INTERNATIONAL RUGBY LEAGUE

ANNEX M: CONCUSSION PROTOCOLS (HEAD INJURY ASSESSMENT)

1. GENERAL

1.1 If a Player experiences or exhibits any one or more of the following symptoms or signs in the context of a possible head injury, the Player must immediately be taken from the field in a medically appropriate way to be assessed by the medical staff:

a) clinical features including abnormal neurological signs of a serious or structural head and/or cervical spine injury requiring emergency management and hospital transfer;

b) loss of consciousness (or suspected loss of consciousness, e.g. lying motionless for a significant period depending on circumstances); no protective action in fall to ground - floppy (including cervical hypotonia as this may be the only site that this is observed due to the Player's arms being held by tackling opponent); impact seizure or possible impact seizure (Impact seizure: involuntary clonic movements that comprise periods of asymmetric and irregular rhythmic jerking of axial or limb muscles);

c) tonic posturing or possible tonic posturing (Tonic posturing: involuntary sustained contraction of one or more limbs so that the limb is held stiff despite the influence of gravity or the position of the player – typically upper but can also involve other muscles such as neck, axial and lower limbs - either whilst on the ground or in the motion of falling);

d) confusion or disorientation;

e) memory impairment (e.g. failed the Maddocks questions or amnesia regarding the match); motor in-coordination or possible motor incoordination (e.g. definite or possible balance disturbance, clumsiness or fumbling with upper limbs or struggling to get up);

f) Player reports significant, new or progressive concussion symptoms; blank/vacant look, not their normal self or clearly dazed, (e.g. no facial expression, no apparent emotion in response to the environment, reduced conscious state (GCS<15));

g) behavioural change atypical of the Player; slow to stand in the context of a possible head injury: ~15 seconds delay in standing after play has moved on, and/or after the trainer has arrived to assess the Player and confirmed that there are no other injuries preventing the Player from standing (1st priority is to ensure that there is no neck injury present);

h) lying motionless (Player lying without purposeful movement or motionless for >2 seconds) in the context of a possible head injury. This includes the Player not responding or replying appropriately to the game situation (including those around them such as other Players, Match Officials or trainers/medical staff (NB: concern may be displayed by other Players or Match Officials);or suspected facial fracture.

1.2 In addition, if the medical staff forms a clinical impression that the Player appears to display other signs that a head injury may have occurred following trauma/impact, the Player must immediately be taken from the field in a medically appropriate way to be assessed by the Medical staff.

NOTE: ‘Balance disturbance’ is defined as when a Player is unable to stand steadily unassisted or walk normally and steadily without support in the context of a possible head injury e.g. staggering/stumbling or falling over.

NOTE: Blank/Vacant look ay include a lack of focus/attention of vision. Blank/vacant look is best appreciated in reference to the Player’s normal or expected facial expression.

1.3 If a Player is required to leave the field of play as a consequence of the identification of one or more of these features to complete a Head Injury Assessment (HIA) in accordance with section 2 of this Annex M, this interchange will not be included for the purposes of calculating the number of interchanges pursuant to Annex I of these Rules.

1.4 The period of time in which the HIA is to take place is to be a period of 15 Minutes. The time period is to begin from the time at which the Player is in the care of the Medical staff (this time cannot be delayed in order to review any video or for any other non-legitimate reason). If the Player has been cleared by the medical staff during the HIA, the Player must report immediately to the interchange official prior to or at the completion of the 15 minute HIA to return to the field of play but can only return at the completion of the 15 minute period.

1.5 The 15 minute time period will not be assessed against the official Match time or clock. The timing of the HIA period will be monitored by the Competition or Match medical officials or, in their absence, the Match Officials (usually the 4th official or match commissioner).

1.6 If a Player is required to be assessed for a period longer than the specified HIA period, that Player would then be adjudicated as an interchange for the purposes of calculating the number of interchanges pursuant to Annex I. The Player’s team will be required to hand over their next interchange card available in sequential order immediately to the interchange official.

1.7 Any Player who is required to leave the field of play for a second HIA (including if one or both incidents are the result of the incident being placed on report or a send-off offence) in the same Match will not be allowed to return to play in that Match.

1.8 In the event of an on-field incident which has required two (2) Players from the same team to be taken from the field of play at the same time for a HIA, the medical staff may request from the HIA interchange official up to an additional 10 minute period for one (1) of the HIA Players to complete the necessary assessment. The medical staff must nominate which Player will be assessed first. No Players are to return to the field of play in less than 15 minutes.

1.9 In the event of an on-field incident in the first 10 minutes during a HIA for one Player requiring another Player or Players from the same team to be removed from the field of play for a HIA, the medical staff may request from the HIA interchange official up to an additional 10 minute period for each additional HIA Player to complete the necessary assessment. No Players are to return to the field of play in less than 15 minutes.

1.10 If the Player has suffered a potential head injury in an incident that was a consequence of foul play which resulted in the incident being placed on report or send off, this interchange will take place in accordance with the process pursuant to Annex I. There will be no maximum time limit associated with the Head Injury Assessment (HIA) but that Player cannot return for a minimum of 15 minutes if deemed not to have suffered a concussion.

1.11 Once a Player has been substituted as per normal interchange rules, a HIA cannot be initiated from the sideline.

1.12 In the event that a HIA takes place in the 15 minute period prior to half time, the HIA period will be deemed to have been completed at the end of the half time period, unless 15 minutes has not elapsed. The team must indicate to the Competition or Match medical official or, in their absence, the Match Officials, immediately at the completion of half time whether the Player is to return to the field of play.

1.13 In the event that a team has used all of its allocated interchanges whilst a Player is completing a HIA, and if that Player is unable to return to the field of play at the completion of the HIA, the team must immediately remove a Player from the field of play and complete the Match with one (1) less Player.

1.14 At the completion of the Match, the match commissioner is to complete as part of their report to the IRL, details of any Player who has completed a HIA during a Match.

1.15 The medical staff of any Player who has suffered a potential head injury that required a HIA is to complete and submit the Head Injury Assessment form and the latest version of SCAT (Sport Concussion Assessment Tool) as directed.

1.16 Teams must only use an HIA for the reasons set out in this Annex M to the Rules.

1.17 Sideline etiquette regarding HIAs: teams must ensure that their coaching staff, sideline staff, training staff, medical staff and Players do not make any remarks regarding their perception of the appropriateness or not of another team's HIA during or after a Match. Concussions can present in many different ways and the absence of obvious visual signs does not mean that a potential concussion has not occurred.

1.18 Any team which is proven to have used a HIA for any reason other than that detailed in this Annex M will be deemed to have gained an unfair tactical advantage in the Match and be subject to penalty under the Rules.

2. HEAD INJURY ASSESSMENT

2.1 It is recommended that the Player be allowed to rest for up to five (5) minutes before the SCAT component of the head injury assessment is started.

2.2 The Nation's medical staff must receive a sideline comprehensive verbal report from the non-playing personnel who performed the on-field assessment, which includes the assessor's assessment findings. This report should be provided before the Nation's medical official starts their formal assessment but if this is not possible, it must be provided before the Player is allowed to return to the field of play. The assessor's reason for the Player's removal from play as a HIA must be recorded in the Post Match Medical Form (Annex O).

2.3 If available, the Nation's medical official should review the video footage of the incident preferably prior to commencing formal HIA/SCAT testing.

3. HOW TO MANAGE POSSIBLE HEAD INJURIES/CONCUSSION:

1.1 All Members and Persons bound by these Rules must comply in all respects with the provisions of these provisions in relation to the management of possible head injuries/concussion. A breach of any of the provisions of these rules may be enforced by the imposition of a penalty or penalties pursuant to Annex S if a contravention of any of these provisions is found to have occurred.

1.2 The process for managing head injuries/possible concussions is derived from the "Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016" (McCrory P, et al. Br J Sports Med 2017;0:1–10).

1.3 This part of the Rules applies to the identification of a significant head injury, traumatic brain injury or concussion. For simplicity, this text refers to all suspected head injuries, with regards to the initial assessment and initial management, simply as concussion throughout.

1.4 Concussion is a medical condition and requires medical assessment and management. This requires assessment by a medical doctor.

1.5 The principles and processes of identification, assessment and management of suspected concussions that follows apply equally to all training sessions as well as Matches.

1.6 "Sport related concussion (SRC) is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilised in clinically defining the nature of a concussive head injury include:"

a) Concussion (SRC) may be caused by either a direct blow to the head, face, neck or elsewhere in the body with an impulsive force transmitted to the head.

b) Concussion (SRC) typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.

c) Concussion (SRC) may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.

d) Concussion (SRC) results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.

1.7 The diagnosis of concussion in the acute setting may be difficult because:

a) The symptoms and signs can change rapidly and may evolve over time;

b) Many of the symptoms are not specific to concussion;

c) There is no one specific test that confirms the immediate diagnosis on the sideline;

d) Structural brain injury can present with identical symptoms and signs and cannot be completely excluded on the field of play.

1.8 The diagnosis of concussion remains a clinical decision based on a number of factors including symptoms, signs, cognitive impairment and behavioural changes.

1.9 The following section is the recommended process for the management of concussion that is employed in professional rugby league and can be considered best practice. Such concussion management is overseen by a club's medical doctor, who is responsible for yearly baselines (SCAT and CogState's Cognigram, or other scientifically valid computerized cognitive test system) that are performed prior to each Player participating in any matches in that professional rugby league competition, including preseason tournaments and trial matches:

1. For each Player establish a yearly preseason Baseline for normal cognitive state with the use of CogState's Cognigram before playing any Matches. Please refer to Cognigram's "Concussion Interpretation Guide" to assist with interpretation of results in conjunction with the following policy requirements for preseason baseline Cognigram testing.

2. The test report should be reviewed by the club medical doctor to determine if the baseline assessment provides a valid measure of baseline performance of a healthy individual. This is determined by the following criteria:

a) There should be no completion or performance flags on any of the outcomes;
b) The normative comparison scores should not be in the "Abnormal" range (a score of 79 or below).

3. If either of the above 2 criteria are not met, a retest is required.
4. "Abnormal" range scores are not to be accepted and require repeat testing. Subsequent formal neuropsychological testing is required if a "Normal" or acceptable "Borderline" result is still not obtainable preseason.
5. Member medical officers must review the Cognigram results of each Player to determine if they are acceptable under this policy.
6. The Baseline test accepted by the Member medical officer under this policy should be documented for each Player yearly so that it can be easily accessed and utilised for comparison to post injury Cognigram tests.
7. The CogState Cognigram baseline test may be performed as an out-of-clinic test but it is recommended that they be performed as an in-clinic test whenever possible (The Cogstate Cognigram post injury test should be performed as a supervised in-clinic test).
8. If a "Normal" Cognigram test is not obtainable on a Player in an ideal environment, then a Borderline" test can be accepted only if the test is reproducibly "Borderline" on 3 separate occasions (e.g. different days). This means that the "test should be "Borderline" for the same parameter (Detection, Identification, One Card Learning or One Back tasks) and at a similar level each time. If this is not possible or the Player is underperforming in multiple parameters then formal neuropsychological testing must be undertaken preseason.
9. If a reproducibly "Borderline" Cognigram test is accepted by the Member medical officer as the Player's baseline for the year, then strong consideration of formal neuropsychological testing should be contemplated. This is not only for concussion management but also the Player may have a learning disability that could benefit from assessment.
10. If a "Borderline" Cognigram test is accepted as the Player's baseline for the year and Formal Neuropsychological assessment is not undertaken, then adding another validated additional tools for post injury assessment and return to play decisions can be considered by the club medical officer if they believe it will be of benefit (it is recommended that the Member medical officer discuss any additional concussion assessment tools being utilized with the IRL Medical Subcommittee).
11. Perform a yearly preseason Baseline PHQ-9 and GAD-7. These are self-reported questionnaires that may assist with assessment of depression and anxiety. They should be repeated as part of the RTP protocol following a concussion, particularly if symptoms are prolonged (i.e. greater than 2 weeks).
12. Consider performing "entry" formal neuropsychological testing on all Players joining a squad. This should be combined with "exit" formal neuropsychological testing on Players leaving the same squad.
13. For each Player the club medical officer must conduct a preseason SCAT (SCAT 5) Baseline assessment for comparison during and post Matches in the event of a possible or confirmed concussion. The SCAT (SCAT 5) must be performed by the club medical officer only. It is recommended that the balance assessment components (mBESS and Tandem gait) of this screening should ideally be performed using similar footwear and surfaces to that which will be used during

games (e.g. wearing boots). Abnormalities in the symptom questioning component of baseline SCAT (SCAT 5) screenings should possibly be expanded with depression/anxiety questionnaires (when clinically appropriate (in addition to the PHQ-9 and GAD-7)) to assist with assessment of recovery.

14. Any additional baseline or sideline assessment tools may be implemented by the club medical officer at their discretion, however this does not negate their nor the club's responsibility to complete the required protocols outlined in this section 3.9.
15. For each Player, obtain a detailed concussion history which should be used as part of that Player's concussion management.
16. Conduct yearly education of Players, coaching and training staff to emphasise that:
    - a) Concussion is not a trivial injury and repeat concussions may lead to long-term consequences that can possibly be prevented if concussion is managed appropriately;
    - b) Uncooperative behaviour can be a symptom of a head injury or concussion;
    - c) The failure on the part of the Player to answer questions asked by the physiotherapist / trainer will be an indication of uncooperative behaviour, in which event the Player will have to be removed from the field of play for further assessment.
    - d) Concussion education modules (and other presentations) should be utilised to assist in this process.

1.10 Identification of possible head injuries and concussions:

- a) Clinical features that are consistent with a potential diagnosis of a head injury include any one or more of the following:
    - i. Clinical features including abnormal neurological signs of a serious or structural head and/or cervical spine injury requiring emergency management and hospital transfer;
    - ii. Loss of consciousness (or suspected loss of consciousness, e.g. lying motionless for a significant period depending on circumstances);
    - iii. No protective action in fall to ground - floppy (including cervical hypotonia as this may be the only site that this is observed due to the Player's arms being held by tackling opponent);
    - iv. Impact seizure or possible impact seizure (Impact seizure: involuntary clonic movements that comprise periods of asymmetric and irregular rhythmic jerking of axial or limb muscles);
    - v. Tonic posturing or possible tonic posturing (Tonic posturing: involuntary sustained contraction of one or more limbs so that the limb is held stiff despite the influence of gravity or the position of the player – typically upper but can also involve other muscles such as neck, axial and lower limbs - either whilst on the ground or in the motion of falling);
    - vi. Confusion or disorientation;
    - vii. Memory impairment (e.g. fails the Maddocks questions or amnesia regarding the match);
    - viii. Motor in-coordination or possible motor incoordination (e.g. definite or possible balance disturbance, clumsiness or fumbling with upper limbs or struggling to get up);
    - ix. Player reports significant, new or progressive concussion symptoms;

x. Blank/vacant look, not their normal self or clearly dazed, (e.g. no facial expression, no apparent emotion in response to the environment, reduced conscious state (GCS2 seconds);
xi. Behavioural change atypical of the Player;
xii. Slow to stand in the context of a possible head injury: ~15 seconds delay in standing after play has moved on, and/or after the physiotherapist/trainer has arrived to assess the Player and confirmed that there are no other injuries preventing the Player from standing (1st priority is to ensure that there is no neck injury present);
xiii. Lying Motionless (Player lying without purposeful movement or motionless for >2 seconds) in the context of a possible head injury. This includes the Player not responding or replying appropriately to the game situation (including those around them such as other Players, Referees or trainers/medical staff (NB: concern may be displayed by other Players or Referees);
xiv. Suspected facial fracture; or
xv. if the Member / Match medical officer forms a clinical impression that the Player appears to display other signs that a head injury may have occurred following trauma/impact.

NOTE: ‘Balance disturbance’ is defined as when a Player is unable to stand steadily unassisted or walk normally and steadily without support in the context of a possible head injury e.g. staggering/stumbling or falling over.

NOTE: Blank/vacant look ay include a lack of focus/attention of vision. Blank/vacant look is best appreciated in reference to the Player’s normal or expected facial expression.

b) If one or more of the above signs or symptoms is exhibited or experienced (apart from “clinical suspicion”, “possible” motor incoordination and “possible” impact seizure/ tonic posturing as observed by a physio/trainer or coaching staff member), the Player must be immediately taken from the field, in a medically appropriate way, immediately to be clinically assessed by a medical officer to enable them to make a diagnosis.
c) Trainers (or any other coaching staff member) should report immediately any suspicion they have of a Player suffering from a possible concussion, without any of the preceding clinical features, to the Match or Member medical officer. The medical officer will then advise on the appropriate course of action.
d) The Match or Member medical officer, at any time they have genuine clinical concern that a Player is suffering a head injury/ concussion, may instruct the coaching staff to remove a Player from the field for Head Injury Assessment. The clinical concern/reasoning must be recorded.

NOTE: A Player should not be left alone following the initiation of a HIA interchange. Members are encouraged to develop their own specific policies to manage this process.
NOTE: If the Player is unconscious or has neck pain, they should be appropriately immobilised and treated as a spinal injury with transport to the nearest trauma hospital for imaging as appropriate. Smelling salts (ammonium carbonate) or similar substances must never be used following a head injury.

1.11 Assessment by Match or Member medical officer: Each case needs to be individually assessed and not compared with others, as each injury is potentially unique.

i. It is recommended that the Player be allowed to rest for up to five (5) minutes before the SCAT component of the head injury assessment is started.

ii. The Match or Member medical officer must receive a sideline comprehensive verbal report from the support staff member who performed the on-field assessment, which includes the assessment findings. This report should be provided before the Match or Member medical officer starts their formal assessment but if this is not possible, it must be provided before the Player is allowed to return to the field of play.

iii. The Match or Member medical officer must review the video footage of the incident using the Sideline Injury Surveillance (SIS) video tent preferably prior to commencing formal HIA/ SCAT testing. This must however be completed before a Player is permitted to return to the field of play following a HIA.

1.12 Category One Symptoms and Signs.

a) For the purposes of the Rules, if the Player exhibits or experiences any of the following clinical symptoms or signs (in the context of a possible head injury), the Player is deemed to have suffered a head injury that is highly suspicious of a concussion and the team must ensure that the Player does not return to the field of play on the same day:

i. Clinical features including abnormal neurological signs of a serious or structural head and/or cervical spine injury requiring emergency management and hospital transfer;

ii. Loss of consciousness (or suspected loss of consciousness, e.g. lying motionless for a significant period depending on circumstances);

iii. No protective action in fall to ground - floppy (including cervical hypotonia as this may be the only site that this is observed due to the Player's arms being held by tackling opponent);

iv. Impact seizure (involuntary clonic movements that comprise periods of asymmetric and irregular rhythmic jerking of axial or limb muscles);

v. Definite confusion or disorientation;

vi. Memory impairment (e.g. fails the Maddocks questions);

vii. Motor incoordination (e.g. Balance disturbance, clumsiness with upper limbs or in getting up); (e.g. ataxia);

viii. Player reports significant, new or progressive concussion symptoms;

ix. Clearly dazed, blank/vacant stare or not their normal self (e.g. no facial expression, no apparent emotion in response to the environment, reduced conscious state (GCS<15), not responding appropriately to those around him including other Players, Referees or trainers/medical staff);

x. Behavioural change atypical of the Player.

NOTE: 'Balance disturbance' is defined as when a Player is unable to stand steadily unassisted or walk normally and steadily without support in the context of a possible head injury.

b) In the circumstances described above, in 3.12, the Match or Member medical officer must not allow the Player to return to the field of play even if on clinical assessment by the Match or Member medical officer all symptoms and signs appear to have resolved.

c) The Match or Member medical officer must conduct a full clinical examination and assessment for concussive symptoms. The tools to be used are a SCAT (SCAT 5) and a full cervical and neurological examination. This examination can be carried out at any time after the Player has rested for a minimum of five minutes, but must be completed before the Player leaves the venue. The initial post injury SCAT (SCAT 5) can then be used as a comparison for follow up assessments.

NOTE: A "normal" SCAT (SCAT 5) does not necessarily confirm the absence of a concussion. The SCAT (SCAT 5) is a clinical tool. The ongoing clinical impression that the Player is suffering from a concussion following assessment overrides a normal SCAT (SCAT 5).

1.13 Category Two Symptoms and Signs

a) If the Player exhibits or experiences any of the following clinical symptoms or signs (in the context of a possible head injury):

i. loss of responsiveness (Player motionless for >1 second or until support staff arrive) in the context of a possible head injury;
ii. possible tonic posturing or impact seizure;
iii. possible motor incoordination (e.g. possible balance disturbance, possible clumsiness with upper limbs or in getting up);
iv. slow to stand: >10 to 15 seconds (1st priority is to ensure that there is no neck injury present*);
v. suspected facial fracture; or
vi. the Match or Member medical officer forms a clinical impression that the Player appears to display other signs that a head injury may have occurred following trauma/impact; the Match or Member medical officer must conduct a full clinical examination and assessment for concussive symptoms. The tools to be used are a SCAT (SCAT5) and a full cervical and neurological examination.

NOTE: *When required, the Player is deemed to have been cleared of a neck injury once the Trainer and/or Match/Member medical officer no longer believes manual in line support of the neck is required.

b) If the Player displays two (2) or more Category Two symptoms/signs then the Match or Member medical officer should consider managing the Player more conservatively with stronger bias given to no return to the field of play that day depending on the medical officer's clinical assessment.

c) The Match or Member medical officer must complete a SCAT (SCAT 5) and a full cervical and neurological examination. The medical officer may add an exercise challenge.

d) If, after the prescribed rest period, examination and assessment, a clinical diagnosis of concussion is made by the Match or Member medical officer, the relevant team must ensure that the Player does not return to the field of play on the same day.

e) If, after the prescribed rest period, examination and assessment, the Match or Member medical officer determines that the Player has not suffered a concussion on the field, he may be allowed to return to the field of play but must be regularly re-evaluated by the physiotherapist/trainer who must report their findings to the Match or Member medical officer.

f) Any Player removed more than once during the same Match for a Head Injury Assessment must not be allowed to return that same Match.

NOTE: A "normal" SCAT (SCAT 5) does not necessarily confirm the absence of a concussion. The SCAT (SCAT 5) is a clinical tool. The ongoing clinical impression that the Player is suffering from a concussion following assessment overrides a normal SCAT (SCAT 5).

Sideline Etiquette regarding HIAs

Teams must ensure that their coaching staff, sideline staff, training staff, medical staff and Players do not make any remarks regarding their perception of the appropriateness or not of another team's HIA during or after a Match. Concussions can present in many different ways and the absence of obvious visual signs does not mean that a possible concussion has not occurred.

Match Head Injury Assessment Form

a) The Head Injury Assessment Form must be completed in full and sent to the IRL for review along with the fully completed SCAT (SCAT 5) for each Player removed from the field or if the Player has been assessed for head injury under any circumstances (including free interchange for opposition Player on report/sent off) within 24 hours of the Match.
b) The Head Injury Assessment Form is included as Annex P.

Post-concussion / Head injury assessment to be conducted by the CMO

a) Post-Match (or Training): The procedures described below should be carried out following the assessment of all Category 1 possible head injuries or diagnosis/suspicion of a concussion:
   i. Review and reassessment (+/- a further SCAT (SCAT5)) regarding ongoing and possible new symptoms;
   ii. Assign the Player to the care of a responsible family member or a responsible roommate / Club Official;
   iii. Advise the Player to rest physically and mentally until medically reassessed;
   iv. Give the caregiver a head injury sheet (e.g. SCAT (SCAT 5) concussion injury advice section) and advise them to monitor the Player particularly over at least the next four (4) hours;
   v. Advise the caregiver of the warning signs and symptoms of deterioration and provide them with a plan of action should these occur;
   vi. Advise the Player to avoid alcohol and non-steroidal anti-inflammatory medication, sleeping tablets and other sedating medication until medically cleared to do so;
   vii. Following a concussive episode the Player should not be allowed to drive until medically cleared to do so.
   viii. After 36 hours but before 48 hours (i.e. two (2) sleeps) following the injury, perform a post injury SCAT (SCAT 5) assessment (including enquiring about new and/or ongoing symptoms), a full neurological examination and a full cervical spine examination (earlier clinical assessment is deemed appropriate for any ongoing symptoms);
   ix. All Players that have been removed from play during a Match or training session for a Head Injury Assessment must be reviewed again by the Member medical officer after 36 hours but before 48 hours (i.e. (2) two sleeps) following the Match and a follow-up SCAT (SCAT 5) performed even if they were allowed to return to

play during the Match or training. This is to ensure symptoms and signs of concussion have not developed (be aware that some concussions may not present immediately after the injury and Players with Retrograde amnesia and/or higher symptoms loads (especially with ongoing headache) and/ or higher BESS scores may be prone to poorer outcomes/ longer recovery times and therefore should potentially be treated more conservatively) (NOTE: if the Player has been seen/assessed for any other reason before 36 hours after the Match and a concussion is not diagnosed, they must still be reviewed within the period of after 36 hours but before 48 hours post-Match/training incident.);

x. Perform serial SCAT (SCAT 5) assessments until this has returned to her pre-concussion baseline, and then he may begin a graded return to sport program (GRTS);

xi. In the initial 24-48 hour rest / recovery period it is important to emphasise to the Player that he requires physical and cognitive rest. Activities which require concentration e.g. videogames, text messaging, scholastic work, may make the symptoms worse and may delay recovery;

xii. The IRL strongly recommends that the GRTS strategy should follow current best practice with regards to stages (6 stages), after the initial 24-48 hour rest period, and timing as outlined in the "Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016" (McCrory P, et al. Br J Sports Med 2017;0:1–10)1;

xiii. Any signs or symptoms that develop during the GRTS must be reported to the Member medical officer as soon as they occur, either by the Player and/or coaching and training staff;

xiv. Post injury cognitive testing (CogState Cognigram) or formal neuropsychological testing must be performed and included in the assessment of Players diagnosed to have suffered a concussion. The CogState Cognigram postinjury and/or formal neuropsychological testing must be performed, be formally reviewed and be equivalent to the Player's current yearly pre-season baseline testing before a Player is allowed to engage in contact training or participate in a Match. Please refer to Cognigram's "Concussion Interpretation Guide" to assist with interpretation of post-injury/follow-up results and if performance on any test component has declined by 1.65 SD or more when compared to the Player's current yearly baseline, it should be investigated further. The recommended timing of this testing is after stage 3 or 4 of the GRTS (as outline in the Berlin Consensus Statement on Concussion in Sport);

