CONCUSSION
A FACT SHEET FOR STUDENT-ATHLETES

WHAT IS A CONCUSSION?
A concussion is a brain injury that:
- Is caused by a blow to the head or body.
- From contact with another player, hitting a hard surface such as the ground, ice or floor, or being hit by a piece of equipment such as a bat, lacrosse stick or field hockey ball.
- Can change the way your brain normally works.
- Can range from mild to severe.
- Presents itself differently for each athlete.
- Can occur during practice or competition in ANY sport.
- Can happen even if you do not lose consciousness.

HOW CAN I PREVENT A CONCUSSION?
Basic steps you can take to protect yourself from concussion:
- Do not initiate contact with your head or helmet. You can still get a concussion if you are wearing a helmet.
- Avoid striking an opponent in the head. Undercutting, flying elbows, stepping on a head, checking an unprotected opponent, and sticks to the head all cause concussions.
- Follow your athletics department’s rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.
- Practice and perfect the skills of the sport.

WHAT ARE THE SYMPTOMS OF A CONCUSSION?
You can’t see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury. Concussion symptoms include:
- Amnesia.
- Confusion.
- Headache.
- Loss of consciousness.
- Balance problems or dizziness.
- Double or blurry vision.
- Sensitivity to light or noise.
- Nausea (feeling that you might vomit).
- Feeling dazed, foggy or groggy.
- Feeling unusually irritable.
- Concentration or memory problems (forgetting game plays, facts, meeting times).
- Slowed reaction time.

Exercise or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

WHAT SHOULD I DO IF I THINK I HAVE A CONCUSSION?
Don’t hide it. Tell your athletic trainer and coach. Never ignore a blow to the head. Also, tell your athletic trainer and coach if one of your teammates might have a concussion.
Sports have injury timeouts and player substitutions so that you can get checked out.
Report it. Do not return to participation in a game, practice or other activity with symptoms. The sooner you get checked out, the sooner you may be able to return to play.
Get checked out. Your team physician, athletic trainer, or health care professional can tell you if you have had a concussion and when you are cleared to return to play. A concussion can affect your ability to perform everyday activities, your reaction time, balance, sleep and classroom performance.
Take time to recover. If you have had a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have a repeat concussion. In rare cases, repeat concussions can cause permanent brain damage and even death. Severe brain injury can change your whole life.

IT’S BETTER TO MISS ONE GAME THAN THE WHOLE SEASON.
WHEN IN DOUBT, GET CHECKED OUT.

For more information and resources, visit www.NCAA.org/health-safety and www.CDC.gov/Concussion.

Reference to any commercial entity or product or service on this page should not be construed as an endorsement by the Government of the company or its products or services.
New York Institute of Technology

Department of Athletics
APPENDIX B

New York Institute of Technology Athletics Participation Statement

A. Participation Agreement, Assumption of Risk and Release
In consideration and as a condition of New York Institute of Technology permitting my participation in activities associated with an athletic team, which include but are not limited to training, trying out, practicing, playing and traveling, I freely acknowledge that I am aware of and accept the risks associated with such participation. I also acknowledge that my participation in such activities is wholly voluntary, and is not required in any way by New York Institute of Technology. I fully realize the dangers of participating in such activities and fully assume the risks associated with such participation, which may include, but are not limited to, the possibility of serious physical and/or mental trauma or injury, the onset of serious physical and/or medical conditions, and paralysis, which may require surgery or other medical treatment, and which may be caused in whole or in part by numerous factors, including my medical or physical condition, the actions or inactions of other athletes, the conditions of premises, and the negligence of the entity or individuals released hereby. I waive, release and discharge for myself, my heirs, executors, administrators, legal representatives, assignees and successors in interest any and all rights or claims for injuries or losses of any description that I may have or which may hereafter accrue to me against New York Institute of Technology, its Trustees, employees, or agents, in connection with my participation in activities associated with a New York Institute of Technology athletic team.

