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The term “athlete” used throughout this Doctor’s Pack applies equally to riders, drivers and vaulters.
Guidelines for the medical coverage of FEI events in compliance with Article 109.10 GRs

Introduction

The minimum requirements for the medical coverage of FEI events are set out in article 109.10, FEI General Regulations (GRs), as follows:

10.1. Medical assistance:

(i) the on-site presence of personnel trained in emergency medical care; and

(ii) an appropriate medical emergency action plan for the evacuation, emergency treatment, and transport of injured athletes.

To this effect, OCs must refer to the guidelines issued by the FEI and published on the FEI's website www.fei.org.
The Guidelines

These guidelines are only intended to assist organisers in the planning of their FEI events. Organisers are sole responsible for the planning of the medical coverage of their events.

These guidelines do not constitute an exhaustive list of the medical considerations applicable to events, and are not a substitute to the national and/or any other legislation(s) applicable to the event. They must always be read in conjunction with such legislation as well as with any applicable provision in the corresponding FEI Sport Rules.

In order to plan for the medical coverage of their events in accordance with art. 109.10, GRs, organisers must comply with the following:

1. All Disciplines are concerned

   It must be accepted that all forms of horse riding involve an element of risk.

2. Medical presence & level of expertise

   2.1 The requirements indicated below are a minimum which does not substitute to any applicable legislation and/or FEI Sport Rules provisions.

   2.2 The presence of personnel trained in emergency medical care must be ensured throughout the event, including during training.

   2.3 Healthcare professionals with expertise in trauma are recommended for all competitions (and in some disciplines are mandatory) but it is recognised that some competitions may be assessed as not requiring professional first aid support. In these cases, which should be justified and assessed conservatively, the minimum standard for medical cover should be a person trained in first aid and holding a relevant and officially recognised certification.

3. All equestrian venues must have first aid equipment available, at the minimum to a level which complies with local legislation and any applicable FEI Sport Rules.
4. The medical coverage plan

4.1 The medical coverage plan must:

- Be decided prior to the event, taking professional advice when appropriate and complying with any applicable legislation,
- Take into account the numbers of athletes and spectators, the location of the venue and proximity to emergency medical facilities such as hospitals and ambulance services - including usual response times.

4.2 The medical coverage plan must include:

- The contact details of the designated providers of first aid,
- Procedure in the event of a serious injury,
- Details of the ambulance cover (on site or local emergency service) and local hospitals with emergency rooms.
- Any other applicable requirement(s) imposed by the applicable legislation and/or FEI Sport Rules.

This plan must be summarized in a document which should be available to the FEI if requested.

1 See in particular Annex D for Eventing
### Person Injury Report Form

#### Person Information

<table>
<thead>
<tr>
<th>FEI ID:</th>
<th>Family Name:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>First Name:</th>
<th>Family Name:</th>
</tr>
</thead>
</table>

**Is the person injured an athlete or FEI Official?**
- [ ] Athlete
- [ ] FEI Official

<table>
<thead>
<tr>
<th>Date of Injury:</th>
<th>Time of Injury:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where did the injury occur (competition or practice arena, other – please specify)?

Was the person on foot or riding?

**Description in general of the mechanism of the injury:**

#### Outline of Management

- [ ] Treated on site
- [ ] Referred to hospital

**Suspected Injury**
- [ ] Concussion
  - As determined following assessment with CRT5, SCAT5 or similar official protocol.
- [ ] Spinal Injury
- [ ] Fracture
- [ ] Dislocation
- [ ] Other – please specify: 

**Was the injury fatal (death)?**

#### Medical Professional/First Aider Information

<table>
<thead>
<tr>
<th>Full Name:</th>
<th>Phone Number:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Qualification:</th>
<th>Phone Number:</th>
</tr>
</thead>
</table>

---

Person Injury Report form for Medical Officers/Emergency care providers at FEI events
Person Injury Report Form

Additional comments:

Injury(ies) positions:
Foreword

International events organisers (in conjunction with the Medical Officer or emergency care provider appointed for the event) should always have a written injury management plan including concussion. This plan should contain the following information:

1. Designation of the medical provider or trained medical personnel who will be in charge of the care of concussed athletes (see point 2. below).
2. Designation of a quiet area on site where concussed athletes may be taken for additional evaluation.
3. Plan for a mechanism of communication to the Ground Jury where concussion is suspected, using the procedure of the applicable rules.
4. Plan for stabilization and evacuation of athletes with critical neurological injuries, including identification of the designated trauma center with neurological specialty care.

All Medical Officers /emergency care providers must be familiar with the Concussion Recognition Tool (CRT) included in the FEI’s Doctor’s Pack.

Concussion recognition and management should follow the process described in the flowchart in page 2 of this document.

In the flowchart, the term “medical personnel trained in concussion management” refers to medical providers (physician/medical facility) or trained medical personnel who meet the following minimum requirements:

   a) Familiarity with the latest International Concussion in Sport Group Guidelines;
   b) Familiarity with the current Concussion Recognition Tool (CRT) and Sport Concussion Assessment Tool (SCAT) included in the FEI’s Doctor’s Pack;
   c) Ability to perform a basic neurologic exam;
   d) Completion of an online training module on concussion (i.e. “Heads Up for Concussion”, or equivalent).
Concussion recognition and management process at FEI events

Fall or heavy impact/blow

Call medical officer / person providing emergency care

Medical officer or emergency care person performs CRT5

Concussion suspected: ¹

If no medical personnel trained in concussion management is available on site:

Athlete to hospital ²

If medical personnel trained in concussion management is available on site:

Medical officer or emergency care person performs CRT5

No concussion suspected: ²

Athlete back to competition (sport specific rules permitting)

Event runs over one day:

SCAT5 (or equivalent concussion diagnosis protocol)

and

Athlete to hospital/private doctor for medical assessment ³

Event runs over several days:

SCAT5 (or equivalent concussion diagnosis protocol)

and

refer to hospital ³ if concerns or monitor and reassess the athlete on next day

No symptoms

Complete FEI Return to Play Form (copy to TD/FJ)

Symptoms persist

Athlete to hospital ³

¹ In all cases of suspected concussion:
- GJ President must be informed
- The Medical officer / person providing emergency care must complete a Person Injury Report form and hand it over to the Technical Delegate/Foreign Judge/Ground Jury President for follow up with the FEI.

² Where the CRT5 assessment concludes that no concussion is suspected, this should be recorded on a Person Injury Report form to be handed over to the Technical Delegate/Foreign Judge/Ground Jury President for follow up with the FEI.

³ Any athlete diagnosed with concussion must have the FEI’s Concussion Return to Play Form completed by an appropriate health care provider before they compete again in an FEI sanctioned event.
RECOGNISE & REMOVE

Head impact 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
- Increasingly restless, agitated or combative
- Deteriorating conscious state
- Vomiting
- Nausea or vomiting
- Loss of consciousness
- Drowsiness
- Dizziness
- Sensitivity to light
- Sensitivity to noise
- Fatigue or low energy
- “Don’t feel right”
- “Pressure in head”
- More emotional
- More irritable

**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 do so.
- Do not remove a helmet or any other equipment unless trained to do so safely.
- 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 do so.
- 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
- Difficulty concentrating
- Difficulty remembering
- Feeling slowed down
- Feeling like “in a fog”

**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.

The CRT5 may be freely copied in its current form for distribution to individuals, teams, groups and organisations. Any revision and any reproduction in a digital form requires approval by the Concussion in Sport Group. It should not be altered in any way, rebranded or sold for commercial gain.

**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**
SCAT5

WHAT IS THE SCAT5?

The SCAT5 is a standardized tool for evaluating concussions designed for use by physicians and licensed healthcare professionals. 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.

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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.
**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 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**

- 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*

- "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)**

- Time of assessment
- Date of assessment

<table>
<thead>
<tr>
<th>Best eye response (E)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No eye opening</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye opening in response to pain</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye opening to speech</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye opening spontaneously</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best verbal response (V)</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No verbal response</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inappropriate words</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confused</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oriented</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best motor response (M)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No motor response</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension to pain</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal flexion to pain</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexion / Withdrawal to pain</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Localizes to pain</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obey commands</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.
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:


**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

<table>
<thead>
<tr>
<th>Symptom</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Pressure in head&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Neck Pain</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizziness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Blurred vision</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Balance problems</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sensitivity to light</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling slowed down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling like &quot;in a fog&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Don’t feel right&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty remembering</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fatigue or low energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Confusion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Drowsiness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>More emotional</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Irritability</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sadness</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous or Anxious</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Trouble falling asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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**STEP 3: COGNITIVE SCREENING**

**Standardised Assessment of Concussion (SAC)**

### 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.

**Immediate Memory Score of 15**

### 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 Total Score (Digits + Months) of 5**

---

**MONTHS IN REVERSE ORDER**

Now let 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.

