or tingling/ burning in arms or legs**
- **Severe or increasing headache**
- **Seizure or convulsion**
- **Loss of consciousness**
- **Deteriorating conscious state**
- **Vomiting**
- **Increasingly restless, agitated or combative**

STEP 2: OBSERVABLE SIGNS

Witnessed ☐ Observed on Video ☐

Lying motionless on the playing surface	Y	N
Balance / gait difficulties / motor incoordination: stumbling, slow / laboured movements	Y	N
Disorientation or confusion, or an inability to respond appropriately to questions	Y	N
Blank or vacant look	Y	N
Facial injury after head trauma	Y	N

STEP 3: MEMORY ASSESSMENT MADDOCKS QUESTIONS[2]

"I am going to ask you a few questions, please listen carefully and give your best effort. First, tell me what happened?"

_____

_____

Mark Y for correct answer / N for incorrect

What venue are we at today?	Y	N
Which half is it now?	Y	N
Who scored last in this match?	Y	N
What team did you play last week / game?	Y	N
Did your team win the last game?	Y	N

Note: Appropriate sport-specific questions may be substituted.

STEP 4: EXAMINATION GLASGOW COMA SCALE (GCS)[3]

Time of assessment			
Date of assessment			
Best eye response (E)			
No eye opening	1	1	1
Eye opening in response to pain	2	2	2
Eye opening to speech	3	3	3
Eyes opening spontaneously	4	4	4
Best verbal response (V)			
No verbal response	1	1	1
Incomprehensible sounds	2	2	2
Inappropriate words	3	3	3
Confused	4	4	4
Oriented	5	5	5
Best motor response (M)			
No motor response	1	1	1
Extension to pain	2	2	2
Abnormal flexion to pain	3	3	3
Flexion / Withdrawal to pain	4	4	4
Localizes to pain	5	5	5
Obeys commands	6	6	6
Glasgow Coma score (E + V + M)			

CERVICAL SPINE ASSESSMENT

Does the athlete report that their neck is pain free at rest?	Y	N
If there is NO neck pain at rest, does the athlete have a full range of ACTIVE pain free movement?	Y	N
Is the limb strength and sensation normal?	Y	N

In a patient who is not lucid or fully conscious, a cervical spine injury should be assumed until proven otherwise.

Davis GA, *et al. Br J Sports Med* 2017;**0**:1–8. doi:10.1136/bjsports-2017-097506SCAT5

OFFICE OR OFF-FIELD ASSESSMENT

Please note that the neurocognitive assessment should be done in a distraction-free environment with the athlete in a resting state.

STEP 1: ATHLETE BACKGROUND

Sport / team / school: _____

Date / time of injury: _____

Years of education completed: _____

Age: _____

Gender: M / F / Other

Dominant hand: left / neither / right

How many diagnosed concussions has the athlete had in the past?: _____

When was the most recent concussion?: _____

How long was the recovery (time to being cleared to play) from the most recent concussion?: _____ (days)

Has the athlete ever been:

Hospitalized for a head injury?	Yes	No
Diagnosed / treated for headache disorder or migraines?	Yes	No
Diagnosed with a learning disability / dyslexia?	Yes	No
Diagnosed with ADD / ADHD?	Yes	No
Diagnosed with depression, anxiety or other psychiatric disorder?	Yes	No

Current medications? If yes, please list:

_____

_____

_____

_____

_____

_____

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

2

STEP 2: SYMPTOM EVALUATION

The athlete should be given the symptom form and asked to read this instruction paragraph out loud then complete the symptom scale. For the baseline assessment, the athlete should rate his/her symptoms based on how he/she typically feels and for the post injury assessment the athlete should rate their symptoms at this point in time.

