



Medical Centre - Head injury and concussion protocol

RESPONSIBILITY	CLINICAL LEAD NURSE
DATE REVIEWED	AUGUST 2024
NEXT REVIEW DATE	AUGUST 2025

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1.0 Statement:

Framlingham College Head Injury and Concussion policy is for parents/carers/guardians, staff, and pupils to have a clear understanding of how the school will safely manage pupils who have sustained a head injury and / concussion.

Head injuries are common and can happen in a variety of different ways. It can cause a range of symptoms depending on how severely the brain has been injured. Most head injuries are minor but in some cases they can cause brain damage ranging from minor concussion to severe brain injury.

This policy will acknowledge how to prevent, recognise concussion, and manage the symptoms after a concussion is diagnosed.

It will encourage an understanding of all involved that a return to sport too soon after a concussion injury carries significant risk to immediate and longer term health.

2.0 Aim:

To provide a protocol for all staff on the recognition of concussion and clear management guidelines during the recovery phase to ensure that pupils are appropriately managed to allow them to make a full and safe recovery.

In response to parental and professional concerns regarding concussion within schools, the sports sector and Government came together to create a Forum on Concussion in Sport and Physical education. The forums aim is “to raise awareness and support professionals, students, parents and volunteers to be better equipped to deal with concussion incidents”.

It is therefore Framlingham Colleges aim to ensure all pupils who have suspicion or confirmed concussion receive researched based management, covering recognition, care and safe return to sport and education by adopting the forums principles of concussion management (Appendix 1).

3.0 What is concussion?

Concussion is a traumatic brain injury that results in a disturbance of brain function. Concussion is induced by biomechanical forces; for example a direct blow to the head or body causing shaking of the brain.

Loss of consciousness occurs in less than 10% of concussions. An individual does not need to lose consciousness in order to suffer from concussion however it is a clear indication that a concussion has been sustained.

3.1 Who is at risk?

Concussions can happen at any age. However, children and adolescent athletes:

- are more susceptible to concussion
- take longer to recover
- are reported to have more significant memory and mental processing issues
- are more susceptible to rare and dangerous neurological complications, including death caused by a single or second impact

Recurrent or multiple concussions:

Players with a history of two or more concussions within the past year maybe at greater risk of further brain injury and slower recovery. Those who have experienced multiple concussions should seek medical attention from practitioners experienced in concussion management before return to play.

In addition to a history of multiple concussions, players with unusual presentations or prolonged recovery should be assessed and managed by health care providers with experience in sports-related concussions.

3.2 Onset of symptoms

It should be noted that the symptoms of concussion frequently present immediately post injury but they may be delayed, typically becoming evident in the first **48 hours** following a head injury.

Therefore, if concussion is suspected or diagnosed, it is crucial that the student is well monitored for the first 48 hours post head injury.

4.0 Why worry about concussion?

Second impact syndrome is a very rare condition in which a second concussion occurs before the first concussion has properly healed, causing rapid and severe brain swelling and often catastrophic results greatly increasing the risk of death.

Second impact syndrome can result from even a very mild concussion that occurs days or even weeks after the initial concussion.

Most cases of second impact syndrome have occurred in young athletes, particularly those participating in contact sports and high-risk sports such as cycling and skiing.

There is increasing evidence that concussion affects cognitive functioning for days after injury particularly in the developing brain of the young. A return to sport too soon can prolong loss of cognitive function and there is the possibility of longer-term cognitive damage from repeated injury.

4.1 Diagnosis and management of concussion

Principles of concussion management

RECOGNISE > REMOVE > RECOVER > RETURN

4.2 How to recognise concussion?

Recognition of concussion may occur immediately and be identified from the side-line, whilst attending the player on the field of play or in the 48 hour period after the game.

If any of the following signs or symptoms are present following a head injury the player should be suspected of having concussion and be immediately removed from play or training.

Concussion should be suspected if one or more of the following visible, signs, symptoms or errors in memory questions are present (taken from the Pocket Concussions Recognition tool Appendix 2).