xv. Increasing GRTS time leads to reduced risk of repeat injury early on (both concussion and musculoskeletal);

xvi. The Player should not be on any medication used to treat the signs or symptoms of concussion before a Player is allowed to complete his CogState Cognigram testing and/ or formal neuropsychological testing and engage in contact training or participate in a Match;

xvii. The CogState Cognigram post-injury test must be performed as a supervised in-clinic test;

xviii. The Member medical officer must formally review and medically clear the Player fit (after Stage 4 of the GRTS protocol) prior to her engaging in contact training or participating in a Match, using clinical examination, SCAT (SCAT 5) assessment and CogState Cognigram tests (+/- Independent Concussion Consultant 2nd opinion) and/or formal neuropsychological testing as part of their assessment;

xix. It is important to note that not all Players will recover from a concussion in time to play the following week. The Player's health and welfare must be the primary goal. Medical decisions regarding return to play before the Player is deemed medically fit should not be influenced by the Player, coaching and training staff or any other Official. It is the responsibility of the Member medical officer to ensure that the Player is medically fit to return to training and/or playing;

xx. Should the Member medical officer require some additional expert consultant support (2nd Medical opinion) for shared decision making to assist them with a RTP decision following a concussion or HIA incident with a high suspicion of concussion, then an independent review by a doctor specialising in concussion ("Concussion Consultant") can be undertaken either in person with the Player (preferable) or via video consultation, Player and Concussion Specialist. This assessment must not occur before 72 hours' post injury.

xxi. This process is also highly recommended if the Player is due to return to play in less than seven (7) days following the concussion incident/injury.

xxii. The Concussion Consultant should be supplied with the following information:

- A. Video clip of incident;
- B. Results of ALL HIA/SCAT forms (Baseline, Match HIA and Follow-Up HIAs) and the Baseline and After Injury Cognigram (computer cognitive assessment) results;
- C. Current stage of training (as per GRTS Strategy) and current symptoms/signs;
- D. Prior detailed concussion history, especially the number of concussions diagnosed in the past 12 months;
- E. Any other relevant investigations or information.

xxiii. The Member medical officer should utilise the opinion of the "Concussion Consultant" in assisting them to make a Return to Play timeframe decision for that Player.

xxiv. When a Player:

- A. Has sustained two (2) diagnosed concussions within the one (1) Season (including preseason training and games), has prolonged concussion symptoms (>14 days) or an unusual presentation; or
- B. Over time (not just within the one (1) season):
  - Is developing concussion symptoms with less force; or
  - Is experiencing progressively increasing length of concussion symptoms; or
  - Has an increasing symptom load (a greater number of concussion symptoms); or
  - Has a decreasing time period between concussive / possible concussive events; or
  - Has significant mental health issues (e.g. anxiety, depression) potentially related to head injuries, then, the IRL requires that the Player be formally sent for independent assessment with a specialist with a recognised interest in sport related concussion management (Neurologist, Neurosurgeon or Sport and Exercise Physician) as part of a multi- disciplinary team approach. The assessment should also include formal neuropsychological testing if recommended by the Concussion Specialist providing the opinion. This should occur to ensure the Player has fully recovered from her concussions, to assess the risks of further concussions and to determine whether the

Player is currently fit to participate in training and/or Matches. The independent concussion assessment must occur before the Player is allowed to engage in contact training or participate in a Match. A copy of the independent specialist's opinion should also be made available to the IRL on request.

1.14 In any case where a Player has been diagnosed as having suffered a significant head injury, traumatic brain injury or concussive injury, the Player's Nation must ensure that the Player does not participate in a Match or engage in contact training in any form until such a time as properly qualified medical opinion is obtained by the Nation which supports the conclusion that the Player has fully recovered from the effects of the injury