SA RUGBY

PROCESS FLOW

DOCUMENT 1 of 2025

APPLICABLE TO THE

SOUTH AFRICAN

RUGBY UNION

- *CONCUSSION REGULATIONS*
- *FIELD SAFETY REQUIREMENTS FOR RUGBY*
- *ANTI-DOPING REGULATIONS*

PROCESS FLOW FOR ACKNOWLEDGEMENT AND UNDERTAKING TO UPHOLD AND IMPLEMENT (1) THE *SARU CONCUSSION REGULATIONS* AND *BLUE CARD* PROTOCOL, (2) THE REQUIRED *FIELD SAFETY STANDARDS* APPLICABLE TO RUGBY IN SOUTH AFRICA, AND (3) THE *SARU ANTI-DOPING REGULATIONS*:

- *SARU CONCUSSION REGULATIONS* AND *BLUE CARD PROTOCOL*
- *SARU FIELD SAFETY STANDARD REQUIREMENTS FOR RUGBY*
- *SARU ANTI-DOPING REGULATIONS*

In the event of potential breaches of the above ***SARU Concussion Regulations***, ***SARU Anti-doping Regulations*** and/or failure to meet the ***SARU Field Safety standard requirements*** for rugby, and keeping within the current School rugby environment, human resources, and capacity available to the Provincial Rugby Unions, the following process flow document, provides a guide to the recommended protocol that should be followed.

The protocol is designed to correctly sensitise Schools to potential breaches of the Concussion Regulations, Anti-doping Regulations and/or Field Safety issues that are occurring under their legal authority, to provide a pragmatic approach in addressing these shortcomings with the Legal Head of the School i.e., the Principal or Headmaster, and for a practical and efficient way of handling these transgressions.

The main driving principle behind this is the safety, health and well-being of all learners who are participating in the game of rugby at School level.

With this in mind, it is worth noting that all involved, out of respect for these developing young learners, their health, safety, continued well-being, and also longevity in the game, should first and foremost, out of their own volition, *choose* to abide by SARU's Concussion Regulations and Blue Card protocol, Anti-doping Regulations, and SARU's Field Safety standard requirements, because it is simply the right thing to do.

The procedures, without having continual disciplinary hearings and sanctions which would disrupt learners from participating in the game, provides a best fit approach in dealing with this issue, and holds those who are potentially transgressing more accountable for their individual actions.

It is impossible for SARU or the relevant Provincial Rugby Union to be at every match, practice or training session at every level of rugby played around South Africa, and therefore the onus falls on the Schools, Principals or Headmasters, Heads of Sport (where applicable), and more importantly, the participating Coaches and Referees in this instance, to where reasonably possible, abide by the ***SARU Concussion Regulations*** and ***Blue Card*** protocol, ***SARU Anti-doping Regulations***, and the *SARU* ***Field Safety standard requirements*** for rugby to take place.

The recommended Stepwise process of preventing and handling potential breaches of the SARU Concussion Regulations, SARU Anti-doping Regulations, and/or any Field Safety issues identified:

1. The Provincial Rugby Union shall send a letter to the Principals or Headmasters within their Primary School and High School structures with copies of this **Process Flow document 1 of 2025** and the *SARU Concussion Regulations* and *Blue Card protocol* (***Annexures B, C, & F***), the *SARU Field Safety standard requirements* for rugby (***Annexure D***) and the *SARU Anti-doping Regulations* (***Annexure E***) explaining the importance of adherence to the *SARU Concussion Regulations* and *Blue Card protocol, SARU Field Safety standard requirements* for rugby and the *SARU Anti-doping Regulations.*
2. Provincial Rugby Unions where possible must set up a meeting with all Principals or Headmasters within their Primary School and High School structures and must communicate this process directly to them.
3. The hosting School and therefore the Principal or Headmaster, Heads of Sport, and/or the involved Coaches are primarily responsible for ensuring that the *SARU Concussion Regulations* and *Blue Card protocol,* where applicable and for those players involved, and the *SARU Field Safety standard requirements* for rugby to take place, have been met on match day, prior to the arrival of the match Referee.

4. Each Referee, at any level of the game must, within reason, confirm that all *SARU Field Safety standard requirements* for rugby to take place have been met before kick-off.
5. When a threat, which could result in a breach of the *SARU Concussion Regulations*, and/or *SARU Field Safety standard requirements* is noted by any party (including but not limited to Rugby Safety Auditors, Parents, Teachers, Coaches, or Players) ***before a match***, and is brought under the attention of the Principal or Headmaster, Head of Sport, Coaches or match Referee, all relevant parties shall do everything reasonably possible to correct the threat.
6. When a threat, which could result in a breach of the *SARU Concussion Regulations*, and/or *SARU Field Safety standard requirements* is noted by any party (including but not limited to Rugby Safety Auditors, Parents, Teachers, Coaches, or Players) and is brought under the attention of the Principal or Headmaster, Head of Sport, Coaches or match Referee, ***during a match***, the match should be stopped, and all relevant parties shall do everything reasonably possible to correct the threat.
7. When a threat which could result in a breach of the *SARU Concussion Regulations*, and/or *SARU Field Safety standard requirements* is noted by any party (including but not limited to Rugby Safety Auditors, Parents, Teachers, Coaches, or Players) ***after a match or during an audit***, this must be brought to the relevant parties' attention, and where applicable or possible, also to the involved match Referee. Notified parties must, within reason, correct any threat referred to prior to the next practice or match. All relevant parties shall do everything reasonably possible to correct the threat.
8. Failing to correct the threats identified in 5, 6, and 7, could result in accountability for any consequential serious rugby injury, disability, or fatality; this then needs to be documented and reported to the Provincial Rugby Union in writing for further action.

9. Should the threat referred to in 5, 6, and 7 above not be corrected, a formal letter, for record purposes, must also be sent from the Provincial Rugby Union to the Principal or Headmaster of the relevant School advising them of the seriousness of the transgressions and the risk of being held accountable for any serious rugby injury, disability, or fatality that may result from this continued practice at their School.
10. The Provincial Rugby Union, if requested by the School, should provide guidance and/or assistance to the School, where possible, in order to correct the threat.
11. Should the School persist in its failure to correct the identified threats, a representative of the Provincial Rugby Union should arrange a meeting with the School's Principal or Headmaster and request him/her to sign a Letter of Acknowledgement and Undertaking (***Annexure A***) that the nature of the threat(s)/transgression(s) has been explained to them, and should they not comply with the *SARU Concussion Regulations* and/or *SARU Field Safety standard requirements* in future matches, that they yet again are answerable and accountable for any serious rugby injury, disability, or fatality that may result from this continued practice at their School. Should the Principal or Headmaster refuse to sign the form, it shall be duly recorded by the Provincial Rugby Union.
12. There should be two original copies, one for the Principal or Headmaster, and one for the Provincial Rugby Union's records.
13. Where the Referee is not formally registered at the Provincial Rugby Union or at the Provincial Rugby Union Referee Society as a Referee, but is a Teacher, parent or other, and is nominated or appointed by the School to referee a game, the Principal or Headmaster, again must assume overall responsibility, legal liability, and accountability that the *SARU Concussion Regulations*, and *SARU Field Safety standard requirements*, have been met. These appointed non-registered referees must be BokSmart Certified as per SARU Regulation.

14. If the Referee has transgressed, a formal letter explaining the transgression must be sent to either the relevant Provincial Rugby Union Referee Society or the involved School's Principal or Headmaster, whichever may be applicable, for further remedial action; this letter must note the referee's failure to adhere to the *SARU Concussion Regulations*, and/or *SARU Field Safety standard requirements* for rugby to take place.
15. Should the Schools and involved parties continue to transgress, regardless of the above notifications and signed acknowledgements and undertakings the Provincial Rugby Union shall impose a sanction which could include, but is not limited to the following:
    a. All involved parties will be denied match fixtures by the Provincial Rugby Union.
    b. All involved parties will be "blacklisted", and opposition Schools will be notified to this fact.
        i. This notification will include Coaches and Referees who continually transgressed or have not complied with their role requirements.
16. If none of the above has been successful in changing behaviour of the involved parties, the matter will be referred to SARU in accordance with regulation 5.1 of the SARU Disciplinary and Judicial Matters Regulations.
17. When a threat, which has either already resulted, or potentially could still result in a breach of the *SARU Anti-doping Regulations*, is noted by any party (including but not limited to Rugby Safety Auditors, Parents, Teachers, Coaches, or Players), and is brought under the attention of the Principal or Headmaster, Head of Sport, Coaches or players, this needs to be reported, in writing, to the Provincial Rugby Union, SARU and SAIDS (South African Institute of Drug Free Sport).
18. As per the *SARU Anti-doping Regulations*, SAIDS will then contact the Principal or Headmaster for further interventions in line with the South African Schools Act regulations.

ANNEXURE A

SPECIFIC ACKNOWLEDGEMENT AND UNDERTAKING

1. ACKNOWLEDGEMENT

I, ..., Principal/Headmaster/Headmistress at ..... School acknowledges that the School has received a letter from the Provincial Rugby Union dated ..... with copies of the ***SARU Concussion Regulations*** and ***Blue Card*** *protocol*, ***SARU Anti-doping Regulations***, and the ***SARU Field Safety standard requirements*** for Rugby attached.

I confirm that the Provincial Rugby Union has notified me of the following breach of the ***SARU Concussion Regulations***, and/or ***SARU Anti-doping Regulations***, and/or ***SARU Field Safety standard requirements*** or a threat which could result in such a breach:

1.1 Match:

_____

_____

1.2 Incident:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

1.3 Breach/Threat:

_____

_____

_____

_____

_____

_____

_____

Should the School and involved parties fail to implement remedial action as proposed by the Provincial Rugby Union/SARU as in 2 below and/or continue to transgress, regardless of the above notifications and this undertaking, the Provincial Rugby Union shall impose a sanction, which could include the following:

a. All involved parties will be denied a number of match fixtures determined by the Provincial Rugby Union; and

b. All involved parties will be suspended for a period determined by the Provincial Rugby Union.

Should the involved parties continue to transgress despite the above actions, the matter will be referred to SARU in accordance with regulation 5.1 of the SARU Disciplinary and Judicial Matters Regulations.

2. UNDERTAKING

2.1. The School undertakes to implement any remedial action proposed by _____Provincial Rugby Union and/or SARU.

2.2. Where applicable, the School undertakes to impart appropriate internal disciplinary action with those involved, and furthermore commits to apply internal protocols to prevent such breaches or threats from reoccurring at the School in the future.

This done and signed at _____ (place), on ____ (day) of _____(month) in the year_____

_____ **Headmaster/Principal (SGB)**

_____ **Chairperson: School Governing Body**

_____ **Provincial Rugby Union or SARU Representative**

ANNEXURE B

SOUTH AFRICAN RUGBY UNION
("SARU")

SARU MEDICAL REGULATIONS

CONCUSSION REGULATIONS

Document Title:	SARU CONCUSSION REGULATIONS
Date written:	OCTOBER 2024
Effective Date:	JANUARY 2025
Electronic File Available:	Yes
Prepared by:	Clint Readhead, Dr Wayne Viljoen
Checked by:	Professor Jon Patricios, Dr Leigh Gordon, Dr Pierre Viviers,
Recommended by:	General Manager: Medical – Clint Readhead General Manager: Springboks – Charles Wessels General Manager: High Performance – Dave Wessels
Supported by:	Head of Legal – Chantal Du Pisani
Approved by:	CEO – Rian Oberholzer

REV	DATE	DESCRIPTION	ORIG	CHK	APPR
Rev 0	18-09-2024	WV Drafted update Document	WV	CR	
Rev 1	23-09-2024	CR, WV Reviewed, condensed language and flow	CR, WV	CR, WV	
Rev 2	07-10-2024	WV Updated regulations to new World Rugby Comms	WV	CR	
Rev 3	10-10-2024	CR sent to JP, LG and PV for expert input	CR, WV	JP	
Rev 4	11-10-2024	CR, WV made edits suggested by JP	CR, WV, JP	LG, PV	✓
Rev 5	15-10-2024	CR, WV made edits suggested by LG, PV	CR, WV, JP, LG, PV	CR, WV	CR, CW, DW, CDP, RO

SARU REGULATION ON CONCUSSION

Concussion is a brain injury caused by trauma that transmits force to the brain either directly or indirectly and results in impairment of brain function. A player can sustain a concussion without losing consciousness. Concussion is associated with a wide spectrum of signs and symptoms that resolve sequentially. Concussion reflects a functional rather than a gross structural injury and standard neuroimaging typically appears normal.