Please Check: ☐ **Baseline** ☐ **Post-Injury**

Please hand the form to the athlete

	none	mild		moderate		severe	
Headache	0	1	2	3	4	5	6
"Pressure in head"	0	1	2	3	4	5	6
Neck Pain	0	1	2	3	4	5	6
Nausea or vomiting	0	1	2	3	4	5	6
Dizziness	0	1	2	3	4	5	6
Blurred vision	0	1	2	3	4	5	6
Balance problems	0	1	2	3	4	5	6
Sensitivity to light	0	1	2	3	4	5	6
Sensitivity to noise	0	1	2	3	4	5	6
Feeling slowed down	0	1	2	3	4	5	6
Feeling like "in a fog"	0	1	2	3	4	5	6
"Don't feel right"	0	1	2	3	4	5	6
Difficulty concentrating	0	1	2	3	4	5	6
Difficulty remembering	0	1	2	3	4	5	6
Fatigue or low energy	0	1	2	3	4	5	6
Confusion	0	1	2	3	4	5	6
Drowsiness	0	1	2	3	4	5	6
More emotional	0	1	2	3	4	5	6
Irritability	0	1	2	3	4	5	6
Sadness	0	1	2	3	4	5	6
Nervous or Anxious	0	1	2	3	4	5	6
Trouble falling asleep (if applicable)	0	1	2	3	4	5	6

Total number of symptoms:	of 22
Symptom severity score:	of 132
Do your symptoms get worse with physical activity?	Y N
Do your symptoms get worse with mental activity?	Y N
If 100% is feeling perfectly normal, what percent of normal do you feel?	

If not 100%, why?

_____

_____

_____

Please hand form back to examiner

STEP 3: COGNITIVE SCREENING

Standardised Assessment of Concussion (SAC)[4]

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

ORIENTATION

What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
What time is it right now? (within 1 hour)	0	1
Orientation score		of 5

IMMEDIATE MEMORY

The Immediate Memory component can be completed using the traditional 5-word per trial list or optionally using 10-words per trial to minimise any ceiling effect. All 3 trials must be administered irrespective of the number correct on the first trial. Administer at the rate of one word per second.

Please choose EITHER the 5 or 10 word list groups and circle the specific word list chosen for this test.

I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order. For Trials 2 & 3: I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before.

List	Alternate 5 word lists					Score (of 5) Trial 1	Trial 2	Trial 3
A	Finger	Penny	Blanket	Lemon	Insect			
B	Candle	Paper	Sugar	Sandwich	Wagon			
C	Baby	Monkey	Perfume	Sunset	Iron			
D	Elbow	Apple	Carpet	Saddle	Bubble			
E	Jacket	Arrow	Pepper	Cotton	Movie			
F	Dollar	Honey	Mirror	Saddle	Anchor			
					Immediate Memory Score			of 15
					Time that last trial was completed			

List	Alternate 10 word lists					Score (of 10) Trial 1	Trial 2	Trial 3
G	Finger Candle	Penny Paper	Blanket Sugar	Lemon Sandwich	Insect Wagon			
H	Baby Elbow	Monkey Apple	Perfume Carpet	Sunset Saddle	Iron Bubble			
I	Jacket Dollar	Arrow Honey	Pepper Mirror	Cotton Saddle	Movie Anchor			
					Immediate Memory Score			of 30
					Time that last trial was completed			

CONCENTRATION

DIGITS BACKWARDS

Please circle the Digit list chosen (A, B, C, D, E, F). Administer at the rate of one digit per second reading DOWN the selected column.

I am going to read a string of numbers and when I am done, you repeat them back to me in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7.

Concentration Number Lists (circle one)

List A	List B	List C			
4-9-3	5-2-6	1-4-2	Y	N	0
6-2-9	4-1-5	6-5-8	Y	N	1
3-8-1-4	1-7-9-5	6-8-3-1	Y	N	0
3-2-7-9	4-9-6-8	3-4-8-1	Y	N	1
6-2-9-7-1	4-8-5-2-7	4-9-1-5-3	Y	N	0
1-5-2-8-6	6-1-8-4-3	6-8-2-5-1	Y	N	1
7-1-8-4-6-2	8-3-1-9-6-4	3-7-6-5-1-9	Y	N	0
5-3-9-1-4-8	7-2-4-8-5-6	9-2-6-5-1-4	Y	N	1
List D	**List E**	**List F**			
7-8-2	3-8-2	2-7-1	Y	N	0
9-2-6	5-1-8	4-7-9	Y	N	1
4-1-8-3	2-7-9-3	1-6-8-3	Y	N	0
9-7-2-3	2-1-6-9	3-9-2-4	Y	N	1
1-7-9-2-6	4-1-8-6-9	2-4-7-5-8	Y	N	0
4-1-7-5-2	9-4-1-7-5	8-3-9-6-4	Y	N	1
2-6-4-8-1-7	6-9-7-3-8-2	5-8-6-2-4-9	Y	N	0
8-4-1-9-3-5	4-2-7-9-3-8	3-1-7-8-2-6	Y	N	1
		Digits Score:			of 4

MONTHS IN REVERSE ORDER

Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November. Go ahead.