**Months Score of 1**

**Concentration Total Score (Digits + Months) of 5**

---

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**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 checklist) 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]

**STEP 5: BALANCE EXAMINATION**

Modified Balance Error Scoring System (mBESS) testing

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

**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

**STEP 6: DECISION**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Date &amp; time of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom number (of 22)</td>
<td></td>
</tr>
<tr>
<td>Symptom severity score (of 132)</td>
<td></td>
</tr>
<tr>
<td>Orientation (of 5)</td>
<td>of 15 of 30 of 15 of 30</td>
</tr>
<tr>
<td>Immediate memory</td>
<td>of 15 of 30 of 15 of 30</td>
</tr>
<tr>
<td>Concentration (of 5)</td>
<td></td>
</tr>
<tr>
<td>Neuro exam</td>
<td>Normal Abnormal Normal Abnormal Normal Abnormal</td>
</tr>
<tr>
<td>Balance errors (of 30)</td>
<td>of 5 of 10 of 5 of 10</td>
</tr>
<tr>
<td>Delayed Recall</td>
<td>of 5 of 10 of 5 of 10</td>
</tr>
</tbody>
</table>

Date and time of injury

If the athlete is known to you prior to their injury, are they different from their usual self?
- [Y] Yes
- [N] No
- [U] Unsure
- [N/A] Not Applicable

If different, describe why in the clinical notes section

Concussion Diagnosed?
- [Y] Yes
- [N] No
- [U] Unsure
- [N/A] Not Applicable

If re-testing, has the athlete improved?
- [Y] Yes
- [N] No
- [U] Unsure
- [N/A] Not Applicable

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

Signature:

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.**

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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: ____________________________
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 2(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. Check 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)® testing

This balance testing is based on a modified version of the Balance Error Scoring System (BESS®). 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, 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 forehead 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 38cm 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) stretched 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


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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 irritability
- 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

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

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.

<table>
<thead>
<tr>
<th>Mental Activity</th>
<th>Activity at each step</th>
<th>Goal of each step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Daily activities that do not give the athlete symptoms</td>
<td>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.</td>
<td>Gradual return to typical activities.</td>
</tr>
<tr>
<td>2. School activities</td>
<td>Homework, reading or other cognitive activities outside of the classroom.</td>
<td>Increase tolerance to cognitive work.</td>
</tr>
<tr>
<td>3. Return to school part-time</td>
<td>Gradual introduction of schoolwork. May need to start with a partial school day or with increased breaks during the day.</td>
<td>Increase academic activities.</td>
</tr>
<tr>
<td>4. Return to school full-time</td>
<td>Gradually progress school activities until a full day can be tolerated.</td>
<td>Return to full academic activities and catch up on missed work.</td>
</tr>
</tbody>
</table>

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

- 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.

Written clearance should be provided by a healthcare professional before return to play/sport as directed by local laws and regulations.
WHAT IS THE CHILD SCAT5?

The Child SCAT5 is a standardized tool for evaluating concussions designed for use by physicians and licensed healthcare professionals. If you are not a physician or licensed healthcare professional, please use the Concussion Recognition Tool 5 (CRT5). The Child SCAT5 is to be used for evaluating Children aged 5 to 12 years. For athletes aged 13 years and older, please use the SCAT5.

Preseason Child SCAT5 baseline testing can be useful for interpreting post-injury test scores, but not required for that purpose. Detailed instructions for use of the Child 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.

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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 the child is suspected of having a concussion and medical personnel are not immediately available, the child should be referred to a medical facility for urgent assessment.
- 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 Child SCAT5 should NOT be used by itself to make, or exclude, the diagnosis of concussion. An athlete may have a a concussion even if their Child 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.
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 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 cervical spine exam is a critical step of the immediate assessment, however, it does not need to be done serially.

STEP 1: 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: EXAMINATION GLASGOW COMA SCALE (GCS)²

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

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
- Obey 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

OFFICE OR OFF-FIELD ASSESSMENT

STEP 1: ATHLETE BACKGROUND

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

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?
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: __________________________

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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.