B. Medical Consent to Treatment
I grant permission to physicians, athletic trainers, and/or other medical practitioners or professionals associated, assisting, or employed in connection with New York Institute of Technology athletic programs or student-athletes, to render any preventive, emergency, surgical or rehabilitative medical treatment or care deemed reasonable and necessary for my health and well-being, and to arrange for my hospitalization where reasonable and necessary, in circumstances connected with my participation in activities associated with a New York Institute of Technology athletic team. This consent is not intended to, and does not, create a duty on the part of physicians, athletic trainers, and/or other medical practitioners or professionals associated, assisting, or employed in connection with New York Institute of Technology athletic programs or student-athletes, to render or arrange for such treatment or care.

C. Authorization of Release of Medical Information
I authorize New York Institute of Technology and any of its health or physical care providers or practitioners to release to coaches, athletic trainers, or other individuals employed by or associated or assisting with New York Institute of Technology athletic programs or student-athletes, any and all records, documents, or information they may have regarding my medical, physical or psychological condition, for the purpose of informing such individual(s) regarding such condition(s), such as records, documents or information may become available or be developed over the course of the year including and following the date of this Release Authorization, except for records, documents or information created or maintained in connection with an alcohol or drug abuse treatment or prevention program.

I further authorize the release of records, documents or information regarding my medical, physical, or psychological condition to other entities or individuals, including but not limited to the New York Institute of Technology Sports Information department, media outlets and personnel, and professional team personnel for the purpose of informing such entities or individuals of such conditions. The Release Authorization should not be construed, however, to require such release. This Release Authorization is effective for the year including and following the date of execution, and I may revoke it by means of a written statement to that effect, except to the extent that action has been taken based upon this Release Authorization.

D. Signature Approval
I have read, understand and approve Parts A, B and C of this Participation Statement. A photocopy of this Participation Statement will be deemed to have the same force and effect as the original.

Signature ___________________________________________ Age________________________________________ Agreement Date______________

(Only if under 18)

Parent’s Name ____________________________________________

Parent’s Address ____________________________________________

City State Zip ____________________________________________

Telephone # ____________________________________________ Fax # ____________________________________________

Signature ____________________________________________ Agreement Date____________________
New York Institute of Technology Patient Rights and Responsibilities

<table>
<thead>
<tr>
<th>The patient has a right</th>
<th>The patient has a responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• to be treated with respect and dignity and to be provided with courteous, considerate care;</td>
<td>• to inform clinician of any changes in his/her health status that could affect treatment;</td>
</tr>
<tr>
<td>• to be informed about the diagnosis, treatment and prognosis of the health problem in terms that can be understood;</td>
<td>• to adhere to a prescribed treatment plan and to discuss any desired change; • to act in a considerate and cooperative manner with the Athletic Training Clinic;</td>
</tr>
<tr>
<td>• to know the chances that treatment will be effective and to know the possible risks, side effects and alternative methods of treatment;</td>
<td>• to ask questions and seek clarification regarding areas of concern;</td>
</tr>
<tr>
<td>• to receive confidential treatment of their disclosures and medical records and, except when required by law, afforded the opportunity to approve or refuse their release;</td>
<td>• to weigh the consequences of refusing to comply with instructions and recommendations;</td>
</tr>
<tr>
<td>• to know who is responsible for providing treatment;</td>
<td>• to assist the clinicians in compiling a complete record by authorizing the Athletic Training Clinic to obtain necessary medical information from appropriate sources;</td>
</tr>
<tr>
<td>• to have access to a second medical opinion before making any decision. The patient can decide not to be treated, but must be informed of the medical consequences of refusal;</td>
<td>• to inform staff if he/she has a prescription card at the time of appointment;</td>
</tr>
<tr>
<td>• to participate in decisions involving the health problem;</td>
<td>• to keep appointments on time;</td>
</tr>
<tr>
<td>• to be informed of the personal responsibilities involved in seeking medical treatment and maintaining health and well-being thereafter;</td>
<td>• to cancel appointments only when absolutely necessary, and far enough in advance so that other patients might utilize that time.</td>
</tr>
<tr>
<td>• to privacy;</td>
<td></td>
</tr>
<tr>
<td>• to have access to resource persons and information concerning health education, self-care and prevention of illness;</td>
<td></td>
</tr>
<tr>
<td>• to be given appropriate and professional quality health care without discrimination against their race, creed, color, religion, sex, national origin, sexual preference, handicap or age;</td>
<td></td>
</tr>
<tr>
<td>• to voice grievance with athletic training services and/or staff without being threatened, restrained and discriminated against.</td>
<td></td>
</tr>
</tbody>
</table>

I have reviewed and understand my rights and responsibilities as described above.

