



## England Netball Concussion Policy

### **Introduction**

This document has been developed to provide an evidence-based, best practice guide to assist in the recognition and management of sports related concussion. It is intended for use not only by the Doctors, Physiotherapists and other healthcare professionals who may treat players with concussion but by anyone and everyone involved in the game of Netball including Coaches, Officials, Teachers, Parents and of course the players themselves.

Firstly it is important to appreciate the potentially serious nature of concussion and treat it with respect. Although concussion is not as common in Netball compared to other contact sports, such as Rugby Union, it does occur and anyone involved in the game should be familiar with the basic concept of recognising the symptoms and signs of concussion and removing a player from the court if there is any doubt.

### **‘IF IN DOUBT, SIT THEM OUT’**

England Netball support the 4Rs of concussion management:

### **RECOGNISE – REMOVE – RECOVER – RETURN**

The Pocket Concussion Recognition Tool (Appendix 1) supports this message and is intended for use at all levels of Netball, with no medical training required. It highlights the signs and symptoms suggestive of a concussion and can help guide early management when no healthcare professional is present.

Scientific knowledge in the area of sports related concussion is rapidly evolving and as such this document will be continually updated to reflect the changes in guidelines and consensus statements produced from the International Consensus Conferences on Concussion in Sport, the most recent of which was held in Berlin in late 2016. As such it is expected further updates to this document will be imminent in 2017, including the expected release of the SCAT4 assessment tool.

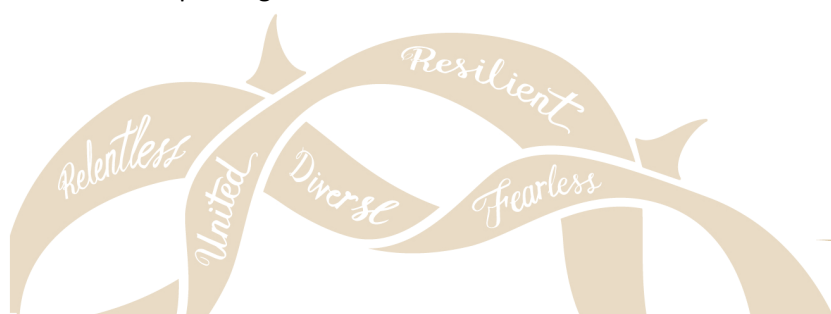
### **What is Concussion and how is it caused?**

Concussion is caused either by a direct or indirect blow to the head, face, neck or elsewhere on the body when there is an impulsive force transmitted up to the head.

Concussion typically results in the rapid onset of temporary impairment of brain function. However in some cases symptoms may only evolve over a period of minutes to hours. Loss of consciousness occurs in less than 15% of concussion cases and is **not** a requirement for diagnosing concussion.

Concussion may result in long term neuropathological changes, but the acute symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard MRI or CT scans.

The majority of concussions (80-90%) resolve within a 7-10 day period. It is important to recognise that the symptoms of concussion and time frames for recovery can be different and more prolonged in children and adolescents.





### **Why is it important to recognise an episode of Concussion?**

Players who continue to play or return to play with concussive symptoms are at significant risk of:

- Sustaining other injuries (to self, teammates & opposition players) due to poor decision making or reduced reaction time.
- Suffering potentially more serious head injuries, e.g. Second Impact Syndrome.
- Serious injury or death due to an unidentified structural brain injury.
- Potential development of long term neurological deterioration (e.g. Chronic Traumatic Encephalopathy).
- A substantially reduced level of performance.

### **Symptoms and Signs of Concussion**

Concussion can present with a vast array of different signs and symptoms so it is extremely important to maintain a high degree of suspicion when assessing any player following a potentially concussive event. Again it is worth highlighting to sustain a concussion the player does not have to have experienced either a direct head injury or lost consciousness.

Symptoms of concussion can include somatic (e.g. headache), cognitive (e.g. feeling like in a fog), and/or emotional symptoms (e.g. lability). Physical signs include amnesia and there may be behavioural changes such as irritability. Cognitive function may be impaired such as slowed reaction times and there is often associated sleep disturbance e.g. insomnia.


### **Initial assessment of a potentially concussed player**

Any player sustaining a potentially concussive event should be evaluated by a suitably trained healthcare professional (either a Dr with full GMC registration to practice in the UK or a Physiotherapist) who is competent in the assessment and management of sports related injury and has successfully completed a relevant pitch side trauma course. If there is not such a healthcare professional present it is recommend all players of any age should be removed safely from the court and referred to an NHS Emergency Department for assessment.

### ***In the setting where an appropriately qualified healthcare professional is present:***

- Initial assessment should include an ABCDE approach with particular approach to ensure there is no risk of an associated Cervical Spine injury.
- Following this if the player displays any signs or symptoms of concussion they should be removed immediately from the field of play and must NOT be allowed to return to play or train again that day.
- Assessment at this point helps to determine if the player is concussed. Concussion is a clinical diagnosis and there is no gold standard test or investigation. Rather a multi modal assessment method including history, neurological examination, balance assessment and neurocognitive





assessment should be used. A SCAT3 assessment (Appendix 2) should occur in every athlete suspected of having concussion. This should be done at rest and within 3 hours of the initial injury. This should take place in a quiet, relaxed atmosphere.

- Assessment of players under the age of 13 should use the modified Child SCAT3 (Appendix 3). It is advised input from a Doctor with experience of managing sports related concussion is obtained for this age group.
- Both versions of the SCAT3 are for use by healthcare professionals only; for non-healthcare professionals the Pocket Concussion Recognition Tool should be used.
- A player with concussion should not be left alone and be monitored at regular intervals to ensure no change in clinical condition – again it needs to be highlighted that concussion is an evolving injury in the acute stage.
- Refer to the Pocket Concussion Recognition Tool or SCAT 3 for red flag signs and symptoms that warrant immediate transfer to an Emergency Department for assessment.
- In Netball there is no current ruling to allow for court side concussion assessment and then return to play if it is deemed that the player is not concussed as exists in other sports (e.g. Head Injury Assessments in Rugby Union). This should not occur – if the player is suspected of having concussion they are simply removed from the field of play and NOT allowed to return to training or playing that day.
- Please note that players can have a normal SCAT3 but can still be diagnosed as having concussion based on clinical assessment by a healthcare professional. The opposite is not true however - players with an abnormal SCAT3 do have concussion and cannot be overruled by a medical or non-medical opinion.
- In order to determine if a SCAT3 is abnormal this is compared to the players' baseline SCAT3 assessment which should be done for every player at International/National level pre-season. Any variation in one or more of the assessment areas (symptom checklist, cognitive assessment and balance assessment) from baseline strongly suggests concussion.
- If baseline information is not available any of the following should be considered as suggestive of concussion on a SCAT3:
  - Symptoms: One or more symptoms in the checklist which would not usually be experienced by the player after playing or training.
  - SAC assessment: Total score 24 or below, Concentration score (digits backwards) 2 or below, Delayed recall 3 or less words.
  - Balance assessment: Tandem test-3 or more errors, single leg stance test 4 or more errors.





## Management of concussion

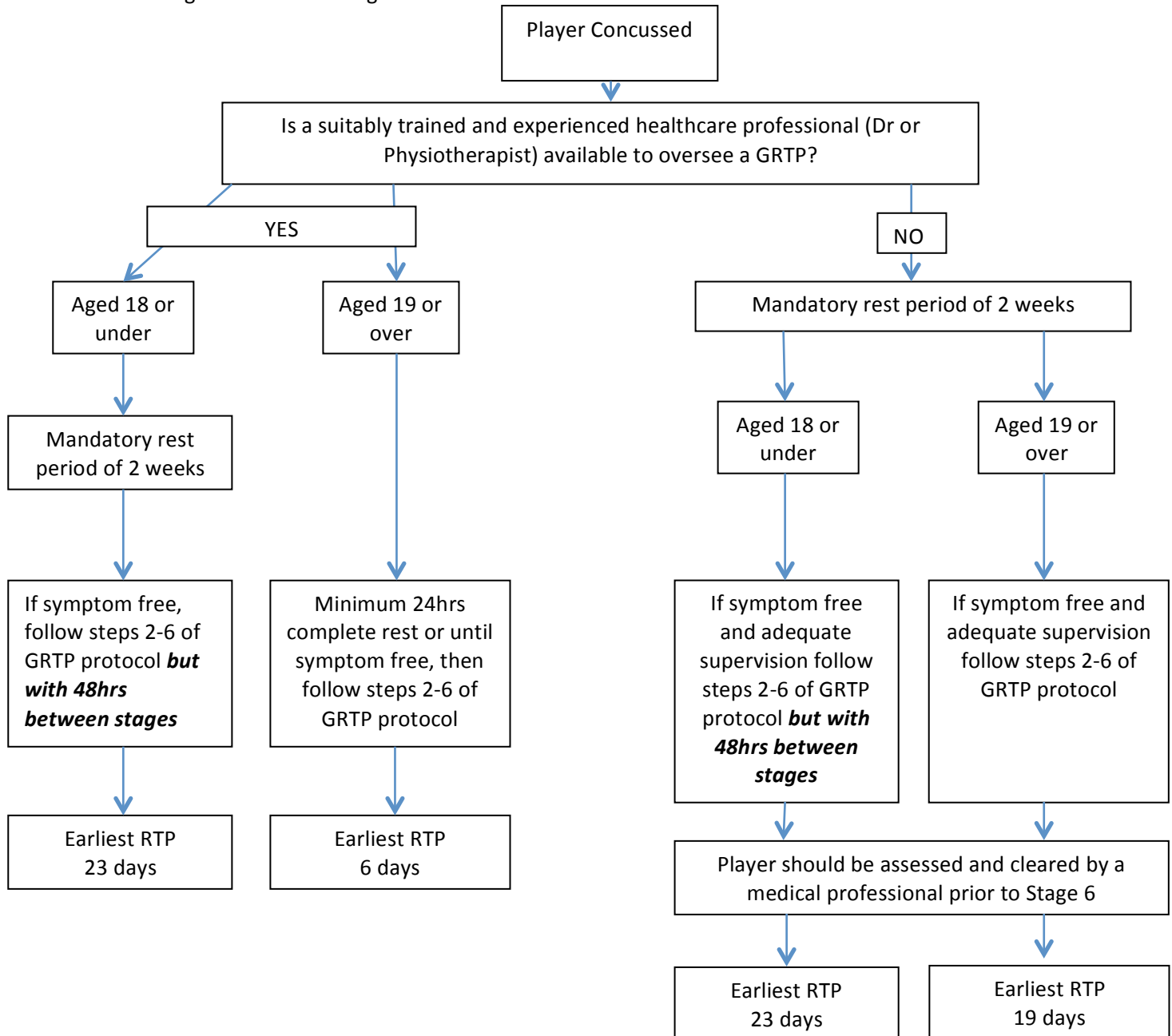
*All players diagnosed with concussion should:*

- Not be left alone and when allowed home must be in the presence of someone suitable to monitor their symptoms.
- Be given written advice and a contact detail for the assessing healthcare professional (this is provided using the last page of the SCAT3 assessment).
- Be given advice as per the SCAT3 for symptoms and signs to watch for and when to seek help.
- Rest completely from physical exercise/exertion as well as any cognitive exertion – this includes excessive use of mobile phones, tablets, watching TVs and academic work – until symptoms have resolved and they are medically cleared.
- Not take sleeping tablets, Aspirin, Anti-inflammatory medication or sedating analgesia. Not drink alcohol. Not drive until symptoms have resolved.
- Not train or play again until medically cleared.



### Graduated Return to Play (G RTP)

There is different advice for the use of a G RTP Protocol and mandatory stand down periods depending both on age of the player and presence of a Healthcare professional to oversee management of each stage as outlined below:



- If a player develops symptoms during the G RTP protocol they should be returned to the previous stage and the protocol restarted when they are symptom free.
- All players should be assessed by a healthcare professional with experience in the management of concussion prior to entering Stage 5.
- Presence of any of the following risk factors should prompt referral to a Doctor or service with experience in managing concussion (e.g. Sport & Exercise Medicine Consultant/Concussion Clinic):
  - Second concussion within a 12 month period
  - History of multiple concussions (>3)
  - Unusual presentations (e.g. associated migraines or prominent balance issues)
  - Recovery that takes longer than 10 days



### England Netball Graduated Return to Play Protocol

Rehabilitation Stage	Functional exercise	Objective
1. No activity	Physical & cognitive rest	Full recovery of all symptoms
2. Light aerobic exercise	Steady pace static bike with HR <70% maximum, 20-30 minutes. No resistance training.	Increase in HR. Must remain symptom free for following 24hrs.
3. Netball specific exercise	Predicted change of direction drills on court	Add predicted movement. Must complete and remain symptom free for following 24hrs.
4. Uncontested training	Unpredicted but uncontested training drills. Can add resistance exercise.	Exercise, co-ordination and cognitive load. Must complete and remain symptom free for following 24hrs.
5. Full training	Following medical clearance by a healthcare professional experienced in concussion management can participate in normal training unrestricted	Restore confidence and readiness to perform. Must complete and remain symptom free for following 24hrs.
6. Return to matchplay	Perform at or above previous level	Must complete and remain symptom free thereafter.

#### Specific areas to highlight:

##### ***Children & Adolescents (Aged 18 years and under)***

Concussion in this age group often presents with differing symptoms and signs and recovery can be more prolonged. It is vital that the correct mandatory rest period of 2 weeks following an episode of concussion is respected and the time taken for each stage of the GRTP is at least 48hrs. All players in this age group must be cleared by a healthcare professional with experience in the management of concussion before returning to play.

##### ***Academic and Non-academic work***

It is advised that academic work (e.g. school, college, university) and non-academic work is ceased following a concussion until the symptoms have resolved and stage 2 of the GRTP process has begun. During the GRTP it is also recommended that academic and non-academic work is reduced until completion of the process. This is in order to allow the brain to fully rest and recover following an episode of concussion.

##### ***Persisting symptoms (>10 days)***

More prolonged recovery occurs in 10-15% of concussions. In this event it is recommended referral to a Doctor with expertise in the management of sports related concussion e.g. a Consultant in Sport & Exercise Medicine or a specialist Concussion Clinic such as the Manchester Institute of Health & Performance Concussion Clinic <http://www.mihp.co.uk/health/specialist-clinics/>.





### ***Concussion modifiers***

In the following situations it is recommended a cautious approach is taken to concussion management and further expert advice from a medical professional experienced in concussion is taken if there is any doubt.

- Increased number, duration or severity of symptoms.
- Prolonged loss of consciousness (>1 minute) or amnesia.
- Any convulsive episode associated with concussion.
- History of repeated concussions (>3) or recent previous concussion.
- Trend towards less impact causing concussions or longer recovery period.
- Age 18 and under.
- History of Migraine, Mental Health disorder, Attention Deficit Hyperactivity Disorder, Learning Disabilities, Dyslexia, Sleep disorders.
- Prescribed anti-coagulants or psychoactive medication.
- Dangerous style of play or other high risk sport participation.

This document has been produced as a best practice guide for the sport of Netball in England. It should not be used as a replacement for adequate medical training, knowledge and expertise in the assessment and management of sports related concussion and does not replace thorough clinical assessment. As highlighted previously, at any stage if there is any clinical uncertainty this should warrant referral to a healthcare professional with experience in sports related concussion for review.

Dr Jim Kerss  
Consultant in Sport & Exercise Medicine  
England Netball Chief Medical Officer  
English Institute of Sport  
Manchester Institute of Health & Performance  
299 Alan Turing Way, Manchester, M11 3BS.  
January 2017

Next review date: July 2017 on completion of the VNSL 2017 season.