Visible clues of concussion (what you see)

Any one or more of the following visual clues can indicate a concussion: -

- Seizures
- Loss of consciousness (LOC) – confirmed or suspected – visible signs suggesting LOC – lying motionless on the ground for more than 5 seconds, slow to get up off the ground
- Unsteady on feet / balance problems or falling over / incoordination
- Grabbing / clutching of head
- Dazed, blank or vacant look
- Confused /not aware of plays or events
- Behavioural changes g. more emotional or more irritable

4.3 Symptoms of concussion (what you are told)

Presence of any one or more of the following symptoms may suggest a concussion: -

- | | |
|-----------------------------|-------------------------------|
| • Loss of consciousness | • Headache |
| • Seizure or convulsion | • Dizziness |
| • Balance problems | • Confusion |
| • Nausea or vomiting | • Feeling slowed down |
| • Drowsiness | • “Pressure in head” |
| • More emotional | • Blurred vision |
| • Irritability | • Sensitivity to light |
| • Sadness | • Amnesia |
| • Fatigue or low energy | • Feeling like “in a fog” |
| • Nervous or anxious | • Neck pain |
| • “Don’t feel right” | • Sensitivity to noise |
| • Difficulty in remembering | • Difficulty in concentrating |

Memory function

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

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

4.4 Preventing concussion

Actions taken by the school to mitigate the risk of concussion:

- RFU Activate programme to be fully embraced by the rugby coaching staff:
<https://www.englandrugby.com/participation/coaching/activate>
- World Rugby Tackle Ready guide to be fully embraced by the rugby coaching staff:
<https://passport.world.rugby/injury-prevention-and-risk-management/tackle-ready/>
- Headcase module to be completed by all pupils and relevant staff, with parents/guardians also being given the link to complete:
https://rise.articulate.com/share/nc3KPjesYQrj5Wj4tGS6Grs_ERkPY2Q#/
- Review of PE provision in Year 9 to include a Rugby Ready element in September each year.
- To develop neck strength in individuals playing rugby through the S & C programme.
- Provision of appropriate first aid/immediate care provision, including the training of staff in First Aid.

Education of rugby players to ensure that they understand the laws of the game. Law 9 covers foul play, below are some of the key aspects relating to dangerous play and/or behaviours that could lead to a concussion and/or other injury. It is important that high, tip and spear tackles are penalised immediately and tackling players in the air as falling from height increases the risk of concussion and neck injuries. It is important that players understand how to play in a way that is competitive yet safe.

Law 9 includes the following:

- Players must not do anything that is reckless or dangerous to others.
- A player must not tackle an opponent early, late or dangerously. Dangerous tackling includes, but is not limited to, tackling or attempting to tackle an opponent above the line of the shoulders even if the tackle starts below the line of the shoulders.
- A player must not tackle an opponent who is not in possession of the ball.
- A player must not tackle, charge, pull, push or grasp an opponent whose feet are off the ground.
- A player must not lift an opponent off the ground and drop or drive that player so that their head and/or upper body make contact with the ground.
- Dangerous play in a ruck or maul - A player must not make contact with an opponent above the line of the shoulders.
- A player must not attempt to kick the ball from the hands of the ball carrier.

Ensuring that the playing and training areas are set up correctly with the following in place:

- Correct protection padding in place on all barriers and posts that are on or close to the pitch.
- Equipment that is appropriate for its purpose and regularly checked.
- Suitable run-off spaces established near the touchlines.
- Appropriate ground conditions. Ground that is frozen or very hard may not be safe to play or train on.

4.5 Management: Recognise, Remove, Recover, Return

Recognise

Concussion must be taken extremely seriously to safeguard the short and long term health and welfare of players. The majority (80-90%) of concussions symptoms resolve in around 7-10 days and around 1/3 of the symptoms resolving within 1-2 days.

It is widely agreed that children and adolescents take longer to recover, and because their brains are still developing a more conservative approach should be taken with them.

Remove

Any athlete with a suspected concussion should be **IMMEDIATELY REMOVED FROM PLAY** and should not be returned to activity until they are assessed medically. