IFDA Concussion Protocol and Guidelines

The aim of this brochure is to provide information on concussion to those involved in Ultimate Frisbee in Ireland.

- Concussion MUST be taken extremely seriously.
- Any player with a suspected concussion MUST be removed immediately from training/play and not return to play that day.
- They should be medically assessed as soon as possible.
- They MUST not be left alone.
- They MUST not drive a vehicle.
- The player MUST always be in the care of a responsible adult, who is informed of the player’s suspected concussion.

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Protocol and guidelines compiled by Aine Gilheany (Chartered Physiotherapist) in conjunction with medical doctors in Irish Ultimate community. If you have any questions, queries, comments or additions to this document, please do not hesitate to contact Aine at PRO@irishultimate.com.

Irish Flying Disc Association Concussion Protocol and Guidelines V1.0 2018
1. Summary Principles

Concussion is a brain injury that needs to be taken seriously to protect the long term welfare of all players. Any player suspected of having sustained a concussion, should be removed immediately from the field and should not return to play on the same day.

Where a Team Doctor is present, he / she must advise the person in charge of the team (i.e. Team Manager) in this regard and the player must not be allowed to continue his / her participation in the game.

Concussion is an evolving injury. It is important to monitor the player after the injury for progressive deterioration. Concussion diagnosis is a clinical judgement – Use of the SCAT 3 can aid the doctor in his / her diagnosis. However, a layperson can learn the signs of a concussion and follow steps to ensure safety and proper diagnosis of a player with a suspected concussion.

Players suspected of having a concussion, must take adequate rest of at least 24 hours and then must follow a Gradual Return To Play (GRTP) protocol. Players 18 and under must have at least a two-week rest period and then must follow a GRTP protocol. Coaches and managers must insist players receive medical clearance (by a doctor) before returning to play.

2. What is Concussion?

- Concussion is a traumatic brain injury.
- It is a complex process in which forces are transmitted to the brain and result in temporary impairment of brain function.
- It can be caused by a direct or indirect hit or whiplash type injury to the player’s head or body. This can be caused during a dive or a layout.
- Concussion typically results in an immediate onset with gradual evolution of short lived signs and symptoms.
- However in some cases, the signs and symptoms of concussion may evolve over a number of minutes or hours.
- Immediately following a suspected concussion, the brain is susceptible to further significant damage in the event of another impact.
- **Therefore the player MUST be immediately removed from activity and MUST NOT return until they have completed the graduated return to play (GRTP) protocol.**
- Concussion can have a significant impact on the short and long term health of player if not managed correctly.
- CONCUSSION MUST BE TAKEN EXTREMELY SERIOUSLY.

2.2 Why MUST concussion be taken extremely seriously?

- Ignoring the signs and symptoms of concussion may result in death, a more serious brain injury, or a prolonged recovery period.
- The potential for serious and prolonged injury emphasises the need for comprehensive medical assessment and follow-up until the concussion has fully resolved.
Returning to play before complete resolution of the concussion exposes the player to recurrent concussions that might take place with ever decreasing forces.

- Repeat concussions could shorten a player's career and may have some potential to result in permanent neurological (brain) impairment.
- There is no such thing as a minor concussion or 'small knock to the head'.

### 2.1 What are the visible clues of a suspected concussion?

Players, coaches, healthcare professionals and referees should be familiar with the visible clues of a suspected concussion. If a player has ANY ONE of the visible clues they MUST be immediately removed from activity and MUST NOT return until they have completed the graduated return to play (GRTP) protocol.

- Lying motionless on ground
- Slow to get up
- Unsteady on feet
- Balance problems or falling over
- Grabbing/Clutching head
- Dazed, blank or vacant look
- Confused/Not aware of plays or events
- Suspected or confirmed loss of consciousness or responsiveness

*Any layperson can recognise these signs and immediately take precautions.*

### 3. Signs and Symptoms: Recognise and Remove

Contrary to popular belief, most concussion injuries occur without a loss of consciousness and so it is important to recognise the other signs and symptoms of concussion. Concussion must be recognised as an evolving injury in the acute stage. Some symptoms develop immediately while other symptoms may appear gradually over time. Monitoring of players after the injury is therefore an important aspect of concussion management.