1. SARU's stance on concussion

SARU views concussion extremely seriously. SARU therefore insists that every role player[1], involved in all rugby played within South Africa, gives the highest level of attention to the most current **evidence-based, internationally accepted, best practice standards** of prevention, identification, treatment and management of players suspected of having a concussion, or those who have been diagnosed with a concussion.

2. Role of the SARU

SARU is a Member Union of World Rugby. As such, SARU is required to implement Concussion Regulations that are either aligned with or are stricter than the World Rugby Medical Regulations and **concussion guidance**.

3. SARU CONCUSSION REGULATIONS

Concussion is a brain injury, which is serious and can be sustained by a Player of any age.

Concussion and suspected concussion must be taken extremely seriously by all those involved in the Game in order to protect the safety, health and welfare of Players.

Extra caution must be taken with children and adolescents who have a greater risk of concussion and associated complications.

3.1 Concussion

***3.1.1 All Players** – With a suspected concussion or confirmed diagnosis of concussion, the injured player must take time off from **contact-rugby** for a **minimum** of 2 weeks, followed by a period of 'Individualised Rehabilitation'. Players may only return to match play at **21 days** after the concussive event.*

3.1.2 Any Player with a concussion or suspected concussion:

(a) must be immediately and permanently removed from training or the field of play (this is known as 'Recognise and Remove'); and

[1] 'Role players' include but are not limited to coaches, referees, medical staff, parents, team management, players and match officials.

(b) must be assessed by a medical practitioner or an approved healthcare professional [2] (as approved in the relevant jurisdiction); and

(c) must not return to training or to play in a Match on the same day and until symptom free; and

*(d) must be monitored for signs of deterioration which warrant transfer to a medical facility (**see "Red Flags" in APPENDIX 2**); and*

(e) must have physical and cognitive rest limited to routine daily activities (no exercises or 'thinking activities') for 24-48 hours; and

*(f) must be encouraged to participate in light exercise (activity that does not significantly aggravate symptoms) after the initial 24-48 hours relative rest, and before commencing a graduated return to play (GRTP or 'Individualised Rehabilitation') programme. SARU's graduated return to play (GRTP) or 'Individualised Rehabilitation' protocol can be found here: **https://my.boksmart.com/Documents/BokSmart#ConcussionManagement**). The Player must be symptom free before commencing the high intensity components of the GRTP or 'Individualised Rehabilitation' programme (Stages 4, 5 and 6); and*

*(g) must successfully follow and complete a GRTP or 'Individualised Rehabilitation' programme which must be consistent with SARU, and World Rugby's GRTP or 'Individualised Rehabilitation' Protocol contained in the World Rugby Concussion Guidance, which is available **here**; and*

*(h) must receive clearance from a medical practitioner or **approved healthcare professional** [2] prior to commencing the full contact training stage of the GRTP or 'Individualised Rehabilitation' programme; and*

*(i) unless a player has accessed a World Rugby and SARU acknowledged Advanced Concussion Care Doctor and Pathway and has been managed directly under their care, players may only return to match play at the earliest, **21 days** after the concussive event.*

3.1.3 The following exceptions may apply:

*(a) The two-week period away from any form of **contact-rugby** (in **3.1.1**) is obligatory regardless of whether the Player has become symptom free unless the Player has successfully accessed an 'advanced level of concussion care' (as defined in the World Rugby Concussion Guidance and agreed on an individual basis by the World Rugby Chief Medical Officer – See **APPENDIX 3: Advanced Level of Concussion Care**). In any event, there is no exception to the initial 24–48-hour period of physical and cognitive rest;*

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[2] *World Rugby Concussion Guidelines: World Rugby recognises that there is considerable diversity in health care support across and within each Member Union. Because of this diversity each Union is encouraged to identify the roles and responsibilities of medical and healthcare practitioners and to establish a definition of approved healthcare professionals relevant to their respective jurisdictions. Each Member Union within World Rugby will be responsible for confirming who is approved to diagnose concussion, provide a clearance to start a GRTP ('Individualised Rehabilitation'), monitor a GRTP ('Individualised Rehabilitation') and provide a clearance to return to match play. Refer to **Appendix 1** for the South African Rugby Union's nominated "Appropriately qualified person".*

(b) the completion of a GRTP or 'Individualised Rehabilitation' programme is obligatory except in cases of suspected concussion where the Player has accessed an 'advanced level of concussion care' (as defined in the World Rugby Concussion Guidance and agreed on an individual basis by the World Rugby Chief Medical Officer – See ***APPENDIX 3: Advanced Level of Concussion Care****) AND the player has been medically cleared to return to training or to play on the grounds that the Player had in fact not been concussed;*

(c) these exceptions to SARU's and World Rugby's Concussion protocols are only allowed where a player has access to an enhanced care clinical setting as stipulated in World Rugby Regulation 10 and in SARU's Concussion Regulations.

3.1.4. Advanced care clinical settings are defined in World Rugby and SARU's Concussion Guideline documents:

(a) World Rugby Concussion Guidelines are accessible from ***here.***
(b) SARU's Concussion Guideline documents (When can a player safely return to play following a concussion – can be found here: ***https://my.boksmart.com/Documents/BokSmart#ConcussionManagement****)*
(c) For ease of access, SARU's Advanced Level of Concussion Care setting is also described in ***APPENDIX 3: Advanced Level of Concussion Care****.*

3.1.5. Due to the heightened risk of concussion and its complications in players younger than 19 years of age:

(a) Extra caution must be taken to prevent such players returning to play or continuing playing or training if any suspicion of concussion exists; and

(b) All players who have sustained a concussion, or a suspected concussion need to adhere to World Rugby and SARU Concussion guidelines and apply the SARU Graduated Return to Play or 'Individualised Rehabilitation' Protocols for different levels of the game; and

(c) All players, including U19 players participating in elite adult Tournaments, where the use of the Head Injury Assessment (HIA) HAS NOT been approved must be managed with 'Recognise and Remove', as described above and must not be managed using the Head Injury Assessment or HIA 1 off-field screen; and

i. Criteria 1 players must be immediately and permanently removed from the game and are considered to have a confirmed concussion.
ii. Players who fit this category and who have Criteria 2 signs or symptoms cannot be removed for an off-field HIA1 assessment.
iii. They must be removed from further participation in that game – 'Recognise and Remove'.
iv. Players who are confirmed with a concussion should follow their Union's GRTP or 'Individualised Rehabilitation' protocols.

(d) At elite ADULT tournaments, and only where World Rugby HAVE APPROVED the use of the HIA (including under-20 elite competitions), all players who have qualified to play will be eligible for the HIA1 off-field assessment and individualised rehabilitation in the HIA protocol. This includes under-19 players who qualify and are cleared to play at these World Rugby approved tournaments.

4. Head Injury Assessment (HIA) Protocol

4.1 *The temporary replacement procedure for head injury assessment set out in Law 3.26 is only applicable in elite adult rugby Matches, Series of Matches or Tournaments, which have been approved in advance by World Rugby.*

4.2 *If a Union, Association or Tournament Organiser wishes to obtain access to temporary replacement for head injury assessment in approved elite adult rugby Matches, an application for approval must be made to World Rugby. Application procedures are set out in the World Rugby Head Injury Assessment Protocol ("**HIA Protocol**") available **here** for elite level match day medical staff*

4.3 *Approval will only be given by World Rugby for access to the temporary replacement procedure in the elite adult game if the relevant approval criteria identified in the HIA Protocol are met, which include confirmation by the applicant that:*

(a) The Tournament or matches are elite adult Tournaments or Matches;

(b) The Core (mandatory) Concussion Player Welfare Standards set out in the HIA Protocol will be adopted and complied with;

(c) There will be an HIA Review Process in place.

(d) They have facilitated access to video to assist with the management of head impact events occurring during matches.

APPENDIX 1:

Appropriately qualified person as defined within South African Rugby structures

Access to the Appropriately Qualified Person, is not easily achieved in all areas within South Africa, and to control and monitor for this for every match played across South Africa, is an unreasonable expectation, and is logistically impossible.

However, due to the seriousness of Concussion in sport, and especially a collision sport such as rugby, every attempt must be made to ensure that one meets the best practice standards as set out in this document.

Any deviation from these processes, is against Regulations and done entirely at own risk.

Regardless of circumstance, the most Appropriately Qualified Person to effectively diagnose concussion, provide a clearance to start a GRTP or 'Individualised Rehabilitation', monitor a GRTP or 'Individualised Rehabilitation', and provide a clearance to return to match play in South Africa is detailed below.

a) Diagnose a concussion

A qualified and registered medical doctor who is sufficiently versed in the current evidence-based and internationally accepted best practice standards on prevention, identification, treatment and management of players who are suspected of having a concussion or have been diagnosed with a concussion.

b) Provide Clearance to start the Graduated Return To Play (GRTP) or 'Individualised Rehabilitation'

A qualified and registered medical doctor who is sufficiently versed in the current evidence-based and internationally accepted best practice standards on prevention, identification, treatment and management of players who are suspected of having a concussion or have been diagnosed with a concussion.

c) Monitor the Graduated Return To Play (GRTP) or 'Individualised Rehabilitation'

When a qualified and registered medical doctor who is sufficiently versed in the current evidence-based and internationally accepted best practice standards on prevention, identification, treatment and management of players who are suspected of having a concussion or have been diagnosed with a concussion, is ***not available*** *to manage and review the GRTP or 'Individualised Rehabilitation', the process should be observed and managed by someone familiar with the player who could identify any abnormal signs displayed by the player,* ***preferably*** *a healthcare professional such as an* ***HPCSA registered Physiotherapist, Biokineticist, or Nursing Sister****.*

d) Provide Clearance to Return to Full contact and Return to match Play

A qualified and registered medical doctor who is sufficiently versed in the current evidence-based and internationally accepted best practice standards on prevention, identification, treatment and management of players who are suspected of having a concussion or have been diagnosed with a concussion.

e) Matches that have received WORLD RUGBY dispensation to implement the World Rugby HIA tool and protocol

For elite adult competitions, approved by World Rugby's Chief Medical Officer and Head of Technical Services, players with a head injury where the diagnosis is not immediately apparent must be removed from play and be assessed by an approved medical doctor. The Medical Doctor must have successfully completed World Rugby online education programmes: ***Medical protocols for Match Day Medical Staff*** *and* ***Concussion Management for Elite Match Day Medical Staff****.*

Only a qualified and registered medical doctor who is sufficiently versed in the current evidence-based and internationally accepted best practice standards on prevention, identification, treatment and management of players who are suspected of having a concussion or have been diagnosed with a concussion, and who have undergone the additional WORLD RUGBY mandated training, can implement the World Rugby HIA protocol.