Signature __________________________
Agreement date__________________
New York Institute of Technology Student-Athlete Concussion Statement

☐ I understand that it is my responsibility to report all injuries and illnesses to my athletic trainer and/or team physician.

☐ I have read and understand the NCAA Concussion Fact Sheet. After reading the NCAA Concussion fact sheet, I am aware of the following information:

___Initial A concussion is a brain injury, which I am responsible for reporting to my team physician or athletic trainer.

___Initial A concussion can affect my ability to perform everyday activities, and affect reaction time, balance, sleep, and classroom performance.

___Initial You cannot see a concussion, but you might notice some of the symptoms right away. Other symptoms can show up hours or days after the injury.

___Initial If I suspect a teammate has a concussion, I am responsible for reporting the injury to my team physician or athletic trainer.

___Initial I will not return to play in a game or practice if I have received a blow to the head or body that results in concussion related symptoms.

___Initial Following concussion the brain needs time to heal. You are much more likely to have a repeat concussion if you return to play before your symptoms resolve.

___Initial In rare cases, repeat concussions can cause permanent brain damage, and even death.

Signature ___________________________ Agreement date ________________
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. 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.

This tool may be freely copied in its current form for distribution to individuals, teams, groups and organizations. It should not be altered in any way, re-branded or sold for commercial gain. Any revision, translation or reproduction in a digital form requires specific approval by the Concussion in Sport Group.

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.
**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 neuropsychological 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**

**RED FLAGS:**
- Neck pain or tenderness
- Double vision
- Weakness or tingling/numbness 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**

<table>
<thead>
<tr>
<th></th>
<th>Witnessed</th>
<th>Observed on Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lying motionless on playing surface</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Balanced/stable/difficulties/motor incoordination/stumbling/slow/laborious movements</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Disorientation/confusion, or an inability to respond appropriately to questions</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Blank or vacant look</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Facial injury after head trauma</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

**STEP 3: MEMORY ASSESSMENT MADDOCKS QUESTIONS**

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

<table>
<thead>
<tr>
<th>Question</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Y for correct answer / N for incorrect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What venue are we at today?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Which half is it now?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Who scored last in this match?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>What team did you play last week / game?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Did your team win the last game?</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

*Note: Appropriate sport-specific questions may be substituted.*

**STEP 4: EXAMINATION GLASGOW COMA SCALE (GCS)**

<table>
<thead>
<tr>
<th>Time of assessment</th>
<th>Date of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best eye response (E)</td>
<td></td>
</tr>
<tr>
<td>No eye opening</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Eye opening in response to pain</td>
<td>2 2 2</td>
</tr>
<tr>
<td>Eye opening to speech</td>
<td>3 3 3</td>
</tr>
<tr>
<td>Eyes opening spontaneously</td>
<td>4 4 4</td>
</tr>
<tr>
<td>Best verbal response (V)</td>
<td></td>
</tr>
<tr>
<td>No verbal response</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
<td>2 2 2</td>
</tr>
<tr>
<td>Inappropriate words</td>
<td>3 3 3</td>
</tr>
<tr>
<td>Confused</td>
<td>4 4 4</td>
</tr>
<tr>
<td>Oriented</td>
<td>5 5 5</td>
</tr>
<tr>
<td>Best motor response (M)</td>
<td></td>
</tr>
<tr>
<td>No motor response</td>
<td>1 1 1</td>
</tr>
<tr>
<td>Extensor to pain</td>
<td>2 2 2</td>
</tr>
<tr>
<td>Abnormal flexion to pain</td>
<td>3 3 3</td>
</tr>
<tr>
<td>Flexion/Withdrawal to pain</td>
<td>4 4 4</td>
</tr>
<tr>
<td>Localizes to pain</td>
<td>5 5 5</td>
</tr>
<tr>
<td>obey commands</td>
<td>6 6 6</td>
</tr>
</tbody>
</table>

Glasgow Coma score (E + V + M)
OFFICE OR OFF-FIELD ASSESSMENT

Please note that the neuropsychiatric 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 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 their 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 sleeping (if applicable)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total number of symptoms: __________________

Symptom severity score: __________________

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)**

**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

**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.

**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 9-7-5, you would say 5-7-9.

<table>
<thead>
<tr>
<th>Concentration Number lists (mixed with)</th>
<th>List A</th>
<th>List B</th>
<th>List C</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-9-3</td>
<td>5-2-6</td>
<td>1-4-2</td>
<td>Y</td>
</tr>
<tr>
<td>6-0-9</td>
<td>4-1-5</td>
<td>6-5-8</td>
<td>Y</td>
</tr>
<tr>
<td>3-6-1-4</td>
<td>5-7-5</td>
<td>6-8-0-1</td>
<td>Y</td>
</tr>
<tr>
<td>3-0-2-4</td>
<td>4-6-8</td>
<td>3-4-0-1</td>
<td>Y</td>
</tr>
<tr>
<td>6-0-9-0-1</td>
<td>4-6-0-2</td>
<td>6-9-1-5</td>
<td>Y</td>
</tr>
<tr>
<td>1-5-0-8-6</td>
<td>5-1-0-8-3</td>
<td>6-8-0-5-1</td>
<td>Y</td>
</tr>
<tr>
<td>7-1-0-6-8-0</td>
<td>8-3-0-5-6-4</td>
<td>3-7-6-5-9</td>
<td>Y</td>
</tr>
<tr>
<td>5-9-6-1-4</td>
<td>7-2-0-6-9-4</td>
<td>9-6-0-1-3</td>
<td>Y</td>
</tr>
</tbody>
</table>

**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.

**Dots Score:** 4

**Time that last trial was completed:**
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 passive PAVEH cervical spine rotation? 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

<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)</td>
<td>of 10</td>
</tr>
<tr>
<td>Tandem stance (non-dominant foot at the back)</td>
<td>of 10</td>
</tr>
<tr>
<td>Total Errors</td>
<td>of 30</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 minutes earlier? Tell me as many words from the list as you can remember in any order.

Time Started

<table>
<thead>
<tr>
<th>Please record each word correctly recalled. Total score equals number of words recalled.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

| Total number of words recalled accurately: | of 5 | of 10 |
|---|---|

STEP 6: DECISION

Date and time of assessment:

- Symptom number (of 22)
- Symptom severity score (of 132)
- Orientation (of 5)
- Immediate memory (of 30)
- Concentration (of 5)
- Neuro exam
- Balance errors (of 30)
- Delayed Recall of 5 of 10

If the athlete is known to you prior to their injury, are they different from their usual self? □ Yes □ No □ Not Applicable

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

Concussion Diagnosed? □ Yes □ No □ Not Applicable

If retesting, has the athlete improved? □ Yes □ No □ 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.
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 is omitted, which then creates a maximum of 21.

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

Immediate Memory

The Immediate Memory component can be completed using the traditional 5-word per trial list or, optionally, using 15-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 on a 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 the column 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 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 a 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 backwards. So you’d say December, November... Go ahead!”

1 pt. for entire sequence correct.

Delayed Recall

The delayed recall should be performed within 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®)

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 10-second trials/stand 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 trials. 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.

Balance testing – types of errors

1. Hands lifted off diacess

2. Opening eyes

3. Step, stumble, or fall

4. Moving hip into >30 degrees abduction

5. Lifting footed 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. 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.”

(b) Single leg stance:

“If you were to kick a ball, which foot would you use? This is the dominant foot. 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:

“How 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 walk 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 3-meter 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 Jim 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

“Is 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