Dec - Nov - Oct - Sept - Aug - Jul - Jun - May - Apr - Mar - Feb - Jan	0 1
Months Score	of 1
Concentration Total Score (Digits + Months)	of 5

4

STEP 4: NEUROLOGICAL SCREEN

See the instruction sheet (page 7) for details of test administration and scoring of the tests.

Can the patient read aloud (e.g. symptom check-list) and follow instructions without difficulty?	Y	N
Does the patient have a full range of pain-free PASSIVE cervical spine movement?	Y	N
Without moving their head or neck, can the patient look side-to-side and up-and-down without double vision?	Y	N
Can the patient perform the finger nose coordination test normally?	Y	N
Can the patient perform tandem gait normally?	Y	N

BALANCE EXAMINATION

Modified Balance Error Scoring System (mBESS) testing[5]

Which foot was tested (i.e. which is the non-dominant foot) ☐ Left ☐ Right

Testing surface (hard floor, field, etc.) _____

Footwear (shoes, barefoot, braces, tape, etc.) _____

Condition	Errors
Double leg stance	of 10
Single leg stance (non-dominant foot)	of 10
Tandem stance (non-dominant foot at the back)	of 10
Total Errors	of 30

Name: _____

DOB: _____

Address: _____

ID number: _____

Examiner: _____

Date: _____

5

STEP 5: DELAYED RECALL:

The delayed recall should be performed after 5 minutes have elapsed since the end of the Immediate Recall section. Score 1 pt. for each correct response.

Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order.

Time Started _____

Please record each word correctly recalled. Total score equals number of words recalled.

_____

_____

_____

Total number of words recalled accurately: of 5 or of 10

6

STEP 6: DECISION

	Date & time of assessment:		
Domain			
Symptom number (of 22)			
Symptom severity score (of 132)			
Orientation (of 5)			
Immediate memory	of 15 of 30	of 15 of 30	of 15 of 30
Concentration (of 5)			
Neuro exam	Normal Abnormal	Normal Abnormal	Normal Abnormal
Balance errors (of 30)			
Delayed Recall	of 5 of 10	of 5 of 10	of 5 of 10

Date and time of injury: _____

If the athlete is known to you prior to their injury, are they different from their usual self?

☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**

(If different, describe why in the clinical notes section)

Concussion Diagnosed?

☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**

If re-testing, has the athlete improved?

☐ **Yes** ☐ **No** ☐ **Unsure** ☐ **Not Applicable**

I am a physician or licensed healthcare professional and I have personally administered or supervised the administration of this SCAT5.

Signature: _____

Name: _____

Title: _____

Registration number (if applicable): _____

Date: _____

SCORING ON THE SCAT5 SHOULD NOT BE USED AS A STAND-ALONE METHOD TO DIAGNOSE CONCUSSION, MEASURE RECOVERY OR MAKE DECISIONS ABOUT AN ATHLETE'S READINESS TO RETURN TO COMPETITION AFTER CONCUSSION.

CLINICAL NOTES:

Name: _____
DOB: _____
Address: _____
ID number: _____
Examiner: _____
Date: _____

CONCUSSION INJURY ADVICE

(To be given to the person monitoring the concussed athlete)

This patient has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. Recovery time is variable across individuals and the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to this timeframe.

If you notice any change in behaviour, vomiting, worsening headache, double vision or excessive drowsiness, please telephone your doctor or the nearest hospital emergency department immediately.

Other important points:

Initial rest: Limit physical activity to routine daily activities (avoid exercise, training, sports) and limit activities such as school, work, and screen time to a level that does not worsen symptoms.

1) Avoid alcohol

2) Avoid prescription or non-prescription drugs without medical supervision. Specifically:

   a) Avoid sleeping tablets

   b) Do not use aspirin, anti-inflammatory medication or stronger pain medications such as narcotics

3) Do not drive until cleared by a healthcare professional.

4) Return to play/sport requires clearance by a healthcare professional.

Clinic phone number: _____

Patient's name: _____

Date / time of injury: _____

Date / time of medical review: _____

Healthcare Provider: _____

Contact details or stamp

INSTRUCTIONS

Words in *Italics* throughout the SCAT5 are the instructions given to the athlete by the clinician

Symptom Scale

The time frame for symptoms should be based on the type of test being administered. At baseline it is advantageous to assess how an athlete "typically" feels whereas during the acute/post-acute stage it is best to ask how the athlete feels at the time of testing.