APPENDIX 2:

Red Flags – for immediate referral to a Medical Care facility

Important signs which may indicate an even more serious life-threatening or deteriorating head injury:

- *Headaches that worsen*
- *Increasing drowsiness*
- *Inability to recognise people or places*
- *Deteriorating consciousness*
- *Increasing confusion or irritability*
- *Repeated vomiting*
- *Seizures or slurred speech*
- *Enlargement of one or both pupils*
- *Unusual behavioural changes*
- *Severe neck pain*
- *Weakness or numbness in the limbs*

APPENDIX 3:

Advanced Level of Concussion Care

The following, World Rugby-approved protocol, allows players who are removed from play with a suspected concussion to be evaluated by an SA Rugby or World Rugby recognised ***Advanced Care Concussion Doctor (ACCD)****, following a robust and multimodal evaluation consistent with that offered at the highest level of the game. This may allow for return to full contact rugby/match play before 21 days, but no sooner than 14 days.*

Medical Centres and Healthcare Professionals qualifying to oversee Advanced Concussion Care must provide or have access to:

- *A medical doctor who has experience in concussion management, has completed the World Rugby online module:* **Concussion Management for Medical Practitioners and Healthcare Professionals** *(it is important to do the latest version as it has been updated to reflect the newest SCAT), and who is approved by the Chief Medical Officer of World Rugby and the SA Rugby: General Manager – Medical as an* ***Advanced Care Concussion Doctor (ACCD)****; and*
- *Scientifically validated computerised technology such as neurocognitive testing (e.g. Impact or Neuroflex); and*
- *Brain imaging including CT and MRI scans; and*
- *A wider support network of clinicians who may assist in the diagnosis of concussion, other neurological and mental health disorders including but not limited to, a neurologist, neurosurgeon, psychologist, physiotherapist, and optometrist.*

** An SA Rugby or World Rugby recognised* ***ACCD****: Are medical doctors, with experience and expertise in managing concussion, and are listed on the* ***Sports Concussion South Africa*** *website.*

All Advanced Care facilities should provide support to SA Rugby's Blue Card system and will be listed under their specific provincial region on the Sports Concussion SA (SCSA) website. They will also have the support of the international Your Brain Health network.

ANNEXURE C

REFEREE/ASSISTANT REFEREE BLUE CARD REPORT

Local Competition:			
Provincial Rugby Union			
Home Team		**Visiting Team**	
Player's Full Name:		**Team/Division:**	
Playing Position:		**Playing Number:**	
Player's Age:		**Date of birth:**	
Venue:		**Date of Match:**	
Contact person(s) from family, school or club:	**1.** **2.** **3.**	**Email address(es)**	**1.** **2.** **3.**

Period of Game when incident occurred: *(Please circle)* 1st Half 2nd Half

Elapsed Time in Match: **Match Kick-off Time:**

THE BLUE CARD EVENT WAS DETECTED BY:

Official ** *(Please circle)*	**Name**	**Contact Number**	**Email Address**	**Signature**
Referee				
Assistant Referee				

DESCRIPTION OF INCIDENT: *(Please continue overleaf if necessary)*

Injury causing event: (*Tick the appropriate event observed*)							
Tackling		**Ruck**		**Scrum**		**Collision**	
Ball carry		**Lineout**		**Open play**		**Hitting head on the ground**	
Other (specify)							

Signs/Symptoms: (*Tick the appropriate signs/symptoms observed*)			
Unsteady on Feet		**Confused**	
Nauseous		**Vomiting**	
Headache		**Dazed**	
Dizzy		**Blurred Vision**	
Unconscious		**Other (specify)**	

BRIEFLY DESCRIBE WHAT HAPPENED:

Submit a copy to the local Provincial Rugby Union BokSmart Coordinator (www.boksmart.com), and the local Referee Manager (http://www.sareferees.com/about/provincial-contact-details/) within 1 working day after the match.

The *Match Referee* MUST also capture this report ONLINE onto Footprint at https://bluecard.footprintapp.net/.

The personal information collected in this Form is processed by SARU in accordance with the applicable SARU Privacy Policy available on request

ANNEXURE D

www.BokSmart.com /BokSmart @BokSmart

January 2020

FIELD SAFETY STANDARD REQUIREMENTS FOR RUGBY PLAYED IN SA

Should the playing fields and grounds not conform to WORLD RUGBY and SARU safety standards, then referees will be mandated to call these games off. Referees are entitled to decide whether it is safe for a player or safe for the game to continue. The Laws of the Game provide guidelines to referees for ensuring a safe playing environment. Referees should apply a common-sense approach and not rely on Law only to ensure the safety of all players on the field.

The onus, however, is on the hosting rugby body, club, or school to provide a safe match environment that conforms to the required WORLD RUGBY standards, and the referees' roles, are purely to confirm or negate this fact, and then either start the game, have the identified problem rectified by the hosting rugby body before kick-off, or call the game off.

The following extracts from the relevant documents provide context to the above.

Extract from "WORLD RUGBY Law book":

Playing area: The field of play plus the in-goal areas. The touch lines, touch-in-goal lines and dead-ball lines are not part of the playing area.

Playing enclosure: The playing area plus a space around it, which is known as the perimeter area.

Law 1.1 and 1.2:

1.1. The playing surface must be safe.

1.2. The permitted surface types are grass, sand, clay, snow, or artificial turf (conforming to World Rugby Regulation 22).

NOTE: Law 1.1 states the obvious i.e., that the surface must be safe to play on at all times!

Law 1.3:

1.3. The dimensions of the playing area shown in the ground diagram.

Dimensions	Field of play length	In-goal length	Width
Maximum (metres)	100	22	70
Minimum (metres)	94	6	68

NOTE: Law 1.3 allows you therefore to adjust your field width or length accordingly to meet the safety criteria required; it specifies "does not exceed" but does not mention anything further about <u>not</u> being able to adjust field length or width accordingly. So, if needs be, for example, you could potentially shift the touchline slightly inwards to meet the requirements.

1.3 (b). Any variations to these dimensions must be approved by the relevant union for domestic competitions or World Rugby for international matches.

*1.3 (e). The perimeter area should not be less than **<u>five metres wide</u>** where practicable.*

NOTE: In keeping with the above suggestion regarding Law 1.3 stipulates that one should try and keep these adjustments practical and minimal, and as close as possible to WORLD RUGBY Law dimensions. However, if this remains a safety risk, the field size can be adjusted more to create sufficient space away from dangerous objects or structures, especially in school and club matches.

OBJECTIONS TO THE GROUND

1.11. Teams must inform the referee of any objections before the match starts.

1.12. The referee will attempt to resolve the issues and will not start a match if any part of the ground is considered to be unsafe.

NOTE: Law 1.11 and 1.12 where either one or both teams object to the safety of the ground, or the referee calls off a match if any part of the ground is considered to be unsafe or dangerous, is perfectly within the Laws of the game

<u>Extract from "Referee's role in controlling the game"</u>:

When inspecting the playing enclosure, it is important to study the pitch itself and look for any obviously dangerous aspects that may be prevalent. The pitch may, for example, be too hard, i.e., stone or gravel; or there may be potholes, which could pose a risk to players' ankles and feet.

Pitches that are immersed in water should also be investigated and the referee should decide whether a possible danger may exist, in particular when it comes to collapsed rucks, mauls and scrums. Any loose debris should also be removed from the field, especially if the debris is sharp and/or hard.

Extract from "Safety in the Playing Environment":

Advertising hoardings, poles, pylons and barriers must ideally be 5m from the touchline. If one or more of the abovementioned obstacles cannot be removed, they must be suitably covered up to provide maximum protection to the players. If areas of the playing surface comprise an asphalt / tartan track it should be suitably covered as well.

The playing surface should be grass, artificial grass (conforming to WORLD RUGBY regulation 22), sand or clay. It must be firm and free of hazards, including stones and glass. In cold environments, the surface must be free from ground ice. If there is surface water sufficient to realistically raise the risk of drowning, the game should not commence. The decision to start a game where ground water is present is at the sole discretion of the referee and common sense should prevail.

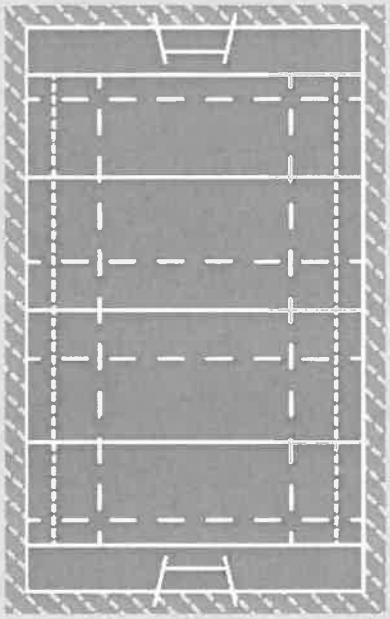
In summary

Some key checks to consider include but are not limited to the following:

CHECK THE GROUND AND PLAYING SURFACES

- The ground is level and free of holes.
- There are no exposed sprinkler heads, or hard plastic/metal ground spikes or flag supports.
- There is no broken glass, rubbish, or stones.
- There are no cement barriers, shot put rings, drains, protruding steel pipes or structures, ditches, walls, buildings, fences, rails, stands, pylons, overhead lights or the like within the WORLD RUGBY stipulated *playing enclosure.*
- There are no other movable objects such as dust bins, scrum machines, steel rollers, tyres, school bags, gazebos, chairs, or the like within the WORLD RUGBY stipulated *playing enclosure.*
- Goal posts are appropriately padded.
- Marker flags will flex on impact with no sharp edges.
- No advertising hoardings within the WORLD RUGBY stipulated *playing enclosure.*
- Equipment is stable and will not collapse.
- Spectators and vehicles' proximity to the WORLD RUGBY stipulated *playing enclosure* must be managed appropriately.

SAFETY IN THE PLAYING ENVIRONMENT



FIELD SAFETY INSPECTION DECISION MAKING

BASIC CONSIDERATIONS:

- Condition of playing field in accordance with the laws of the game?
- Athletic field or concrete border around playing field within 5 m of the playing field?
- Fixed objects within 5 m of playing field?
- Movable objects within 5 m of playing field?

SAFETY DECISION MAKING MATRIX

SAFE TO PLAY

SAFE TO PLAY
WITH MINOR ADJUSTMENTS OR FIXES

- Bring field markings in to make field smaller and create sufficient distance away from movable or fixed objects surrounding the field
- Increase playing enclosure perimeter space surrounding the playing field to create sufficient distance away from movable objects
- Need to provide protective padding or mats over athletic field, concrete border, or in front of movable or fixed objects
- Need to completely remove unsafe fixed or movable objects
- Perform 'chicken-parade' inspection of fields before matches to remove any dangerous objects such as glass

UNSAFE TO PLAY

Unsafe to play, major adjustments required. All rugby suspended until cleared by Union representative

EMERGENCY ACTION PLAN OR EAP DETAILS REQUIRED

- Layout of the facility and access to the facility
- Equipment available
- Internal support personnel
- External support personnel
- Communication required
- Follow up required post catastrophic injury

ADDITIONAL INFORMATION

- Nearest Accessible Private Hospitals
- Nearest Accessible Government Hospitals
- Nearest Spinal Unit Accessible
- Local Government Emergency Service Providers
- Local Private Emergency Service Providers
- BokSmart Spineline
- SICM or Serious Injury Case Manager
- Always have qualified adult supervision with scholars
- Practice techniques regularly with medical teams prior to match days

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ANNEXURE E

SARU ANTI-DOPING REGULATIONS

1. SARU (South African Rugby Union) has adopted Regulation 21 of World Rugby, mutatis mutandis, subject to the following amendments:

2. SARU and SAIDS (South African Institute of Drug Free Sport) were party to a Memorandum of Agreement dated 21 August 2012 in terms whereof SARU ceded and assigned all its rights and delegated all its powers and obligations vested in it by virtue of the SARU Anti-Doping Regulations and Regulation 21 of World Rugby ("the regulations") to SAIDS with the responsibility to perform all such functions and duties and to comply with all requirements of SARU of the said regulations.

3. SAIDS accepted all such rights and delegation of such powers and obligations, with the acceptance of responsibility to perform all such functions and duties and to comply with all requirements of SARU of the said regulations.

4. SAIDS has the power to appoint Judicial Committees as prescribed by Regulation 21 of World Rugby to deal with anti-doping rule violations and to establish Post-Hearing Review Bodies to deal with matters referred to these Post-Hearing Review Bodies in terms of the regulations.

5. SARU will assist SAIDS where necessary to realise the objectives of World Rugby in applying Regulation 21 of World Rugby and in applying the Anti-Doping Rules of SAIDS.

6. SARU will assist World Rugby where necessary to apply Regulation 21 of World Rugby.

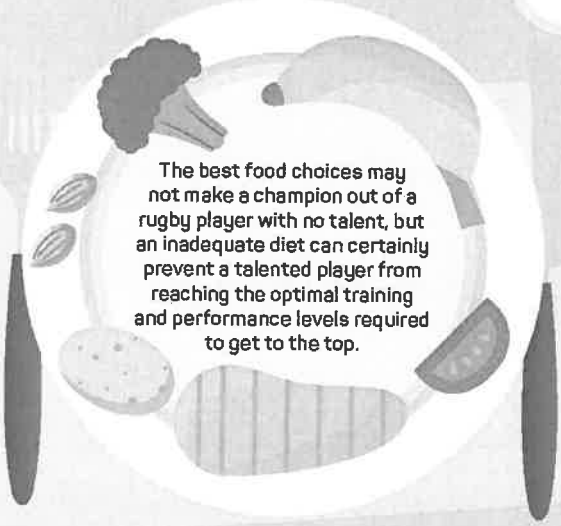
For the complete document and the World Rugby Regulations 21, go to the following web page: **https://www.springboks.rugby/general/boksmart-legislation/**

DRUGS IN SPORT

#KEEPRUGBYCLEAN

THE GOAL: ZERO ANTI-DOPING VIOLATIONS IN SOUTH AFRICAN RUGBY

THE ONLY WAY TO ZERO ANTI-DOPING VIOLATIONS IN SOUTH AFRICAN RUGBY: AVOID TAKING SUPPLEMENTS AND BANNED SUBSTANCES



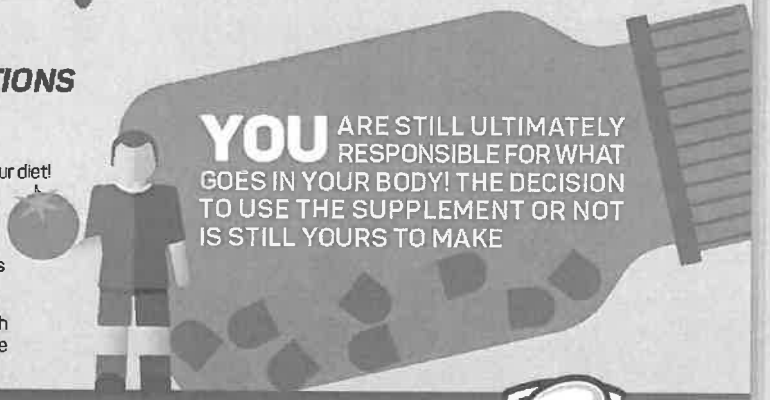
The best food choices may not make a champion out of a rugby player with no talent, but an inadequate diet can certainly prevent a talented player from reaching the optimal training and performance levels required to get to the top.

BEFORE CONTEMPLATING SUPPLEMENTS:

1. Can you get what you need from food or fluids first, instead of from a supplement?
2. Does it work? Is it effective in offering a performance benefit in your situation?
3. Is it illegal?
4. Is there a risk of the product being contaminated?
5. Has it been batch tested according to WADA ISO standards for ALL WADA-banned substances?
6. Is it safe?
7. Are there any side effects that may adversely affect your health?

THE REAL-WORLD WAY: ZERO ANTI-DOPING VIOLATIONS IN SOUTH AFRICAN RUGBY

- Consult a dietician or sports physician first
- Always start with a food-first approach – fix your diet!
- Let the medical professionals decide whether or not you clinically need something
- If clinically needed, integrate these supplements into an individualised and periodised food plan
- Obtain clinical advice on a low-risk approach with regards to which supplements you can purchase



YOU ARE STILL ULTIMATELY RESPONSIBLE FOR WHAT GOES IN YOUR BODY! THE DECISION TO USE THE SUPPLEMENT OR NOT IS STILL YOURS TO MAKE

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BokSmart Information Pack on Concussion

SA RUGBY

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BokSmart Information Pack on Concussion

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SPORTS Concussion South Africa ®

The following Documents are prepared for the purpose of educating and circulating to all the players, parents, or families of those participating in Rugby at your School or Club.

This will assist them in making better 'player safety' decisions with regards to their own/son/daughter/spouse's medical management, care at home, and ultimately making best practice informed return to play decisions.

Please ensure that everyone is aware of World Rugby and SARU's requirements in terms of best practice identification, treatment, and management of these types of injuries.

We are dealing with the BRAIN here, NOT a muscle!

For more information on Concussion go to www.BokSmart.com/Concussion, https://www.springboks.rugby/general/boksmart-medical-protocol-concussion-blue-card/, www.sportsconcussion.co.za, and https://passport.world.rugby/player-welfare-medical/concussion-management-for-the-general-public/.

SA RUGBY

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Concussion Pack Content

1. Concussion Advice Sheet

2. Concussion identification and management.

3. Concussion Blue Card infographic.

4. When can a player safely return to play.

5. Individualised Rehabilitation Infographic.

6. Returning to Learning.

7. Concussion Prevention.

8. Echemendia et al 2023 The CRT6 Tool.

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Concussion Advice Sheet

What is a concussion?

A concussion is an **injury to the brain** caused by a direct or indirect blow to the head or caused by the head striking something else such as the ground or a bony hip. A concussion can occur **whether or not a person is "knocked out."** A concussion typically causes the rapid onset of short lived impairment of brain function that resolves spontaneously with time. However, occasionally there can be a more significant or longer lasting problem, and it is important that the symptoms from every concussion be monitored by team medics and doctors who understand concussion management protocol. When you suffer a concussion, you may suffer from:

- Physical symptoms e.g. headaches, nausea, dizziness, tiredness, intolerance of bright light
- Concentration difficulties, memory loss, difficulty reading or using a computer
- Emotional changes such as mood swings, irritability and aggression
- Sleeping pattern changes – sleeping more or difficulty falling asleep

What should I watch for? ("Red Flags")

After evaluation by a sideline medic, it may be determined that you are safe to go home. If you are sent home, you should not be left alone. A responsible adult must accompany you. Symptoms from your concussion may persist when you are sent home but should not worsen, nor should new symptoms develop.

Important symptoms to monitor over the next 48 hours include:

- Headaches that worsen
- Severe neck pain
- Loss of feeling or use of an arm or leg
- Confusion
- Slurred speech
- Deteriorating consciousness
- Seizures (fits)
- Repeated vomiting

The presence of **ANY** of these requires **urgent medical attention** and usually a **brain scan.** Report to a hospital casualty, preferably one with a neurosurgeon and brain scanning facilities.

Is it okay to go to sleep?

Concussion often makes a player feel drowsy or tired. Once you have been medically assessed, as long as you are not getting worse, as noted above, it is alright for you to sleep. We do however want the responsible adult to be at home with you in case any problems arise.

May I take something for pain?

Do not take any medication unless a doctor has told you to do so. Normally, we do not advise anything stronger than paracetamol (e.g. Panado). **Avoid anti-inflammatories** e.g. Voltaren, Cataflam, Brufen etc. and anything containing codeine e.g. Myprodol.

What should I avoid doing?

Avoid actions that may worsen your symptoms, slow down recovery or place you at risk

- Do not consume **caffeine** (including coffee) or any other stimulants
- Stop taking any **supplements** that you may be using
- Do not consume **alcohol** for at least 48 hours after a concussion and until cleared by a medical doctor
- Do not **drive** a motor vehicle or motorcycle or ride a bicycle until cleared by a medical doctor
- Do not **exercise** at all until medically cleared to do so
- Do not spend long periods behind a **computer**, playing video games, watching TV or reading

May I eat after the practice or game?

It is fine for you to eat if you are hungry. Remember, some athletes do have a sense of nausea and fatigue, and often find that their appetite is decreased immediately after a concussion. Do not force yourself to eat.

How long will I be observed?

You must follow up with a medical doctor after your suspected or confirmed concussion. You must be monitored regularly and your symptoms observed until they have completely cleared. You must refrain from any physical exertion including strength conditioning until released to do so by the medical staff. Return-to-practice and return-to-play decisions are made at the appropriate time by the team physicians and these may differ from player to player.

Additional testing will be considered (e.g. computerized brain function testing) and this should be explained to you during your follow up visits. Determining if school activities (e.g. class, exams) need to be modified can also be evaluated by your doctor.

There is however a mandatory stand-down period away from contact-rugby, and a graduated return-to-sport or 'individualised rehabilitation' process that needs to be followed. This information can also be found on www.BokSmart.com at the following link: www.BokSmart.com/Concussion, or on MyBokSmart at: https://my.boksmart.com/Documents/BokSmart#ConcussionManagement.

If symptoms persist, what other support is available to me?

Your concussion may make it difficult to **concentrate, study, and/or attend class.** In such a situation, it's important for you to discuss with your medical team and teachers, different options for receiving academic support during this time including:

(1) short-term adjustments such as a shorter school day, working in an isolated & quiet environment and limited reading and computer work

(2) extended accommodations to be made regarding your academic assessments including deferring or allowing for additional time.

These options usually involve disclosing some information about your medical condition to other School or University offices and/or personnel.

Important Contacts:

Designation	Name	Tel no.	After hours no.	Email / Website
Doctor				
Hospital				
School/Club nurse				
BokSmart Spineline operated by ER24		0800 678 678	0800 678 678	www.boksmart.com/Concussion https://www.springboks.rugby/general/boksmart-spineline/
Sports Concussion SA		011-3047724	0825746918	www.sportsconcussion.co.za sportsconcussion@mweb.co.za

Document Compiled by Dr Jon Patricios

Concussion Referral Note by Medical Personnel

_____ has been assessed as having suffered either a suspected or confirmed concussion on _____ (date)

A SCAT6 / SCOAT6 Evaluation form is / is not attached.

The patient has been referred:

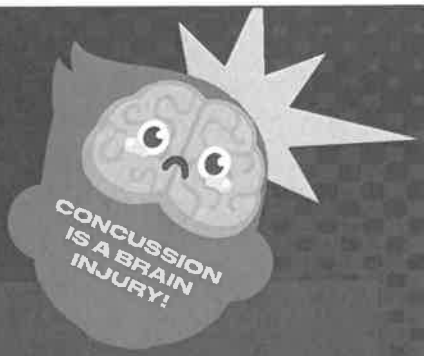
☐ to _____ hospital for further evaluation.

☐ to home with a responsible adult for monitoring.

It is recommended that the guidelines on this form are strictly adhered to and that Dr _____ at contact number _____ is consulted for further evaluation and advice.

Signed: _____ Date: _____Tel no.:_____

CONCUSSION MANAGEMENT



PREVENTION

5Es

1. **EDUCATE** your team, club or school on concussions
2. **ENFORCE** the laws, protocols and policies in your players
3. **ENHANCE** your players' protection against concussion by preparing them properly for rugby
4. **EQUIP** your players with the right information about what works and what does not
5. **EVALUATE** your concussion prevention process and policies yearly to ensure that you remain up to date with what is expected at the time

IDENTIFICATION

6Rs

1. **RECOGNISE** concussions
2. **REMOVE** the player
3. **REFER** them to a medical doctor to clear them of any complications, NOT for going back to rugby
4. **REST** them completely for the first 24-48 hours
5. **RECOVER** until sign and symptom free
6. **RETURN** them to play, once they have gone through the rugby specific return to sport or 'individualised rehabilitation' process without any hiccups

MANAGEMENT

MEDICAL CLEARANCE STEPS:

1. Medical doctor clearance of complications straight after event.
2. Clearance to start the GRTS or 'individualised rehabilitation' Stages 4-6 and only once all symptoms have cleared.
3. Clearance to progress to full contact after completion of Stage 4 of GRTS or 'individualised rehabilitation'

MADDOCKS' QUESTIONS

QUESTIONS YOU NEED TO ASK TO PLAYERS 13 YEARS OF AGE AND OLDER:

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

QUESTIONS YOU NEED TO ASK CHILDREN AGED 5-12:

- Where are we now?
- Is it before or after lunch?
- What did you have last lesson/class? or Who scored last in this game?
- What is your teacher's/coach's name?