The signs and symptoms of concussion usually start at the time of the injury but the onset of these may be delayed for up to 24–48 hours. Parents, guardians, family members, coaches and teammates should be aware of the signs and symptoms of a concussed player.

Diagnosis of acute concussion should involve the following:

1. **Player's** subjective report of his/her symptoms.
2. Observation of the player for physical signs of concussion. (Anyone)
3. Assessment of the player for cognitive change or decline. (Team doctor or physio)
4. Observation of players for behavioural change. (Anyone)
5. **Players’** report of any sleep disturbance.
### Table 1: Concussion assessment domains - signs and symptoms

<table>
<thead>
<tr>
<th>Indicators</th>
<th>What you might expect to see</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms</strong></td>
<td>Headaches*</td>
</tr>
<tr>
<td></td>
<td>Dizziness</td>
</tr>
<tr>
<td></td>
<td>'Feeling in a fog.'</td>
</tr>
<tr>
<td><strong>Physical Signs</strong></td>
<td>Loss of consciousness</td>
</tr>
<tr>
<td></td>
<td>Vomiting</td>
</tr>
<tr>
<td></td>
<td>Vacant Facial Expression</td>
</tr>
<tr>
<td></td>
<td>Clutching Head</td>
</tr>
<tr>
<td></td>
<td>Motor In coordination</td>
</tr>
<tr>
<td><strong>Cognitive Impairment</strong></td>
<td>Loss short term memory</td>
</tr>
<tr>
<td></td>
<td>Difficulty with concentration</td>
</tr>
<tr>
<td></td>
<td>Decreased attention</td>
</tr>
<tr>
<td></td>
<td>Diminished work performance</td>
</tr>
<tr>
<td><strong>Behavioural Changes</strong></td>
<td>Irritability</td>
</tr>
<tr>
<td></td>
<td>Anger</td>
</tr>
<tr>
<td></td>
<td>Mood Swings</td>
</tr>
<tr>
<td></td>
<td>Feeling Nervous</td>
</tr>
<tr>
<td></td>
<td>Anxious</td>
</tr>
<tr>
<td><strong>Sleep Disturbance</strong></td>
<td>Drowsiness</td>
</tr>
<tr>
<td></td>
<td>Difficulty Falling Asleep</td>
</tr>
</tbody>
</table>

### 4. On Pitch Assessment of a Concussion Injury

- The player should ideally be assessed by a doctor or registered healthcare practitioner (physiotherapist / nurse) on the field using standard emergency management principles.
  - Particular attention should be given to excluding a cervical spine injury.
  - *If no healthcare practitioner is available the player should be removed from practice or play and urgent referral to a doctor is required.*
- Once the first aid issues are addressed, an assessment of the concussive injury should include clinical judgment and the use of the SCAT 3
- The player should NOT be left alone following the injury and regular observation for deterioration is essential over the initial few hours following injury.
- NB: Need to recognise that the appearance of symptoms might be delayed several hours following a concussive episode.
  - For example, there may be no forgetfulness (retrograde amnesia) present at 0 mins post injury; yet forgetfulness (amnesia) may be present at 10 mins post injury.
NBB: Orientation tests (i.e. name, place, and person) have been shown to be an unreliable cognitive function test in the sporting situation.

4.1 Player: YOUR responsibility:
- If you have symptoms of a suspected concussion you must STOP playing and INFORM medical and/or coaching staff immediately.
- Be honest with yourself and those looking after you.
- If you have symptoms of a suspected concussion sustained while playing sport, you MUST NOT play until you have completed the graduated return to play (GRTP) protocol.

4.2 Teammates, coaches and parents: YOUR responsibility:
- You MUST do your best to ensure that the player is removed from play in a safe manner, if you observe them displaying any of the visible clues or signs or symptoms of a suspected concussion.
- You MUST NOT allow a player to play until they have completed the graduated return to play (GRTP) protocol if they are displaying signs or symptoms of a suspected concussion sustained while playing rugby or another sport.
- You MUST ensure that the player is in the care of a responsible adult and inform them of the player’s suspected concussion.

5.1 Gradual Return to Play (GRTP) PROTOCOL : (Players >18)
A player with a diagnosed concussion should NEVER be allowed to return to play on the day of injury. In addition, return to play must follow a medically supervised stepwise approach and a player MUST NEVER return to play while symptomatic.