To be done in a resting state

Please Check: ☐ Baseline ☐ Post-Injury

### Child Report

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not at all/ Never</th>
<th>A little/ Rarely</th>
<th>Somewhat/ Sometimes</th>
<th>A lot/ Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have headaches</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel dizzy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel like the room is spinning</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel like I’m going to faint</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Things are blurry when I look at them</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I see double</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel sick to my stomach</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>My neck hurts</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get tired a lot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get tired easily</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have trouble paying attention</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get distracted easily</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have a hard time concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have problems remembering what people tell me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have problems following directions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I daydream too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get confused</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I forget things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have problems finishing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I have trouble figuring things out</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>It's hard for me to learn new things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total number of symptoms: 21
Symptom severity score: 63

Do the symptoms get worse with physical activity? Y N
Do the symptoms get worse with trying to think? Y N

Overall rating for child to answer:

On a scale of 0 to 10 (where 10 is normal), how do you feel now?

If not 10, in what way do you feel different?

### Parent Report

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not at all/ Never</th>
<th>A little/ Rarely</th>
<th>Somewhat/ Sometimes</th>
<th>A lot/ Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>has headaches</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>feels dizzy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has a feeling that the room is spinning</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>feels faint</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has blurred vision</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has double vision</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>experiences nausea</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has a sore neck</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>gets tired a lot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>gets tired easily</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has trouble sustaining attention</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>is easily distracted</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has difficulty concentrating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has difficulty following directions</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>tends to daydream</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>gets confused</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>is forgetful</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has difficulty completing tasks</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has poor problem solving skills</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>has problems learning</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total number of symptoms: 21
Symptom severity score: 63

Do the symptoms get worse with physical activity? Y N
Do the symptoms get worse with mental activity? Y N

Overall rating for parent/teacher/coach/carer to answer

On a scale of 0 to 100% (where 100% is normal), how would you rate the child now?

If not 100%, in what way does the child seem different?
### 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 minimize 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.

<table>
<thead>
<tr>
<th>List</th>
<th>Alternate 5 word lists</th>
<th>Score (of 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Finger, Penny, Blanket, Lemon, Insect</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Candle, Paper, Sugar, Sandwich, Wagon</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Baby, Monkey, Perfume, Sunset, Iron</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Elbow, Apple, Carpet, Saddle, Bubble</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Jacket, Arrow, Pepper, Cotton, Movie</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Dollar, Honey, Mirror, Saddle, Anchor</td>
<td></td>
</tr>
</tbody>
</table>

Immediate Memory Score: $15$

Time that last trial was completed:

<table>
<thead>
<tr>
<th>List</th>
<th>Alternate 10 word lists</th>
<th>Score (of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Finger, Penny, Blanket, Lemon, Insect</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Candle, Paper, Sugar, Sandwich, Wagon</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Baby, Monkey, Perfume, Sunset, Iron</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Elbow, Apple, Carpet, Saddle, Bubble</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Jacket, Arrow, Pepper, Cotton, Movie</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Dollar, Honey, Mirror, Saddle, Anchor</td>
<td></td>
</tr>
</tbody>
</table>

Immediate Memory Score: $30$

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 7-1-6, you would say 6-1-7.

<table>
<thead>
<tr>
<th>Concentration Number Lists (circle one)</th>
<th>List A</th>
<th>List B</th>
<th>List C</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-2</td>
<td>4-1</td>
<td>4-9</td>
<td>Y</td>
</tr>
<tr>
<td>4-1</td>
<td>9-4</td>
<td>6-2</td>
<td>Y</td>
</tr>
<tr>
<td>4-9-3</td>
<td>5-2-6</td>
<td>1-4-2</td>
<td>Y</td>
</tr>
<tr>
<td>6-2-9</td>
<td>4-1-5</td>
<td>6-5-8</td>
<td>Y</td>
</tr>
<tr>
<td>3-8-1-4</td>
<td>1-7-9-5</td>
<td>6-8-3-1</td>
<td>Y</td>
</tr>
<tr>
<td>3-2-7-9</td>
<td>4-9-6-8</td>
<td>3-4-8-1</td>
<td>Y</td>
</tr>
<tr>
<td>6-2-9-7-1</td>
<td>4-8-5-2-7</td>
<td>4-9-1-5-3</td>
<td>Y</td>
</tr>
<tr>
<td>1-5-2-8-6</td>
<td>6-1-8-4-3</td>
<td>6-8-3-5-1</td>
<td>Y</td>
</tr>
<tr>
<td>7-1-8-4-6-2</td>
<td>8-3-1-9-6-4</td>
<td>3-7-6-5-1</td>
<td>Y</td>
</tr>
<tr>
<td>5-3-5-1-4-8</td>
<td>7-2-4-8-5-6</td>
<td>9-2-6-5-1-4</td>
<td>Y</td>
</tr>
</tbody>
</table>