WHERE THERE IS ANY HESITATION, UNCERTAINTY OR ONE CANNOT VERIFY THE INFORMATION, HAVE THE PLAYER PERMANENTLY REMOVED FROM THE GAME OR TRAINING SESSION, AND SUSPECT A CONCUSSION.

SIGNS AND SYMPTOMS

WHAT YOU NEED TO LOOK FOR:

- Dazed, vacant or blank expression
- Lying motionless on the ground or very slow to get up
- Unsteady on feet
- Balance problems or falling over
- Poor coordination
- Loss of consciousness or lack of responsiveness
- Confused or not aware of plays or events
- Grabbing or clutching the head
- Convulsions
- More emotional or irritable

WHAT THE PLAYER MIGHT TELL YOU:

- Headache
- Dizziness
- Confusion or feeling slowed down
- Struggling with or blurred vision
- Nausea or vomiting
- Fatigue
- Drowsy, feeling in a fog or difficulty concentrating
- A feeling of pressure in the head
- Sensitivity to light or noise
- Memory loss for events before, during or after the game or practice

MONITORING: CONCUSSION REGISTER

1. Must be done by a responsible person at School or Club
2. Step by Step monitoring of progression through the rugby-specific GRTS or 'Individualised Rehabilitation' process
3. Recordal of medical steps and processes

NAME OF PLAYER	SURNAME OF PLAYER	TEAM PLAYED FOR	DIVISION	AGE	DATE OF BIRTH	COACH	DATE OF CONCUSSION/ SUSPECTED CONCUSSION	DATE OF MEDICAL ASSESSMENT TO RULE OUT COMPLICATIONS	NAME OF MEDICAL DOCTOR	COMPULSORY RECOVERY STAND-DOWN PERIOD AWAY FROM CONTACT-SURFACE	MEDICAL CLEARANCE RECEIVED TO ENTER STAGES 4-6 OF 'INDIVIDUALISED REHABILITATION'	DATE OF MEDICAL ASSESSMENT CLEARANCE RECEIVED	DATE OF COMPLETION OF GRTS OR 'INDIVIDUALISED REHABILITATION' PROCESS	PROCESS SIGNED OFF & ACKNOWLEDGED BY COACH	DATE RETURNED TO FULL MATCH PLAY (MINIMUM OF 21 DAYS)
Yster	Nkosi	Senior Adult	B	24	May 14, 2000	A.F. Rigter	August 1, 2024	August 2, 2024	Dr Con Cussion	2 weeks	Yes	August 15, 2024	August 20, 2024	Yes	August 22, 2024

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THE REFEREE SPOTLIGHT
BLUE CARD

SA RUGBY CONCUSSION REGULATIONS

https://www.springboks.rugby/general/boksmart-legislation

BLUE CARD CONCUSSION PROCESS

1. Referee or Medical professional recognises a potential concussion event
2. Referee then signals Blue Card to the player
3. Visual cue to all watching -> Concussion or suspected concussion
4. Player is permanently removed from the field of play
5. Player is logged onto the Club or School's submitted Team Sheet as a Concussion
6. Referee to submit Blue Card report to the Provincial Rugby Union
7. Referee, Coach, Team management, Player, Parent or Family member logs the Blue Card onto the SA Rugby Online software bluecard.footprintapp.net
8. All contact persons listed when logging the Blue Card on the App will receive emailed advice on the required GRTS processes to follow with the player
9. All Blue Card concussion events recorded on the App will be stored on a national database
10. Sport Concussion SA's information **011-3047724, 0825746918,** Email. **sportsconcussion@mweb.co.za** will also be emailed to them should they wish to access Medical Doctors who are sufficiently knowledgeable in Concussion management for rugby union

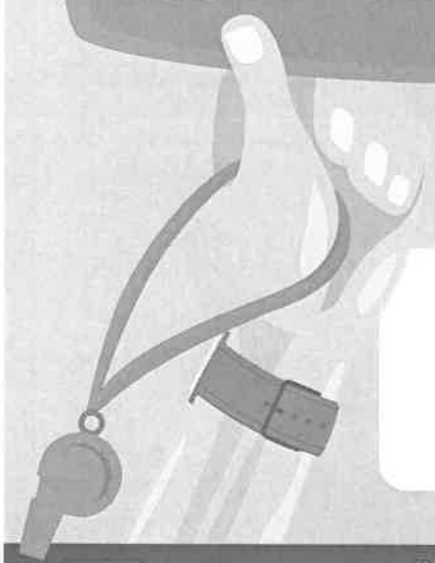
The following are 11 OBVIOUS SIGNS & SYMPTOMS that you as a referee, coach or medical support staff simply cannot miss, and cannot allow players presenting with any of these to continue in a match or practice. THESE ARE IMMEDIATE BLUE CARDS!

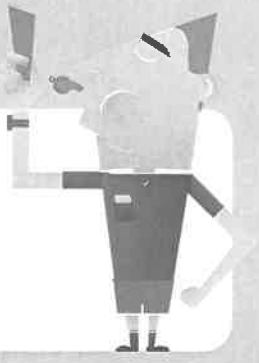
THOSE SIGNS AND SYMPTOMS TYPICALLY SEEN ON-FIELD:

1. Confirmed loss of consciousness; this is clear and obvious, the player was knocked out
2. Suspected loss of consciousness, or from what you saw happen on the field, where you have a strong suspicion of the player having lost consciousness
3. Convulsions or fits after making contact
4. Tonic posturing, abnormal muscle contractions or muscle stiffening
5. Balance disturbance, ataxia, stumbling or falling over
6. Clearly dazed, dinged or unable to think or react properly

THOSE ADDITIONAL SIGNS AND SYMPTOMS TYPICALLY IDENTIFIED DURING AN ON-FIELD ASSESSMENT:

7. The player is clearly not orientated in time, place or person or doesn't know what time it is, where they are or who they are talking to
8. Definite signs of confusion in the player
9. Definite changes in behaviour for that player
10. Oculomotor signs for e.g. spontaneous nystagmus or rapid involuntary eye movements
11. On-field identification of regular signs or symptoms of concussion as highlighted in your pocket BokSmart Concussion Guides





LAW 3.22 (C): The referee decides *(with or without medical advice)* that it would be inadvisable for the player to continue. The referee orders that player to leave the playing area.

LAW 3.24: 'If, at any point during a match, a player is concussed or has suspected concussion, that player must be immediately and permanently removed from the playing area. This process is known as "RECOGNISE AND REMOVE".'

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Return to play following a concussion.

Why is it so important to return to play at the appropriate time?

Returning too soon following a concussion may have serious short- and long-term consequences including:

- More serious brain injury and even death
- Persisting symptoms lasting weeks or months
- A greater risk of further concussions
- A higher risk of injuries to muscles, tendons and ligaments
- Interference with studies (school and university) and work
- Poor performance on the rugby field
- Potential longer-term brain effects including memory loss and emotional disturbances.

Mandatory time off from contact-rugby!

Unless advised by a specialist medical doctor with expertise in concussion management for Rugby Union, the following minimum stand-down periods away from contact-rugby are prescribed for players suspected of sustaining a concussion in rugby:

Players *18 and younger* – time off from ***contact-rugby*** for a minimum of 2 weeks, followed by a period of Individualised Rehabilitation (see protocol below). Players may only return to match play at **21 days.**

Players *19 and older* – time off from ***contact-rugby*** for a minimum of 2 weeks, followed by a period of Individualised Rehabilitation (see protocol below). Players may only return to match play at **21 days.**

These minimum periods away from ***contact-rugby*** only apply if the player no longer has **ANY** symptoms of concussion remaining.

Note: It is recommended that, in all cases of suspected concussion, the player be referred to a medical professional.

The Individualised Rehabilitation Protocol

Individualised Rehabilitation Protocol – each Stage progression is a minimum of 24 hours. The day the player sustained the suspected or confirmed concussion is considered ***'Day ZERO'***. Operationally, *Stages 1-3* of the individualised rehabilitation, forms part of the two-week stand-down period away from contact-rugby. During these stages, the player may still experience some symptoms. *Stages 4-6* begins after completion of Stages 1-3 *and* the 2-week contact-rugby stand-down period. Stages 4-6 prepare the player gradually for contact fitness and to get them ready to play again. To start Stages 4-6, the player must have no symptoms remaining.

Stage	Rehabilitation	Objective	Exercise Allowed
1	Symptom-limited Activity (relative rest)	Recovery. Gradual reintroduction of work/school	• Complete body and brain rest for the first 24-48 hours. • Daily activities that do not exacerbate symptoms (e.g., walking).
2	Aerobic exercise **2A—Light** (up to approximately 55% max HR) **then** **2B—Moderate** (up to approximately 70% max HR)	Increase heart rate.	• Stationary cycling or walking at slow to medium pace. • May start light resistance training that does not result in more than mild and brief exacerbation* of concussion symptoms.
3	Individual sport-specific exercise **Note:** If sport-specific training involves any risk of inadvertent head impact; medical clearance should occur prior to Stage 3	Add movement, change of direction.	• Sport-specific training away from the team environment (e.g., running, change of direction and/or individual training drills away from the team environment). • No activities at risk of head impact. • Running drills.
Stages 4–6 should begin after the resolution of any symptoms, abnormalities in cognitive function and any other clinical findings related to the current concussion, including with and after physical exertion.			
4	Non-contact training drills.	Resume usual intensity of exercise, coordination and increased thinking	• Exercise to high intensity including more challenging training drills (e.g., passing drills, multiplayer training). • Can integrate into a team environment. • May start *progressive* resistance training. • Player MUST be medically cleared at the end of this Stage before going to Full-contact training or Stage 5. • If player remains sign and symptom-free for the full 24 hours, they then move onto Stage 5.
5	Full Contact Practice.	Restore confidence and assess functional skills by coaching staff.	• Participate in normal training activities. • If player remains sign and symptom-free for the full 24 hours, they then move onto Stage 6.
6	Return To Match Play / Sport.	Recover. Normal game play.	• Player rehabilitated and can be progressively re-introduced into full match play.

***Mild and brief exacerbation of symptoms (i.e., an increase of no more than 2 points on a 0–10-point scale for less than an hour when compared with the baseline value reported prior to physical activity).**

Athletes may begin Stage 1 (i.e., symptom-limited activity – relative rest) within 24 hours of injury, then moving to Stages 2 and 3 within the 14-day or 2-week stand-down period away from contact-rugby, with progression through each subsequent Stage thereafter typically taking a minimum of 24 hours.

If more than mild exacerbation of symptoms (i.e., more than 2 points on a 0–10 scale) occurs during Stages 1–3, the athlete should stop and attempt to exercise the next day.

Athletes experiencing concussion-related symptoms during Stages 4–6 should return to Stage 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities.

Written determination of readiness to Return To Sport (RTS) should be provided by a medical doctor before unrestricted RTS as directed by local laws and/or sporting regulations.

Max HR, predicted maximal heart rate according to age (i.e., 220-age).

Notes:

- ***A player may only start the individualised rehabilitation Stages 4–6 once cleared by a medical doctor and all symptoms have cleared before, during, and after exercise in all three Stages 1-3.***
- ***In individualised rehabilitation Stages 4–6 a player may only progress to the next stage if no symptoms occur* before, *during, and after exercise in each stage.***
- ***A player must again be cleared by a medical doctor before starting full-contact training.***

Summary of Individualised Rehabilitation Criteria for ALL Amateur Rugby Players with Suspected or Confirmed Concussions.

AGE GROUP	COMPULSORY STAND-DOWN PERIOD AWAY FROM CONTACT-RUGBY POST CONCUSSION		*INDIVIDUALISED REHABILITATION*		NUMBER OF MISSED FULL WEEKS
Players 18 and younger *Players 19 and older*	Minimum of ***2 weeks*** (14 days) off from ***contact-rugby,*** while starting the ***individualised rehabilitation Stages 1-3***, can even be longer if any signs or symptoms remain.	**CAUTION! individualised rehabilitation Stages 4-6 can be started only if the player is symptom free and off medication that modifies symptoms of concussion. MEDICAL CLEARANCE REQUIRED**	***Individualised rehabilitation Stages 4-6*** with progression to each next Stage if no symptoms experienced before, during, or after exercise, with a minimum duration of **24 hours** per Stage.	**CAUTION! Contact Sport should be authorized only if the player is symptom free and off medication. MEDICAL CLEARANCE REQUIRED**	**<u>*Earliest* Return To Sport</u> = 2 weeks (14 days) stand-down period away from *contact-rugby* post injury + *individualised rehabilitation.* (May only be cleared for Play earliest on *Day 21* post injury)**
	**Any player with a history of multiple concussions ***, players with unusual presentations or prolonged recovery should be assessed and managed by health care providers (multidisciplinary) with experience in sports-related concussions. However, the medical doctor clearance is non-negotiable and must always be provided before entering the *individualised rehabilitation Stages 4-6,* and before starting full-contact training, regardless of who is available to manage or monitor the *individualised rehabilitation* process.**				

EXCEPTIONS:

Exceptions to SA Rugby's and World Rugby's Concussion protocols are only allowed where a player has accessed an 'Advanced Level of Concussion Care' clinical setting.

The two-week stand-down period away from contact-rugby (Stages 1-3) and the completion of the individualised rehabilitation programme Stages 4-6, as defined above are compulsory, regardless of whether the Player has become symptom free, unless the Player has successfully accessed an 'advanced level of concussion care' and has been medically cleared and managed for an earlier return to rugby.

An 'advanced level of concussion care' has been defined in the World Rugby Concussion Guidance and has been agreed upon on an individual basis by the World Rugby Chief Medical Officer and the South African Rugby Union.

Advanced Level of Concussion Care

The following, World Rugby approved protocol, allows players who are removed from play with a suspected concussion to be evaluated by an SA Rugby or World Rugby recognised Advanced Care Concussion Doctor (ACCD), following a robust and multimodal evaluation consistent with that offered at the highest level of the game. This may allow for return to full contact rugby/match play before 21 days but no sooner than 14 days.*

Medical Centres and Healthcare Professionals qualifying to oversee Advanced Concussion Care must provide or have access to:

- *A medical doctor who has experience in concussion management, has completed the World Rugby online module: Concussion Management for Medical Practitioners and Healthcare Professionals (it is important to do the latest version as it has been updated to reflect the newest SCAT), and who is approved by the Chief Medical Officer of World Rugby and SA Rugby's General Manager: Medical as an Advanced Care Concussion Doctor (ACCD), and*
- *Scientifically validated computerised technology such as neurocognitive testing (e.g. Impact or Neuroflex), and*
- *Access to brain imaging including CT and MRI scans, and*
- *Access to a wider support network of clinicians who may assist in the diagnosis of concussion, other neurological and mental health disorders including but not limited to, a neurologist, neurosurgeon, psychologist, physiotherapist, and optometrist.*

All Advanced Care facilities should provide support to SA Rugby's Blue Card system and will be listed under their specific provincial region on the Sports Concussion SA (SCSA) website. They will also have the support of the international Your Brain Health network.

All players are encouraged to enter an Advanced Care pathway and to seek optimal concussion management but, if a return sooner than 21 days is to be considered, the following criteria must be fulfilled:

1. *No Criteria 1 signs** are present.*
2. *The player does not have a significant history of concussion as defined by World Rugby***.*
3. *The player has not sustained a concussion that season.*
4. *The team doctor completes a Concussion Risk Stratification on the player.*
5. *The player requires a preseason baseline performed in the last 12 months (preferably SCAT6 and/or computerised cognitive/Neuroflex test).*
6. *Following a confirmed or suspected concussion a player needs to undergo a SCAT6 within 48 hours but no later than 72 hours post the injury.*
7. *All the baseline data, post-match SCAT6 results, and any video footage of the event is reviewed by the SA Rugby / World Rugby recognised ACCD.*
8. *A multimodal clinical face-to-face evaluation (SCOAT6 or similar) is undertaken by the appointed ACCD. Follow-up consultations can be via tele-conference call.*
9. *The Graduated Return-To-Play or 'Individualised Rehabilitation' (pg10) process is followed, with the player being asymptomatic during Stages 4-6.*

An SA Rugby or World Rugby recognised ACCD

- *Are medical doctors, with experience and expertise in managing concussion, and are listed on the Sports Concussion South Africa website.*

****Criteria 1 Signs.***

Players who are removed from play because the following signs and symptoms are evident will be noted as a confirmed concussion and will only be permitted to play after 21 days.

The following concussion signs are referred to as Criteria 1 signs:

- *Confirmed loss of consciousness.*
- *Suspected loss of consciousness.*
- *Convulsion.*
- *Tonic posturing.*
- *Balance disturbance/ataxia.*
- *Clearly dazed and/or confused.*

- *The player is clearly not orientated in time, place or person or doesn't know what time it is, where they are or who they are talking to.*
- *Definite changes in behaviour for that player.*
- *Oculomotor signs for e.g. spontaneous nystagmus or rapid involuntary eye movements.*

******Concussion History Definition:***

1. *Concussed within last 3 months.*
2. *Three or more concussions in the last 12 months.*
3. *Five or more career concussions.*
4. *Reduced impact threshold noted. *****
5. *Any previous concussion complicated by psychological issues.*
6. *Previous concussion with prolonged recovery (>21 days).*

*******Reduced impact threshold describes where the team doctor, player or ACCD deem that in prior concussions the player sustained a concussion from impacts where a concussion was not normally expected.***

Document Compiled by Professor Jon Patricios, Dr Leigh Gordon, Dr Pierre Viviers, Clint Readhead

THE GRADUATED RETURN TO SPORT (GRTS) OR 'INDIVIDUALISED REHABILITATION' PROTOCOL

EACH STAGE PROGRESSION IS A **MINIMUM OF 24 HOURS.**

PLEASE USE A **COMMON SENSE** APPROACH. You don't need a handbook to identify a suspected concussion. If you suspect one, take the player off, it's really that simple.

STAGES 1-3

Operationally Stages 1-3 of the individualised rehabilitation forms part of the **two-week stand-down period** away from contact-rugby. During these stages the player may still experience some symptoms. The day the player sustained the suspected or confirmed concussion is considered 'Day 0'.

STAGES 4-6

Stages 4-6 begins after completion of Stages 1-3 and the 2-week contact rugby stand down period. Stages 4-6 **prepare the player gradually for contact fitness** and to get them ready to play again. To start Stages 4-6 the player must have **no symptoms remaining**

STAGE	REHABILITATION	OBJECTIVE	EXERCISE ALLOWED
1	SYMPTOM-LIMITED ACTIVITY (RELATIVE REST)	RECOVERY, GRADUAL REINTRODUCTION OF WORK/SCHOOL	• Complete body and brain rest for the first 24-48 hours • Daily activities that do not exacerbate symptoms (e.g., walking)
2	AEROBIC EXERCISE (20 MINUTES) 2A—LIGHT (UP TO APPROXIMATELY 55% MAX HR) THEN 2B—MODERATE (UP TO APPROXIMATELY 70% MAX HR)	INCREASE HEART RATE	• Stationary cycling or walking at slow to medium pace • May start light resistance training that does not result in more than mild and brief exacerbation* of concussion symptoms
3	INDIVIDUAL SPORT-SPECIFIC EXERCISE (25-30 MINUTES). NOTE: IF SPORT-SPECIFIC TRAINING INVOLVES ANY RISK OF INADVERTENT HEAD IMPACT; MEDICAL CLEARANCE SHOULD OCCUR PRIOR TO STAGE 3	ADD MOVEMENT, CHANGE OF DIRECTION	• Sport-specific training away from the team environment (e.g., running, change of direction and/or individual training drills away from the team environment) • No activities at risk of head impact • Running drills
STAGES 4–6 SHOULD BEGIN AFTER THE RESOLUTION OF ANY SYMPTOMS, ABNORMALITIES IN COGNITIVE FUNCTION AND ANY OTHER CLINICAL FINDINGS RELATED TO THE CURRENT CONCUSSION, INCLUDING WITH AND AFTER PHYSICAL EXERTION			
4	NON-CONTACT TRAINING DRILLS	RESUME USUAL INTENSITY OF EXERCISE, COORDINATION AND INCREASED THINKING	• Exercise to high intensity including more challenging training drills (e.g., passing drills, multiplayer training) • Can integrate into a team environment • May start progressive resistance training • Player MUST be medically cleared at the end of this Stage before going to Full-contact training or Stage 5 • If player remains sign and symptom-free for the full 24 hours, they then move onto Stage 5
5	FULL-CONTACT PRACTICE	RESTORE CONFIDENCE AND ASSESS FUNCTIONAL SKILLS BY COACHING STAFF	• Participate in normal training activities • If player remains sign and symptom-free for the full 24 hours, they then move onto Stage 6
6	RETURN TO MATCH PLAY/SPORT	RECOVER, NORMAL GAME PLAY	• Player rehabilitated and can be progressively re-introduced into full match play

Mild and brief exacerbation of symptoms (i.e., an increase of no more than 2 points on a 0–10-point scale for less than an hour when compared with the baseline value reported prior to physical activity).

Athletes may begin Stage 1 (i.e., symptom-limited activity - relative rest) within 24 hours of injury, then moving to Stages 2 and 3 within the 14-day or 2-week stand-down period away from contact-rugby, with progression through each subsequent Stage thereafter typically taking a minimum of 24 hours.

If more than mild exacerbation of symptoms (i.e., more than 2 points on a 0–10 scale) occurs during Stages 1–3, the athlete should stop and attempt to exercise the next day.

Athletes experiencing concussion-related symptoms during Stages 4–6 should return to Stage 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities.

Written determination of readiness to Return To Sport (RTS) should be provided by a medical doctor before unrestricted RTS as directed by local laws and/or sporting regulations.

Max HR, predicted maximal heart rate according to age (i.e., **220-age**).

NOTES:

- A player may only start the individualised rehabilitation Stages 4–6 once cleared by a medical doctor and all symptoms have cleared before, during, and after exercise in all three Stages 1-3
- In individualised rehabilitation Stages 4–6 a player may only progress to the next stage if no symptoms occur before, during, and after exercise in each stage
- A player must again be cleared by a medical doctor before starting full-contact training

EARLIEST RETURN TO SPORT:

= 2 weeks (14 days) stand-down period away from contact-rugby post injury + individualised rehabilitation. (May only be cleared for play earliest on Day 21 post injury)

COMPULSORY STAND-DOWN PERIOD AWAY FROM CONTACT-RUGBY POST CONCUSSION	CAUTION!	INDIVIDUALISED REHABILITATION	CAUTION!	NUMBER OF MISSED FULL WEEKS
Minimum of **2 weeks** (14 days) off from **contact-rugby**, while starting the **individualised rehabilitation Stages 1-3**, can even be longer if any signs or symptoms remain	**CAUTION! Individualised rehabilitation Stages 4-6 can be started only if the player is symptom free and off medication that modifies symptoms of concussion. MEDICAL CLEARANCE REQUIRED**	**Individualised rehabilitation Stages 4-6** with progression to each next Stage if no symptoms experienced before, during, or after exercise, with a minimum duration of **24 hours** per Stage	**CAUTION! Contact Sport should be authorized only if the player is symptom free and off medication. MEDICAL CLEARANCE REQUIRED**	**Earliest Return To Sport = 2 weeks (14 days) stand-down period away from contact-rugby post injury + individualised rehabilitation.** (May only be cleared for play earliest on **Day 21** post injury)

CAUTION: Any player with a history of multiple concussions, players with unusual presentations or prolonged recovery should be assessed and managed by health care providers (multidisciplinary) with experience in sports-related concussions.