The most important aspect of concussion management is physical and cognitive rest until the acute symptoms resolve and then a graded program of exertion prior to medical clearance and return to play (RTP).

1. There should be an initial period of 24-48 hours rest for adult players post a concussive injury. The player should avoid activities that require concentration or attention.
   
   Note: Symptoms can be masked by medications such as headache tablets, antidepressants and/or sleeping medication and caffeine - important for players and others to be aware of this.

2. There should be at least a two-week rest period for players up to the age of 18
3. GRTP protocols following concussion follow a stepwise approach. With this stepwise progression, the players should continue to proceed to the next level if asymptomatic at the current level.

4. Generally each step should take 24 hours so that the athlete would take approximately one week to proceed to full rehabilitation once they are asymptomatic at rest.

5. If any post-concussion symptoms occur while in the RTP program, then the player should drop back to the previous asymptomatic level and try to progress again after a further 24 hours period of rest has passed.

*Medical clearance is required prior to return to full contact sports (medical clearance refers to medical doctors)*

Table 2: Gradual Return to Play Protocol (GRTP) – Stepwise approach

<table>
<thead>
<tr>
<th>Rehabilitation Stage</th>
<th>Functional exercise at stage of Rehab</th>
<th>Objective of stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No Activity</td>
<td>Physical and Cognitive Rest (for &lt;18s this stage must be at least 2 weeks).</td>
<td>Recovery</td>
</tr>
<tr>
<td>2. Light Activity</td>
<td>Walking, swimming, cycling, keeping intensity &lt;70% maximum permitted heart rate. No resistance training.</td>
<td>Increase HR</td>
</tr>
<tr>
<td>3. Sports Specific Exercise</td>
<td>Running drills, no impact activities</td>
<td>Add Movement</td>
</tr>
<tr>
<td>4. No Contact Training Drills</td>
<td>Progress to more complex training drills - passing drills. Start progressive resistance training.</td>
<td>Exercise, coordination and cognitive load</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</td>
<td>Normal game play – player rehabilitated</td>
<td>Recovered</td>
</tr>
</tbody>
</table>

Concussion Modifying Factors

A range of ‘modifying’ factors may influence that investigation and management of concussion and, in some cases, may predict the potential for prolonged or persistent symptoms. Examples of modifiers would be children and adolescents under the age of 18 or players with previous concussions. Medical personnel should be mindful of these modifiers when managing a player’s concussive injury.
Table 3: Concussion modifiers

<table>
<thead>
<tr>
<th>Factors</th>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td>Duration (&gt;10 days)</td>
</tr>
<tr>
<td></td>
<td>Severity</td>
</tr>
<tr>
<td>Signs</td>
<td>Prolonged loss of consciousness (LOC) (&gt;1 min), Amnesia</td>
</tr>
<tr>
<td>Sequelae</td>
<td>Concussive convulsions</td>
</tr>
<tr>
<td>Temporal</td>
<td>Frequency – repeated concussions over time</td>
</tr>
<tr>
<td></td>
<td>Timing – injuries close together in time</td>
</tr>
<tr>
<td></td>
<td>‘Recency’ – recent concussion or traumatic brain injury</td>
</tr>
<tr>
<td>Threshold</td>
<td>Repeated concussions occurring with progressively less impact force</td>
</tr>
<tr>
<td></td>
<td>or slower recovery after each successive concussion</td>
</tr>
<tr>
<td>Age</td>
<td>Child and adolescent (&lt;18 years)</td>
</tr>
<tr>
<td>Co/pre morbidities</td>
<td>Migraine, depression or other mental health disorders, attention deficit</td>
</tr>
<tr>
<td></td>
<td>hyperactive disorder (ADHD), learning disabilities (LD), sleep disorders</td>
</tr>
<tr>
<td>Medication</td>
<td>Psychoactive drugs, anticoagulants</td>
</tr>
<tr>
<td>Behaviour</td>
<td>Dangerous style of play</td>
</tr>
<tr>
<td>Sport</td>
<td>High risk activity, contact with collision sport, high sporting level</td>
</tr>
</tbody>
</table>

5.2 Return to Play (Players up to the age of 18)

This position statement, in keeping with international best practice, the IFDA advocates a minimum two-week rest period for players under 18 years old.

The two-week rest period will allow time for medical review and enable a player to focus on return to learning at school before return to sport.

Concussion management in children is different due to factors such as brain development, variable growth rates, language difficulties, child versus parental reports of symptoms, lack of medical coverage at underage games, and the fact that physical examination in children is usually normal.

Management in children involves:
Rest for minimum of two weeks - no sports, exertions, minimal TV, PC use, music etc…
Occasionally there is a need for gradual return to school work, increase breaks during school day etc.

*Medical clearance is essential prior to return to full contact sports for children.*
6. Sports Concussion Assessment Tool 3 (SCAT3)

While the diagnosis of concussion is a clinical judgment ideally made by a medical professional, the SCAT 3 provides a standardized tool assessing an injured player aged from 13 years and older for concussion. The SCAT 3 is for use by registered medical practitioners, and other clinical personnel, that have appropriate training.

SCAT 3 consists of two parts - the first part is an initial pitchside assessment of injury severity (Concussion signs, Glasgow Coma Scale and Maddocks Score). Any player with a suspected concussion should be **REMOVED FROM PLAY**, medically assessed, monitored for deterioration and should not drive a motor vehicle until cleared to do so by a registered medical practitioner.

The second part of the SCAT 3 should be carried out after a minimum 15 minute rest period to avoid the influence of exertion and fatigue on the player’s performance. This assessment consists of symptom checklist, symptom severity, as well as neuro cognitive and balance functions.

It is recognised that the SCAT3 should not be used solely to make or exclude the diagnosis of concussion in the absence of clinical judgment.

- An athlete may have a concussion even if their SCAT3 is normal.
- The diagnosis of a concussion is a clinical judgment.

See appendix for ABI Ireland SCAT3

7. Helping your players cope with their concussion injury

The best medical management for concussion is rest (Cognitive and Physical). Players often feel tired and may experience difficulties at work or school when carrying at task which requires concentration. Players may also encounter mood difficulties and feel depressed, anxious or irritable with family or teammates. The following actions can help players cope:

- Support should be provided to players during this recovery period.
- Alcohol should be avoided as it may delay recovery and put the player at increased risk for further injury.
- When dealing with persistent symptoms, it is essential that players only take medications prescribed by their doctor.
- Recovery from concussion should not be rushed nor pressure applied to players to resume playing until recovery is complete. The risk of re injury is high and may lead to recurrent concussion injuries which can cause long term damage.
- Remember “better to have missed one game than the whole season.”
8. References

ABI Ireland SCAT3
IRFU Guide to Concussion
GAA Concussion Management Guidelines
FAI Concussion Guidelines


The Irish Flying Disc Association (IFDA)

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http://www.irishultimate.com/

https://twitter.com/IFDAnews

https://www.facebook.com/ifdanews/

https://www.youtube.com/channel/UCmWa9XiOXvJPc-pXgDzngA

https://www.instagram.com/IREULT

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Appendix: SCAT3 Concussion tool for medical professionals

**SCAT3™**

**Sport Concussion Assessment Tool**
(For use by medical professionals only)

### What is the SCAT3?

The SCAT3 is a standardized tool for evaluation injured athletes for concussion and can be used in athletes aged from 13 years and older. It supersedes the original SCAT and the SCAT2 published in 2005 and 2009, respectively.

**NOTE:** The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The SCAT3 should not be used to make, or exclude, the diagnosis of concussion in the absence of clinical judgment. An athlete may have a concussion even if their SCAT3 is “normal”. If you are not qualified, please use the Concussion Risk Screening Tool.

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific signs and symptoms (some examples listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of any one or more of the following:

- a) Symptoms: somatic (e.g. headache),
- b) Physical signs (e.g. unsteadiness), or
- c) Impaired brain function (e.g. confusion) or
- d) Abnormal behaviour (e.g. change in personality).

### SIDEKLINE ASSESSMENT

**Indication for Emergency Management**

**NOTE:** A head to the head can sometimes be associated with a more serious brain injury. Any of the following warrants consideration to activating emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 13
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs.

**Potential signs of concussion?**

If any of the following signs are observed after a direct or indirect blow to the head, the rider should stop participation, be evaluated by a medical professional and should not be permitted to return to sport on the same day if a concussion is suspected.

- Any loss of consciousness?
- If so, how long?
- Balance or motor coordination
- (Drowsiness, slow, laboured movements etc.)?
- Disorientation or confusion
- (Inability to respond appropriately to questions?)
- Loss of Memory
- “If so, how long?”
- “Before or after the injury?”
- Blank or vacant look
- Visibly facial injury in combination with any of the above

### 1 Glasgow Coma Scale (GCS)

<table>
<thead>
<tr>
<th>Best Eye Response (E)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye opening</td>
<td>2</td>
</tr>
<tr>
<td>Eye opening to voice</td>
<td>3</td>
</tr>
<tr>
<td>Eye opening spontaneously</td>
<td>4</td>
</tr>
<tr>
<td>Best Verbal Response (M)</td>
<td>5</td>
</tr>
<tr>
<td>No verbal response</td>
<td>1</td>
</tr>
<tr>
<td>Incomprehensible sounds</td>
<td>2</td>
</tr>
<tr>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td>Confused</td>
<td>4</td>
</tr>
<tr>
<td>Oriented</td>
<td>5</td>
</tr>
<tr>
<td>Best Motor Response (M)</td>
<td>6</td>
</tr>
<tr>
<td>No motor response</td>
<td>1</td>
</tr>
<tr>
<td>Extensor to pain</td>
<td>2</td>
</tr>
<tr>
<td>Abnormal flexion to pain</td>
<td>3</td>
</tr>
<tr>
<td>Flexor Withdrawal to pain</td>
<td>4</td>
</tr>
<tr>
<td>Localizes to pain</td>
<td>5</td>
</tr>
<tr>
<td>Obeyes commands</td>
<td>6</td>
</tr>
<tr>
<td>Glasgow Coma Score (E +V + M)</td>
<td>8 to 15</td>
</tr>
</tbody>
</table>

GCS should be recorded for all athletes in case of subsequent deterioration.

### 2 Maddocks Score

I am going to ask you a few questions, please listen carefully and give your best effort.

(1 point for each correct answer)

- What time are we at today? 0 1
- Which half is it now? 0 1
- Who scored last in this match? 0 1
- What team did you play last week / game? 0 1
- Did your team win the last game? 0 1

**Maddocks Score** | 0 to 6

**Notes:** Mechanism of injury (“tell me what happened”).

- .................................................................
- .................................................................
- .................................................................

Any player with a suspected concussion should be REMOVED FROM PLAY, medically assessed, monitored for deterioration (i.e. should not be in store alone) and should not drive a motor vehicle until cleared to do so by a medical professional. No player diagnosed with concussion should be returned to sports participation on the day of injury.

**SCAT3™ Concussion Assessment Tool** (For use by medical professionals only)

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BACKGROUND

Name: 
Date: 
Examiner: 
Sport Team/School: 
Date/Time of Injury: 
Age: 
Gender: Male / Female 
Year of education competed: 
Dominant hand: 
Right / Left / Neither 
How many concussions do you think you have had in the past? 
How long was your recovery from the most recent concussion? 
When was the most recent concussion? 
Have you ever been hospitalized or had medical imaging done for a head injury? 
Have you ever been diagnosed with headaches or migraines? 
Do you have a learning disability, seizure, ADD/ADHD? 
Have you ever been diagnosed with depression, anxiety or other psychiatric disorder? 
Has anyone in your family ever been diagnosed with any of these problems? 
Are you on medications? If yes, please list: 

SCAT3 to be done in resting state. 
Best done 10 or more minutes post-exercise.

SYMPTOM EVALUATION

3 How do you feel?

"You should score yourself on the following symptoms, based on how you feel now."

<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>3</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Pain in head&quot;</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Dizziness</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Vision problems</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Balance problems</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sensitivity to light</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Feeling slowed down</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Feeling like &quot;in a fog&quot;</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Brain fog&quot;</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty remembering</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Fatigue or low energy</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Noncompliance</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Irritability</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nausea / Vertigo</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Total number of symptoms (Maximum possible 22) 
Symptom severity score (Maximum possible 110)

Do the symptoms get worse with physical activity? 
Yes / No 
Do the symptoms get worse with mental activity? 
Yes / No 
Self rated / Self rated and clinician monitored 
Clinician interview / Self rated and parent input 
Overall rating: If you know the athlete well prior to the injury, how different is the athlete acting compared to their usual self. 
Please circle one response: 
No different / Very different / Unsure / N/A

4 Cognitive Assessment

Standardized Assessment of Concussion (SAC)

Orientation (1 point for each correct answer)

What is today? 
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 out of 5

Immediate Memory

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:

List | Trial 1 | Trial 2 | Trial 3 | Alternative word list
----|--------|--------|--------|----------------------
elevator 0 1 0 0 1 1 0 1 candle | baby | finger |
apple     0 1 0 1 0 1 paper | monkey | penny |
carpet    0 1 0 1 0 1 sugar | perfume | blanket |
saddle    0 1 0 1 0 1 sandwich | sunset | lemon |
bubble    0 1 0 1 0 1 wagon | iron | insect |

Immediate Memory Score out of 15

Concentration

Digits Backwards
I am going to read you a string of numbers and when I am done, I will read them back to me backwards. In reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7. 
If correct, go to next string length. If incorrect, read trial 2. One point possible for each string length. Stop after incorrect on both trials. The digits should be read at the rate of one per second.

4-9-3 0 1 6 2-6 5-2 6 4 1-5
3-6-14 0 1 3 2-7-9 1-7-9-3 4-9-6-8
6-2-97-1 0 1 5 2-6 3-85 2-7 6 1-8-4-3
7-1-84-6-2 0 1 5-3-6-14 8-3-1-64 7-2-4-8-5-6

Total out of 4

Months in Reverse Order
Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November...Go ahead. 
1 pt. for entire sequence correct.
Dec Nov Oct Sep Aug Jul Jun May Apr Mar Feb Jan 0 1

Concentration Score out of 5

5 Neck Examination

- Range of motion
- Tenderness
- Upper and lower limb sensation & strength

Findings:

Page 2 of 5

SCAT3® Concussion Assessment Tool (For use by medical professionals only)
### Balance Examination

Do one or both of the following tests.

**Footwear** (shoes, tennis shoes, barefoot, socks, etc.)

**Modified Balance Error Scoring System (BESS) testing**

This balance testing is based on a modified version of the Balance Error Scoring System (BESS). A stopwatch or watch with a second hand is required for this testing.

Which foot was tested? (Left or right)

**Testing Surface**

I am now going to test your balance. Please take off your shoes, roll up your pant legs above ankle if applicable, and remove any ankle taping.

This test will consist of three twenty second tests with different stresses.

1. **Double leg stance**
   - The first stance is standing with your feet together with your hands on your hips and your eyes closed. You should try to maintain balance in this 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.

2. **Single leg stance**
   - If you are tested a heel strike, which foot would you use? This will be the dominant foot. Now stand on your dominant foot. The dominant leg should be held in approximately 20 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain balance 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, right foot, 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.

3. **Tandem stance**
   - Now stand heel-to-toe with your non-dominant foot first. Your weight should be evenly distributed across both feet. Again, you should try to maintain balance 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, right foot 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.

And/or Tandem Gate

Participants are instructed to stand with their feet together behind a starting line (this test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 10-meter wide sports tape. A timer runs from the starting point to the end of the 10-meter tape. Once the counter reaches the 10-meter mark, the test is finished. The test is repeated three times.

### Coordination Examination

**Coordination score**

### SAC Delayed Recall

**Standardized Assessment of Concussion (SAC)**

**Delayed Recall** (1 point for each correct answer)

"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."

Circle each word correctly recalled. Total score equals number of words recalled.

<table>
<thead>
<tr>
<th>List</th>
<th>Alternative word list</th>
</tr>
</thead>
<tbody>
<tr>
<td>elbow</td>
<td>candle</td>
</tr>
<tr>
<td>apple</td>
<td>paper</td>
</tr>
<tr>
<td>carpet</td>
<td>sugar</td>
</tr>
<tr>
<td>saddle</td>
<td>sandwich</td>
</tr>
<tr>
<td>blanket</td>
<td>wagon</td>
</tr>
</tbody>
</table>

---

### Scoring Summary

#### Test Domain

- **Number of symptoms:** 22
- **Symptom Severity Score:** 130
- **Orientation of 5:**
- **Immediate Memory of 15:**
- **Concentration of 5:**
- **Delayed Recall of 5:**

#### SAC Total

**SAC Total:**

**BEES (total errors):**

**Coordination:**

**Time (best of 4 trials):**

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**SAC® Concussion Assessment Tool (For use by medical professionals only)**