Digits Score: $5$

### DAYS IN REVERSE ORDER

Now tell me the days of the week in reverse order. Start with the last day and go backward. So you say Sunday, Saturday, Go ahead.

<table>
<thead>
<tr>
<th>Days Score</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>1</td>
</tr>
</tbody>
</table>

Concentration Total Score (Digits + Days): $6$

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**STEP 4: NEUROLOGICAL SCREEN**

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

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

**BALANCE EXAMINATION**

Modified Balance Error Scoring System (BESS) testing

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

<table>
<thead>
<tr>
<th>Condition</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double leg stance</td>
<td>of 10</td>
</tr>
<tr>
<td>Single leg stance (non-dominant foot, 10-12 y/o only)</td>
<td>of 10</td>
</tr>
<tr>
<td>Tandem stance (non-dominant foot at back)</td>
<td>of 10</td>
</tr>
</tbody>
</table>

**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.

**STEP 6: DECISION**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Date &amp; time of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom number</td>
<td></td>
</tr>
<tr>
<td>Child report (of 21)</td>
<td></td>
</tr>
<tr>
<td>Parent report (of 21)</td>
<td></td>
</tr>
<tr>
<td>Symptom severity score</td>
<td></td>
</tr>
<tr>
<td>Child report (of 63)</td>
<td></td>
</tr>
<tr>
<td>Parent report (of 63)</td>
<td></td>
</tr>
<tr>
<td>Immediate memory</td>
<td></td>
</tr>
<tr>
<td>of 15</td>
<td>of 15</td>
</tr>
<tr>
<td>of 30</td>
<td>of 30</td>
</tr>
<tr>
<td>of 15</td>
<td>of 15</td>
</tr>
<tr>
<td>Concentration (of 6)</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Abnormal</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Abnormal</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Balance errors</td>
<td></td>
</tr>
<tr>
<td>(3-9 y/o of 20)</td>
<td></td>
</tr>
<tr>
<td>(10-12 y/o of 30)</td>
<td></td>
</tr>
<tr>
<td>Delayed Recall</td>
<td></td>
</tr>
<tr>
<td>of 5</td>
<td>of 5</td>
</tr>
<tr>
<td>of 10</td>
<td>of 10</td>
</tr>
<tr>
<td>of 5</td>
<td>of 10</td>
</tr>
</tbody>
</table>

Date and time of injury: __________________________

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

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

If different, describe why in the clinical notes section

Concussion Diagnosed?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

If re-testing, has the athlete improved?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Not Applicable</th>
</tr>
</thead>
</table>

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

Signature: __________________________

Name: __________________________

Title: __________________________

Registration number (if applicable): __________________________

Date: __________________________

SCORING ON THE CHILD 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.
For the Neurological Screen (page 5), if the child cannot read, ask him/her to describe what they see in this picture.

**CLINICAL NOTES:**

---

**Concussion injury advice for the child and parents/caregivers**

*(To be given to the person monitoring the concussed child)*

This child has had an injury to the head and needs to be carefully watched for the next 24 hours by a responsible adult.

If you notice any change in behavior, vomiting, dizziness, worsening headache, double vision or excessive drowsiness, please call an ambulance to take the child to hospital immediately.

Other important points:

Following concussion, the child should rest for at least 24 hours.

- The child should not use a computer, internet or play video games if these activities make symptoms worse.
- The child should not be given any medications, including pain killers, unless prescribed by a medical doctor.
- The child should not go back to school until symptoms are improving.
- The child should not go back to sport or play until a doctor gives permission.

**Clinic phone number:** ______________________

**Patient’s name:** ______________________

**Date / time of injury:** ______________________

**Date / time of medical review:** ______________________

**Healthcare Provider:** ______________________

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Contact details or stamp
INSTRUCTIONS

Words in Italic throughout the Child SCAT5 are the instructions given to the athlete by the clinician.

Symptom Scale

In situations where the symptom scale is being completed after exercise, it should still be done in a resting state, at least 10 minutes post exercise.

At Baseline

• The child is to complete the Child Report, according to how he/she feels today, and
• The parent/carer is to complete the Parent Report according to how the child has been over the previous week.

On the day of injury

• The child is to complete the Child Report, according to how he/she feels now.
• If the parent is present, and has had time to assess the child on the day of injury, the parent completes the Parent Report according to how the child appears now.
• The parent/carer is to complete the Parent Report according to how the child has been over the previous 24 hours.

For Total number of symptoms, maximum possible is 21
For Symptom severity score, add all scores in table, maximum possible is 21 + 3 = 63

Standardized Assessment of Concussion Child Version (SAC-C)

Immediate Memory

Choose one of the 5-word lists. 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.

OPTION: The literature suggests that the Immediate Memory has a notable ceiling effect when a 5-word list is used. (In younger children, use the 5-word list). 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.

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

Try 1: “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 only, from List A, B, C, D, E or F, and administer those digits as follows:

“If you were to kick a ball, which foot would you use? [This will be the dominant foot]. Now stand on your other foot. You should bend your other leg and hold it up (show the child). Again, try to stay in that position 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 move out of this position, open your eyes and return to the start position and keep balancing. I will start timing when you are set and have closed your eyes.”

Balance testing – types of errors

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

Balance testing

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

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

(a) Double leg stance:
The first stance is standing with the feet together with hands on hips and with eyes closed. The child should try to maintain stability in that position for 20 seconds. You should inform the child that you will be counting the number of times the child moves out of this position. You should start timing when the child is set and the eyes are closed.

(b) Tandem stance:
Instruct or show the child how to stand heel-to-toe with the non-dominant foot in the back. Weight should be evenly distributed across both feet. Again, the child should try to maintain stability for 20 seconds with hands on hips and eyes closed.
You should inform the child that you will be counting the number of times the child moves out of this position. If the child stumbles out of this position, instruct him/her to open the eyes and return to the start position and continue balancing. You should start timing when the child is set and the eyes are closed.

(c) Single leg stance (10–12 year olds only):
“If you were to kick a ball, which foot would you use? [This will be the dominant foot]. Now stand on your other foot. You should bend your other leg and hold it up (show the child). Again, try to stay in that position 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 move out of this position, open your eyes and return to the start position and keep balancing. I will start timing when you are set and have closed your eyes.”

Tandem Gait

Instruction for the examiner - Demonstrate the following to the child.
The child is 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. Children fail the test if they stop 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

The tester should demonstrate it to the child.
“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). 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 as quickly and as accurately as possible.”

Scoring: 5 correct repetitions in 4 seconds + 1

Note for testers: Children fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions.

References


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CONCUSSION INFORMATION

If you think you or a teammate has a concussion, tell your coach/trainer/parent right away so that you can be taken out of the game. You or your teammate should be seen by a doctor as soon as possible. YOU OR YOUR TEAMMATE SHOULD NOT GO BACK TO PLAY/SPORT THAT DAY.

Signs to watch for

Problems can happen over the first 24-48 hours. You or your teammate should not be left alone and must go to a hospital right away if any of the following happens:

- New headache, or headache gets worse
- Neck pain that gets worse
- Becomes sleepy/ drowsy or can’t be woken up
- Cannot recognise people or places
- Feeling sick to your stomach or vomiting
- Acting weird/strange, seems/confused, or is irritable
- Has any seizures (arms and/or legs jerk uncontrollably)
- Has weakness, numbness or tingling (arms, legs or face)
- Is unsteady walking or standing
- Talking is slurred
- Cannot understand what someone is saying or directions

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

Graduated Return to Sport Strategy

After a concussion, the child should rest physically and mentally for a few days to allow symptoms to get better. In most cases, after a few days of rest, they can gradually increase their daily activity level as long as symptoms don’t get worse. Once they are able to do their usual daily activities without symptoms, the child should gradually increase exercise in steps, guided by the healthcare professional (see below).

The athlete should not return to play/sport the day of injury.