However, the medical doctor clearance is non-negotiable and must always be provided before entering the **individualised rehabilitation** Stages 4-6, and before starting full-contact training, regardless of who is available to manage or monitor the **individualised rehabilitation** process.

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"Return to Learning" (RTL) after Concussion

Important introductory NOTE for parents, teachers, and lecturers!

This article talks about 'concussed' players, which implies a confirmed diagnosis of concussion. However, it is equally important to include those players who are suspected of having a concussion into this grouping. In many cases of concussion, the development of signs and symptoms is delayed. Therefore, when concussion is suspected, but the players do not show any classic signs or symptoms of concussion to initially confirm diagnosis, they should be monitored and treated in exactly the same way as the confirmed cases of concussion.

For clarity and for more information on SARU's position on concussion in rugby, and the ***SARU Regulation on Concussion***, go to the following links: https://www.springboks.rugby/general/boksmart-legislation/ and https://my.boksmart.com/Documents/BokSmart#ImportantRegulations. The SARU regulation also stipulates a mandatory 'individualised rehabilitation' return-to-play process for players suspected of sustaining a concussion at school or amateur rugby. This process can also be sourced from the BokSmart website at the following page: www.BokSmart.com/concussion and on MyBokSmart Learning Management System (LMS) from here: https://my.boksmart.com/Documents/BokSmart#ConcussionManagement

What's happening to the concussed brain?

There is microscopic damage to the cells and nerves of the concussed brain and brain function is disrupted following complex chemical changes. There appears to be a "mismatch" between the brain's energy requirements and needs. This causes a variety of symptoms and affects the brain's ability to think, to concentrate for sustained periods and to absorb and retain information.

Adding cognitive ("thinking") activities to an energy-deprived brain worsens symptoms. These changes are not visible which makes it difficult for school or tertiary education officials to understand the need for resting the brain in a learning environment. Although guidelines for reducing cognitive stress exposure are not as well defined as the guidelines for reducing physical activity, they are equally important.

What does this mean for students?

As a result of these changes in the brain it is not unusual for performance in the classroom to be affected. Learning new tasks and recalling previously learnt material might become difficult. Moreover, stressing the brain by expecting it to cope with normal teaching loads, writing tests and exams, and completing long assignments may make students' symptoms either reoccur or worsen, and may slow recovery.

Just as a strained hamstring muscle requires time to readjust to running as it repairs, a "strained" brain requires time to readapt to learning. There is no one set of ideal guidelines that fit all concussed students, therefore doctors, lecturers and teachers should adapt protocols to suit individual needs and recovery.

While resting the brain is necessary, getting behind on studying and assignments may create additional emotional stress that is also undesirable for recovery. Therefore there is a fine balance between resuming normal function, without overexerting the brain, and worsening symptoms.

Cognitive recovery after concussion for scholars or students is variable but usually occurs within 3 weeks. Recovery lasting longer than this requires further medical evaluation. Full return to academic and physical activities requires the student to be cleared using a spectrum of assessments that evaluate performance under conditions of both cognitive (computer and paper-based "thinking" tests) and physical (gym or field based activity) stress. Students need to pass all of these parameters to be properly cleared to return to full learning and rugby participation.

How to help your cognitive recovery

At home:

- Keep stressful brain activities to the more essential ones such as homework and reading
- Avoid texting, non-academic computer work, video games and television
- Read and study in a quiet and dimly lit area
- Take regular breaks (every 20 minutes) when doing homework or assignments
- Organise your day by creating a list of tasks to be completed
- Report symptom patterns following learning exposure to your doctor

At school / tertiary education:

- Consider returning to school or tertiary education when you can tolerate 30-45 minutes of reading or studying without worsening symptoms
- Discuss your injury with your teachers, head teacher, lecturers, school or tertiary education nurse and/or psychologist
- Discuss attending fewer classes – prioritise the important ones
- Schedule academic "time outs" during the school or tertiary education day during which you can rest
- Avoid brightly lit and noisy areas
- Ask a fellow student to take notes for you
- Request more time for assignments and tests
- Ask your doctor to provide feedback to your teachers or lecturers and your coaches regarding your progress

Finally – A Team Approach Works Best

Many young rugby players suffering a suspected or confirmed concussion are in a learning environment that stresses the injured brain. Recognising this fact helps the recovery process. The most comprehensive evaluation and successful recovery from any concussion occurs when players, coaches, parents, teachers/lecturers and medical staff cooperate to completely evaluate and correctly manage the injured player. This process should involve a carefully monitored and safer progression to full academic activities and sports participation.

Document Compiled by Dr Jon Patricios

Additional References and Resources for Students, Parents and Educators

1. Halstead M et al. Returning to learning following concussion. Pediatrics 2013;132:948-957.
2. BokSmart YouTube links: www.Youtube.com/BokSmartSA or go to www.BokSmart.com
3. Dr.MikeEvans: http://www.evanshealthlab.com/concussion-management-and-return-to-learn/
4. Rocky Mountain Youth Sports Medicine Institute, Center for Concussion. REAP Guidelines. Available at: http://rockymountainhospitalforchildren.com/service/concussion-management-reap-guidelines .
5. Centers for Disease Control and Prevention: Fact Sheet for School Professionals on Returning to School after a Concussion: http://www.cdc.gov/concussion/pdf/TBI_Returning_to_School-a.pdf
6. Centers for Disease Control and Prevention: Heads Up for Schools: http://www.cdc.gov/concussion/HeadsUp/schools.html
7. Centers for Disease Control and Prevention: Online Coaches Training: http://www.cdc.gov/concussion/HeadsUp/online_training.html
8. Frequently Asked Questions about 504 Plans: http://www2.ed.gov/about/offices/list/ocr/504faq.html
9. Sample Return to Learning Note for Physicians: http://www.aap.org/en-us/
10. McAbee GN. Pediatric Concussion, Cognitive Rest and Position Statements, Practice Parameters, and Clinical Practice Guidelines. *J Child Neurol* published online 7 October 2014 DOI: 10.1177/0883073814551794

Document Compiled by Dr Jon Patricios

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How Can Concussion Be Prevented?

Why is prevention important?

Concussion is a brain injury which should be identified, treated and managed correctly. Failure to do so can potentially have **serious short and long-term consequences.** Reducing the incidence or rate of concussion is important for rugby players' health, well-being and ongoing participation in the game.

Can all concussions be prevented?

Concussion is a brain injury that occurs as a result of a direct or indirect blow to the brain.

Rugby is a collision sport with many high speed, high impact contact events between the players! Considering there are 2 teams of 15 players on the field, having frequent anticipated and unexpected collisions, within a dynamic ever-changing environment, it becomes very difficult to control the safety aspects of ALL contact situations between players. As a result, concussions will never be completely prevented.

However a number of important intervention strategies may help reduce the probability (chance) and incidence (rate) of concussions.

Equally important is a secondary prevention strategy to **avoid further concussions** in a player who has already suffered a concussive head injury. That is why **"Recognising and Removing"** is so essential for player well-being. It is also important to follow the most appropriate best practice concussion management protocols and individualised rehabilitation return to play guidelines before returning to full match play (details available here: www.BokSmart.com/Concussion and here: https://my.boksmart.com/Documents/BokSmart#ConcussionManagement).

Five "E's" of Concussion Prevention – Educate, Enforce, Enhance, Equip and Evaluate

*E*ducate

- The more you know about concussion, the more you can do to prevent concussions!
- Understand the impact and significance of concussion.
- Learn how to identify a concussed player and what YOU can do.
- Identify those situations which may place players at potential risk of concussion and be aware.
- Follow best practice principles in managing concussions in your players.
- Use the freely available BokSmart Concussion Guides, Concussion Recognition Tool 6 (CRT6), and BokSmart Concussion Resources in your club or school.
    - www.BokSmart.com/Concussion and https://my.boksmart.com/Documents/BokSmart#ConcussionManagement
- Go online to the World Rugby *Player Welfare* site for their Concussion education modules:
    - https://www.world.rugby//the-game/player-welfare/medical/concussion/

*E*nforce

- Play strictly by the laws of the game of rugby union.
- Forbid dangerous tackles and players flying in or diving recklessly into rucks.
- Ensure that ALL coaches and referees are BokSmart Certified at all times, carry their BokSmart Concussion Guides or Concussion Recognition Tool 6 (CRT6) with them (on their mobile phones) while working with players, and understand the principles of concussion prevention, identification, treatment, and management.
- Enforce the mandated 'Individualised rehabilitation' return to play protocol and stand down periods away from contact-rugby on all of your players who have suspected or confirmed concussions:
    - www.BokSmart.com/Concussion and https://my.boksmart.com/Documents/BokSmart#ConcussionManagement

*E*nhance

- Improve and work only on safe and effective tackling techniques. Do this often!
    - https://www.youtube.com/watch?v=yqyTsHatXZY
- The tackle phase contributes to around 61% of all concussions.
- The tackler is almost four times more susceptible to concussion than the ball carrier, and alone contributes to about 49% of all concussions, so perfecting tackle technique is crucial for preventing concussions.

- Tackle technique is often not good in younger developing rugby players, and still requires a lot of coaching and individual practice; this makes younger players more susceptible to getting it wrong on match day and getting concussed!
- Good tackling technique takes time to perfect; regular practicing of safe and effective tackling techniques should therefore start at a young age so that it eventually becomes instinctive.
- Local research has shown that concussion rates also increase as game time progresses in a match. This could be due to fatigue, as fatigue reduces tackle technique proficiency.
- So essentially, the fitter you are for rugby, the easier it is to maintain good tackle technique and reduce the risk of getting concussed!
- Therefore, make sure that you are well conditioned and are fit enough for the game of rugby to be able to compete safely in contact situations with good technique up until the final whistle!
    - https://www.springboks.rugby/media/taifea1z/aspects-of-physical-conditioning-for-rugby.pdf
    - https://www.springboks.rugby/media/ewvborcf/physical-conditioning-for-rugby-players.pdf
- It is also important to occasionally practice tackling under fatigued conditions to reinforce safer tackling techniques under these circumstances!
- Specifically strengthen the neck by referring to BokSmart's guidelines! This should be done throughout the year!
    - https://www.springboks.rugby/media/4afpkbof/practical-guidelines-neck-injury-prevention.pdf
    - https://www.springboks.rugby/media/utrmbkhz/safe-necks-exercises-infographic.pdf
- Practice and coach safe rucking techniques, practices, and principles, especially for those players already in the ruck. These players are potentially more vulnerable and exposed to concussions than the players entering the ruck.

Equip

- Although mouth guards do not always reduce the incidence of concussion, players should use them to prevent injuries to teeth, gums, and the tongue. It is preferable to have a mouth guard fitted by a dentist.
- The use of rugby headgear may help reduce friction injuries to the ears ("cauliflower ears") as well as cuts to the scalp but do not prevent concussions.
- In other sports such as cycling, cricket and horse-riding hard helmets are useful in preventing concussion.

***E*valuate**

- Ensure that your school or club has a concussion policy and action plan in place for suspecting, identifying, treating, and managing concussions.
- Reassess this policy at the end of every season and align it with the updated BokSmart protocols.
- For SARU's Concussion Regulation go to the following links:
    - https://www.springboks.rugby/general/boksmart-legislation/ or on MyBokSmart at https://my.boksmart.com/Documents/BokSmart#ImportantRegulations
- Send all players with a **suspected concussion** for medical evaluation before allowing them to participate again.
- Ensure that all ***suspected and diagnosed*** concussions undergo the complete graduated *'individualised rehabilitation'* return to play protocol before returning to rugby.