The symptom scale should be completed by the athlete, not by the examiner. In situations where the symptom scale is being completed after exercise, it should be done in a resting state, generally by approximating his/her resting heart rate.

For total number of symptoms, maximum possible is 22 except immediately post injury, if sleep item is omitted, which then creates a maximum of 21.

For Symptom severity score, add all scores in table, maximum possible is 22 x 6 = 132, except immediately post injury if sleep item is omitted, which then creates a maximum of 21x6=126.

Immediate Memory

The Immediate Memory component can be completed using the traditional 5-word per trial list or, optionally, using 10-words per trial. The literature suggests that the Immediate Memory has a notable ceiling effect when a 5-word list is used. In settings where this ceiling is prominent, the examiner may wish to make the task more difficult by incorporating two 5–word groups for a total of 10 words per trial. In this case, the maximum score per trial is 10 with a total trial maximum of 30.

Choose one of the word lists (either 5 or 10). Then perform 3 trials of immediate memory using this list.

Complete all 3 trials regardless of score on previous trials.

"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order." The words must be read at a rate of one word per second.

Trials 2 & 3 MUST be completed regardless of score on trial 1 & 2.

Trials 2 & 3:

"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Score 1 pt. for each correct response. Total score equals sum across all 3 trials. Do NOT inform the athlete that delayed recall will be tested.

Concentration

Digits backward

Choose one column of digits from lists A, B, C, D, E or F and administer those digits as follows:

Say: *"I am going to read a string of numbers and when I am done, you repeat them back to me in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7."*

Begin with first 3 digit string.

If correct, circle "Y" for correct and go to next string length. If incorrect, circle "N" for the first string length and read trial 2 in the same string length. One point possible for each string length. Stop after incorrect on both trials (2 N's) in a string length. The digits should be read at the rate of one per second.

Months in reverse order

"Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November ... Go ahead"

1 pt. for entire sequence correct

Delayed Recall

The delayed recall should be performed after 5 minutes have elapsed since the end of the Immediate Recall section.

"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."

Score 1 pt. for each correct response

Modified Balance Error Scoring System (mBESS)[5] testing

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)[5]. A timing device is required for this testing.

Each of 20-second trial/stance is scored by counting the number of errors. The examiner will begin counting errors only after the athlete has assumed the proper start position. The modified BESS is calculated by adding one error point for each error during the three 20-second tests. The maximum number of errors for any single condition is 10. If the athlete commits multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once the athlete is set. Athletes that are unable to maintain the testing procedure for a minimum of five seconds at the start are assigned the highest possible score, ten, for that testing condition.

OPTION: For further assessment, the same 3 stances can be performed on a surface of medium density foam (e.g., approximately 50cm x 40cm x 6cm).

Balance testing – types of errors

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec

"I am now going to test your balance. Please take your shoes off (if applicable), roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of three twenty second tests with different stances."

(a) Double leg stance:

"The first stance is standing with your feet together with your hands on your hips and with your eyes closed. You should try to maintain stability in that position for 20 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes."

(b) Single leg stance:

"If you were to kick a ball, which foot would you use? [This will be the dominant foot] *Now stand on your non-dominant foot. The dominant leg should be held in approximately 30 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

(c) Tandem stance:

"Now stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."

Tandem Gait

Participants are instructed to stand with their feet together behind a starting line (the test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 38mm wide (sports tape), 3 metre line with an alternate foot heel-to-toe gait ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. Athletes fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or an object.

Finger to Nose

"I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended), pointing in front of you. When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose, and then return to the starting position, as quickly and as accurately as possible."

References

1. McCrory et al. Consensus Statement On Concussion In Sport – The 5th International Conference On Concussion In Sport Held In Berlin, October 2016. British Journal of Sports Medicine 2017 (available at www.bjsm.bmj.com)
2. Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clinical Journal of Sport Medicine 1995; 5: 32-33
3. Jennett, B., Bond, M. Assessment of outcome after severe brain damage: a practical scale. Lancet 1975; i: 480-484
4. McCrea M. Standardized mental status testing of acute concussion. Clinical Journal of Sport Medicine. 2001; 11: 176-181
5. Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24-30

CONCUSSION INFORMATION

Any athlete suspected of having a concussion should be removed from play and seek medical evaluation.