NOTE: An initial period of a few days of both cognitive (“thinking”) and physical rest is recommended before beginning the Return to Sport progression.

Graduated Return to School Strategy

Concussion may affect the ability to learn at school. The child may need to miss a few days of school after a concussion, but the child’s doctor should help them get back to school after a few days. When going back to school, some children may need to go back gradually and may need to have some changes made to their schedule so that concussion symptoms don’t get a lot worse. If a particular activity makes symptoms a lot worse, then the child should stop that activity and rest until symptoms get better.

To make sure that the child can get back to school without problems, it is important that the health care provider, parents/caregivers and teachers talk to each other so that everyone knows what the plan is for the child to go back to school.

Note: If mental activity does not cause any symptoms, the child may be able to return to school part-time without doing school activities at home first.

<table>
<thead>
<tr>
<th>Mental Activity</th>
<th>Activity at each step</th>
<th>Goal of each step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Daily activities that do not give the child symptoms</td>
<td>Typical activities that the child does during the day as long as they do not increase symptoms (e.g. reading, testing, screen time). Start with 5-15 minutes at a time and gradually build up.</td>
<td>Gradual return to typical activities.</td>
</tr>
<tr>
<td>2. School activities</td>
<td>Homework, reading or other cognitive activities outside of the classroom. Increase tolerance to cognitive work.</td>
<td></td>
</tr>
<tr>
<td>3. Return to school part-time</td>
<td>Gradual introduction of school work. May need to start with a partial school day or with increased breaks during the day. Increase academic activities.</td>
<td></td>
</tr>
<tr>
<td>4. Return to school full-time</td>
<td>Gradually progress school activities until a full day can be tolerated. Return to full academic activities and catch up on missed work.</td>
<td></td>
</tr>
</tbody>
</table>

If the child continues to have symptoms with mental activity, some other things that can be done to help with return to school may include:

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

The child 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.
Concussion Return To Play Form

This form must be used by FEI athletes who have been diagnosed with concussion, in order to confirm their fitness to compete to their National Federation.

**Note:** The health care provider completing this form should be familiar with the International Concussion in Sport Group Guidelines, the current Concussion Recognition Tool (CRT) and Sport Concussion Assessment Tool (SCAT), and must have the ability to perform a basic neurologic exam.

---

<table>
<thead>
<tr>
<th>Athlete’s Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEI ID Number:</td>
</tr>
</tbody>
</table>

Date of Birth: / /  
Date of Injury: / /  

---

I have assessed this athlete and find no symptoms or signs of continuing concussion.

Date of Evaluation: / /  

---

**Treating health care provider information**

(please print/stamp)

By signing this document; I confirm that I am familiar with and trained in sport concussion assessment and management.

<table>
<thead>
<tr>
<th>Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualifications:</td>
</tr>
<tr>
<td>Signature:</td>
</tr>
</tbody>
</table>

Office Phone:  
Office Address:  
Email:  

Concussion is a traumatic brain injury that interferes with normal brain function. Concussion is caused by a biomechanical force or hit, to the head or body, transmitted to the brain. Concussion can occur with or without loss of consciousness (being “knocked out”).

Concussion management is very important to make sure that all symptoms have cleared before return to riding. This is because further damage may occur if the brain receives additional impacts before it has fully recovered from the initial concussion episode.

**Concussion Management:**

1. Any athlete with concussion or suspected of having a concussion should be evaluated by an appropriate health-care professional that day;

2. Cognitive judgement, balance and coordination are impaired in concussion injury. The athlete must not return to riding a horse on the same day of a concussion;

3. Any athlete with a concussion must follow the stages of return to riding outlined below.

**Stages of Return to Riding**

If at any of the stages indicated below the athlete becomes symptomatic, he/she should revert to the first stage of activity for 24 hours before attempting again to move on to the next stage.

1. **Rest** - No activity, complete cognitive and physical rest, do NOT Ride a horse. Once asymptomatic proceed to stage 2.

2. Progress to light aerobic training (walking, jogging), no resistance training.

3. Progress to sports specific exercise, e.g. riding on the flat, hacking.

4. Gradually increased training intensity.

5. Full training when symptom free.

6. Back to equestrian competition after completion of Concussion Return to Play form by an appropriate health care professional.

---

1 Health care professional experienced in the management of sport concussion in line with the International Concussion in Sport Group Guidelines

2 As above.