Conclusion

Concussions occur in many sporting and non-sporting situations. Preventing all concussions is impossible. However, adequate conditioning, all-year round neck strengthening, good tackle and ruck techniques, abiding by the laws of the game, appropriate use of equipment and a concussion policy that players, coaches, referees and supporters understand, will significantly help reduce the risks.

References and Useful Resources

Tator C. Sport Concussion Education and Prevention. Journal of Clinical Sport Psychology, 2012, 6, 293-301

How can concussion be prevented? www.cdc.gov/concussion/sports

Heads-Up factsheet. www.cdc.gov/concussion/headsup/youth.html

BokSmart, unpublished data McFie et al. 2014

The Concussion Recognition Tool 6 (CRT6)

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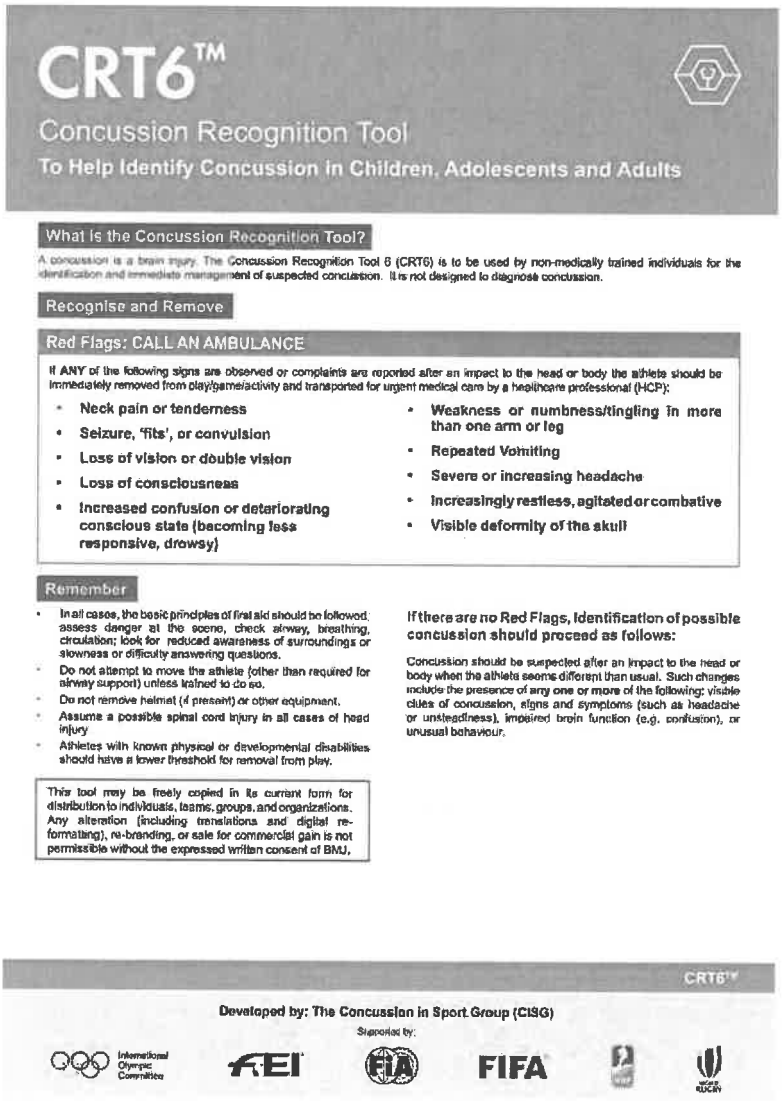

CRT6™

Concussion Recognition Tool

To Help Identify Concussion in Children, Adolescents and Adults

What is the Concussion Recognition Tool?

A concussion is a brain injury. The Concussion Recognition Tool 6 (CRT6) is to be used by non-medically trained individuals for the identification and immediate management of suspected concussion. It is not designed to diagnose concussion.

Recognise and Remove

Red Flags: CALL AN AMBULANCE

If ANY of the following signs are observed or complaints are reported after an impact to the head or body the athlete should be immediately removed from play/game/activity and transported for urgent medical care by a healthcare professional (HCP):

- Neck pain or tenderness
- Seizure, 'fits', or convulsion
- Loss of vision or double vision
- Loss of consciousness
- Increased confusion or deteriorating conscious state (becoming less responsive, drowsy)
- Weakness or numbness/tingling in more than one arm or leg
- Repeated Vomiting
- Severe or increasing headache
- Increasingly restless, agitated or combative
- Visible deformity of the skull

Remember

- In all cases, the basic principles of first aid should be followed: assess danger at the scene, check airway, breathing, circulation; look for reduced awareness of surroundings or slowness or difficulty answering questions.
- Do not attempt to move the athlete (other than required for airway support) unless trained to do so.
- Do not remove helmet (if present) or other equipment.
- Assume a possible spinal cord injury in all cases of head injury
- Athletes with known physical or developmental disabilities should have a lower threshold for removal from play.

If there are no Red Flags, identification of possible concussion should proceed as follows:

Concussion should be suspected after an impact to the head or body when the athlete seems different than usual. Such changes include the presence of any one or more of the following: visible clues of concussion, signs and symptoms (such as headache or unsteadiness), impaired brain function (e.g. confusion), or unusual behaviour.

CRT6™

Developed by: The Concussion in Sport Group (CISG)

Supported by:

International Olympic Committee · FEI · FIA · FIFA · World Rugby · World Rugby Kicking

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Concussion Recognition Tool 6 - CRT6™

CRT6 Concussion Recognition Tool

To Help Identify Concussion in Children, Adolescents and Adults

1: Visible Clues of Suspected Concussion

Visible clues that suggest concussion include:

- Loss of consciousness or responsiveness
- Lying motionless on the playing surface
- Falling unprotected to the playing surface
- Disorientation or confusion, staring or limited responsiveness, or an inability to respond appropriately to questions
- Dazed, blank, or vacant look
- Seizure, fits, or convulsions
- Slow to get up after a direct or indirect hit to the head
- Unsteady on feet / balance problems or falling over / poor coordination / wobbly
- Facial injury

2: Symptoms of Suspected Concussion

Physical Symptoms
Headache
"Pressure in head"
Balance problems
Nausea or vomiting
Drowsiness
Dizziness
Blurred vision
More sensitive to light
More sensitive to noise
Fatigue or low energy
"Don't feel right"
Neck Pain

Changes in Emotions
More emotional
More irritable
Sadness
Nervous or anxious

Changes in Thinking
Difficulty concentrating
Difficulty remembering
Feeling slowed down
Feeling like "in a fog"

Remember, symptoms may develop over minutes or hours following a head injury.

3: Awareness

(Modify each question appropriately for each sport and age of athlete)

Failure to answer any of these questions correctly may suggest a concussion:

"Where are we today?"

"What event were you doing?"

"Who scored last in this game?"

"What team did you play last week/game?"

"Did your team win the last game?"

Any athlete with a suspected concussion should be - IMMEDIATELY REMOVED FROM PRACTICE OR PLAY and should NOT RETURN TO ANY ACTIVITY WITH RISK OF HEAD CONTACT, FALL OR COLLISION, including SPORT ACTIVITY until ASSESSED MEDICALLY, even if the symptoms resolve.

Athletes with suspected concussion should **NOT**:

- Be left alone initially (at least for the first 3 hours). Worsening of symptoms should lead to immediate medical attention.
- Be sent home by themselves. They need to be with a responsible adult.
- Drink alcohol, use recreational drugs or drugs not prescribed by their HCP
- Drive a motor vehicle until cleared to do so by a healthcare professional

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Contributors RJE served as the primary author and responsible for all aspects of the project, including initial preparation, coordination, review, editing and final preparation of the manuscript and CRT6 tool. All co-authors contributed to the development and critical review of the manuscript and CRT6 tool, and approved the final version of the manuscript and tool.

Competing interests OHA reports employment from University Hospitals Dorset NHS Foundation Trust (England) as a Senior Physiotherapist, and paid employment from the Football Association (England) as Para Football Physiotherapy Lead, Para Football Classification Lead, and Physiotherapist to the England Cerebral Palsy Football squad. Unpaid roles/voluntary roles: University of Portsmouth (England) as Visiting Senior Lecturer; Para Football Foundation as Medical Unit Co-Lead; the International Federation of Cerebral Palsy Football as Medical and Sports Science Director; the International Blind Sports Association as a Medical Committee member; British Journal of Sports Medicine Medicine as Associate Editor; BMJ Open Sports & Exercise Medicine as Associate Editor; World Rugby as Institutional Ethics Committee external member; the Concussion in Para Sport Group as co-chair; and the Concussion in Sport Group as board member. CMB reports affiliations with the Cleveland Browns (National Football League) and Cleveland Monsters (American Hockey League), a board position in the Sports Neuropsychology Society, and occasional expert consulting fees. JMB reports being a part-time employee of the NHL. JMB's institution has received funding from Genzyme, and EyeGuide supporting his work, and he has served as a paid consultant to Med-IQ and Sporting KC. JSB reports receiving methods author funding for this review and Alexander Graham Bell Canada Graduate Scholarships-Doctoral Program. GAD is a member of the Scientific Committee of the 6th International ConsensusConference on Concussion in Sport; an honorary member of the AFL Concussion Scientific Committee; Section Editor, Sport and Rehabilitation, NEUROSURGERY; and has attended meetings organised by sporting organisations including the NFL, NRL, IIHF, IOC and FIFA; however has not received any payment, research funding, or other monies from these groups other than for travel costs. RJE is a paid consultant for the National Hockey League and co-chair of the National Hockey League /National Hockey League Players' Association Concussion Subcommittee, Major League Soccer's Concussion Committee and the US Soccer Federation, provides testimony in matters related to mTBI and reports a grant from Boston Children's Hospital (sub-award from the National Football League) and travel support for the CIS conference and other professional conferences, an unpaid board member of CISG and leadership roles (unpaid) in professional organizations. GG Reports grant funding from CDC TEAM and OnTRACK grants, NIMH APNA grant, royalties from PAR, consulting fees from NFL Baltimore Ravens, Zogenix International, and Global Pharma Consultancy, and travel support for professional meetings. He is a member of USA Football Medical Advisory Panel. 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She holds leadership positions with several organizations American College of Sports Medicine, American Medical Society for Sports Medicine, Pediatric Research in Sports Medicine, Council on Sports Medicine and Fitness, American Academy of Pediatrics, Untold Foundation, Pink Concussions, Headway Foundation, and the editorial boards of Journal of Adolescent Health, Frontiers in Neuroergonomics, Exercise, Sport, and Movement. JP reports travel support for the CIS conference and other professional meetings, consulting fees and grant funding from World Rugby, and an unpaid board member of CISG and EyeGuide. He is a member of the BJSM editorial board. KJS has received grant funding from the Canadian Institutes of Health Research (CIHR), NFL Scientific Advisory Board, International Olympic Committee Medical and Scientific Research Fund, World Rugby, Mitacs Accelerate, University of Calgary, with funds paid to her institution and not to her personally. She is an Associate Editor of BJSM (unpaid), Independent consultant to World Rugby and has received travel and accommodation support for meetings where she has presented. She coordinated the writing of the systematic reviews that informed Amsterdam International Consensus on Concussion in Sport, for which she has received an educational grant to assist with the administrative costs associated with the writing of the reviews (with funds paid to her institution). She is a member of the AFL Concussion Scientific Committee (unpaid position), Brain Canada (unpaid positions) and Board member of the Concussion in Sport Group (CISG) (unpaid). She works as a physiotherapy consultant and treats athletes of all levels of sport from grass roots to professional. JVI reports CIHR Postdoctoral Fellowship Award, UOMBRI Grant, travel stipend from CTRC and Founder of R2P™ Concussion Management. JPar reports no disclosures. 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