Signs to watch for

Problems could arise over the first 24-48 hours. The athlete should not be left alone and must go to a hospital at once if they experience:

- Worsening headache
- Drowsiness or inability to be awakened
- Inability to recognize people or places
- Repeated vomiting
- Unusual behaviour or confusion or irritable
- Seizures (arms and legs jerk uncontrollably)
- Weakness or numbness in arms or legs
- Unsteadiness on their feet.
- Slurred speech

Consult your physician or licensed healthcare professional after a suspected concussion. Remember, it is better to be safe.

Rest & Rehabilitation

After a concussion, the athlete should have physical rest and relative cognitive rest for a few days to allow their symptoms to improve. In most cases, after no more than a few days of rest, the athlete should gradually increase their daily activity level as long as their symptoms do not worsen. Once the athlete is able to complete their usual daily activities without concussion-related symptoms, the second step of the return to play/sport progression can be started. The athlete should not return to play/sport until their concussion-related symptoms have resolved and the athlete has successfully returned to full school/learning activities.

When returning to play/sport, the athlete should follow a stepwise, **medically managed exercise progression, with increasing amounts of exercise.** For example:

Graduated Return to Sport Strategy

Exercise step	Functional exercise at each step	Goal of each step
1. Symptom-limited activity	Daily activities that do not provoke symptoms.	Gradual reintroduction of work/school activities.
2. Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training.	Increase heart rate.
3. Sport-specific exercise	Running or skating drills. No head impact activities.	Add movement.
4. Non-contact training drills	Harder training drills, e.g., passing drills. May start progressive resistance training.	Exercise, coordination, and increased thinking.
5. Full contact practice	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff.
6. Return to play/sport	Normal game play.	

In this example, it would be typical to have 24 hours (or longer) for each step of the progression. If any symptoms worsen while exercising, the athlete should go back to the previous step. Resistance training should be added only in the later stages (Stage 3 or 4 at the earliest).

Written clearance should be provided by a healthcare professional before return to play/sport as directed by local laws and regulations.

Graduated Return to School Strategy

Concussion may affect the ability to learn at school. The athlete may need to miss a few days of school after a concussion. When going back to school, some athletes may need to go back gradually and may need to have some changes made to their schedule so that concussion symptoms do not get worse. If a particular activity makes symptoms worse, then the athlete should stop that activity and rest until symptoms get better. To make sure that the athlete can get back to school without problems, it is important that the healthcare provider, parents, caregivers and teachers talk to each other so that everyone knows what the plan is for the athlete to go back to school.

Note: If mental activity does not cause any symptoms, the athlete may be able to skip step 2 and return to school part-time before doing school activities at home first.

Mental Activity	Activity at each step	Goal of each step
1. Daily activities that do not give the athlete symptoms	Typical activities that the athlete does during the day as long as they do not increase symptoms (e.g. reading, texting, screen time). Start with 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 school-work. 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 school activities until a full day can be tolerated.	Return to full academic activities and catch up on missed work.

If the athlete continues to have symptoms with mental activity, some other accomodations that can help with return to school may include:

- Starting school later, only going for half days, or going only to certain classes
- More time to finish assignments/tests
- Quiet room to finish assignments/tests
- Not going to noisy areas like the cafeteria, assembly halls, sporting events, music class, shop class, etc.
- Taking lots of breaks during class, homework, tests
- No more than one exam/day
- Shorter assignments
- Repetition/memory cues
- Use of a student helper/tutor
- Reassurance from teachers that the child will be supported while getting better

The athlete should not go back to sports until they are back to school/learning, without symptoms getting significantly worse and no longer needing any changes to their schedule.

Sport concussion assessment tool - 5th edition

Br J Sports Med published online April 26, 2017

Notes

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*. Accordingly, 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.

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. The patient has been instructed to avoid all recreational and organized sports or activities that could potentially place them at risk of another concussion or head injury. Starting on _____(date), I would ask that the patient be allowed to participate in school and low-risk physical activities as tolerated and only at a level that does not bring on or worsen their concussion symptoms. The above patient should not return to any full contact practices or games until the coach has been provided with a *Medical Clearance Letter* provided by a medical doctor or nurse practitioner in accordance with the *Canadian Guideline on Concussion in Sport*. Athletes and their parents/caregivers should check the return to play strategy of their sport governing body to ensure they meet the necessary requirements.