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Irish Flying Disc Association Concussion Protocol and Guidelines V1.0 2018
### Clinical Examination

B.P.: \______________________  Pulse: \______________________

Associated Injuries (especially facial): \______________________

\[\ldots\]

Visual Fields: L: \______________________  R: \______________________

Pupil:

### Neurological Examination

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of consciousness</td>
<td>Y  N</td>
<td></td>
</tr>
<tr>
<td>Cranial Nerves</td>
<td>Y  N</td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>Y  N</td>
<td></td>
</tr>
<tr>
<td>Sensory</td>
<td>Y  N</td>
<td></td>
</tr>
</tbody>
</table>

### Dead Flags for acute emergency management and referral, if any of the following are present:

- Headache that worsens
- Can’t recognize people or places
- Deteriorating consciousness
- Increasing confusion or irritability

### Diagnosis

Concussion: Y  N

### Follow Up

- Referral to hospital: Y  N  (Name of hospital)
- Discharge to care of responsible adult: Y  N
- Given concussion injury advice: Y  N
- Concussion injury advice sheet given to person monitoring the concussed athlete: Y  N
- No follow-up required: Y  N

Signed: \______________________  Contact No.: \______________________
Athlete Information
- Concussion / Head Injury

Any athlete suspected of having a concussion should be removed from play, and then assessed by a medical evaluator.

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:
  - Have a headache that gets worse.
  - Are very drowsy or can’t be awakened.
  - Can’t recognize people or places.
  - Have repeated vomiting.
  - Behave unusually or seem confused, are very irritable.
  - Have a seizure (arms and legs jerk uncontrollably).
  - Have weak or numb arms or legs.
  - Are unsteady on their feet, have slurred speech.

Consult your doctor after a suspected concussion.

Concussion Management – 6 Day Return to Play Rehabilitation Plan

<table>
<thead>
<tr>
<th>Rehabilitation Stage</th>
<th>Functional Exercises at Each Stage of Rehabilitation</th>
<th>Objective at Each Stage</th>
<th>Adult</th>
<th>Teen/20s</th>
</tr>
</thead>
<tbody>
<tr>
<td>REST</td>
<td>None</td>
<td>REST</td>
<td>1.4 Days</td>
<td>1.4 days</td>
</tr>
<tr>
<td>1. No activity</td>
<td>Complete physical and cognitive rest</td>
<td>Recovery</td>
<td>1 day</td>
<td>2 days</td>
</tr>
<tr>
<td>2. Light aerobic exercise</td>
<td>Walking, Swimming or stationary cycling keeping intensity &lt;70% MHR. No resistance training</td>
<td>Increase heart rate</td>
<td>1 day</td>
<td>2 days</td>
</tr>
<tr>
<td>3. Sport-specific exercise</td>
<td>Running drills. No head impact activities</td>
<td>Activity movement</td>
<td>1 day</td>
<td>2 days</td>
</tr>
<tr>
<td>4. Non-contact training drills</td>
<td>Progression to more complex training drills (e.g. passing drills. May start progressive resistance training)</td>
<td>Exercise, coordination, cognitive load</td>
<td>1 day</td>
<td>2 days</td>
</tr>
<tr>
<td>5. Full contact practice</td>
<td>Following medical clearance, participate in normal training activities</td>
<td>Restore confidence, assessment of functional skills by coaching staff</td>
<td>2 days</td>
<td>2 days</td>
</tr>
<tr>
<td>6. Return to Play</td>
<td>Player rehabilitated</td>
<td>Recovered</td>
<td>21 days</td>
<td>23 days</td>
</tr>
</tbody>
</table>

Allow 24 hours for each rehabilitation stage. If symptoms or signs persist, stay at the next stage until symptom free. Always seek medical advice and clearance.

Concussion Injury Advice
(To be given to the person monitoring the concussed player)

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 player will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to the timeframe.

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

Other important points:
- Rest (physically and mentally), including training or playing sports until symptoms resolve and you are medically cleared.
- No alcohol.
- No prescription or non-prescription drugs without medical supervision. Specifically:
  - No sleeping tablets
  - Do not use aspirin, anti-inflammatory medication or sedating pain killers.
- Do not drive until medically cleared.
- Do not train or play sport until medically cleared.

Patients Name

Date / Time of Injury

Time/Date of Medical Review

Treating Physician

Contact Stamp or Details

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