Other comments:

_____

_____

Thank-you very much in advance for your understanding.

Yours Sincerely,

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

**In rural or northern regions, the Medical Assessment Letter may be completed by a nurse with pre-arranged access to a medical doctor or nurse practitioner. Forms completed by other licensed healthcare professionals should not otherwise be accepted.*

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

Return-to-School Strategy[1]

The following is an outline of the *Return-to-School Strategy* that should be used to help student-athletes, parents, and teachers to partner 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.

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.

Sport-Specific Return-to-Sport Strategy[1]

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. Activities should be tailored to create a sport-specific strategy that helps the athlete return to their respective sport.

An initial period of 24-48 hours of rest is recommended before starting their *Sport-Specific Return-to-Sport Strategy.* 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 *Sport-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.	Increase heart rate.
3	Sport-specific exercise	Running or skating drills. No head impact activities.	Add movement.
4	Non-contact training drills	Harder training drills, e.g. passing drills. May start progressive resistance training.	Exercise, coordination and increased thinking.
5	Full contact practice	Following medical clearance and complete return to school.	Restore confidence and assess functional skills by coaching staff.
6	Return to sport	Normal game play.	

[1]Source: 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. http://dx.doi.org/10.1136/bjsports-2017-097699

Medical Clearance Letter

Date: _____ Athlete's Name:_____

To whom it may concern,

Athletes who are diagnosed with a concussion should be managed according to the *Canadian Guideline on Concussion in Sport* including the *Return-to-School* and *Return-to-Sport Strategies* (see page 2 of this letter). Accordingly, the above athlete has been medically cleared to participate in the following activities as tolerated effective the date stated above (please check all that apply):

- ☐ **Symptom-limiting activity (cognitive and physical activities that don't provoke symptoms)**
- ☐ **Light aerobic activity (Walking or stationary cycling at slow to medium pace. No resistance training)**
- ☐ **Sport-specific exercise (Running or skating drills. No head impact activities)**
- ☐ **Non-contact practice (Harder training drills, e.g. passing drills. May start progressive resistance training. Including gym class activities without a risk of contact, e.g. tennis, running, swimming)**
- ☐ **Full-contact practice (Including gym class activities with risk of contact and head impact, e.g. soccer, dodgeball, basketball)**
- ☐ **Full game play**

What if symptoms recur? Any athlete who has been cleared for physical activities, gym class or non-contact practice, and who has a recurrence of symptoms, should immediately remove himself or herself from the activity and inform the teacher or coach. If the symptoms subside, the athlete may continue to participate in these activities as tolerated.

Athletes who have been cleared for full contact practice or game play must be able to participate in full-time school (or normal cognitive activity) as well as high intensity resistance and endurance exercise (including non-contact practice) without symptom recurrence. Any athlete who has been cleared for full-contact practice or full game play and has a recurrence of symptoms, should immediately remove himself or herself from play, inform their teacher or coach, and undergo medical assessment by a medical doctor or nurse practitioner before returning to full-contact practice or games.

Any athlete who returns to practices or games and sustains a new suspected concussion should be managed according to the *Canadian Guideline on Concussion in Sport*.

Other comments:

_____

_____

Thank-you very much in advance for your understanding.

Yours Sincerely,

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

**In rural or northern regions, the Medical Clearance Letter may be completed by a nurse with pre-arranged access to a medical doctor or nurse practitioner. Forms completed by other licensed healthcare professionals should not otherwise be accepted.*

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

Return-to-School Strategy[1]

The following is an outline of the *Return-to-School Strategy* that should be used to help student-athletes, parents, and teachers to partner 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.

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.

Sport-Specific Return-to-Sport Strategy[1]

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. Activities should be tailored to create a sport-specific strategy that helps the athlete return to their respective sport.

An initial period of 24-48 hours of rest is recommended before starting their *Sport-Specific Return-to-Sport Strategy.* 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 *Sport-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.	Increase heart rate.
3	Sport-specific exercise	Running or skating drills. No head impact activities.	Add movement.
4	Non-contact training drills	Harder training drills, e.g. passing drills. May start progressive resistance training.	Exercise, coordination and increased thinking.
5	Full contact practice	Following medical clearance and complete return to school.	Restore confidence and assess functional skills by coaching staff.
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[1]Source: 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. http://dx.doi.org/10.1136/bjsports-2017-097699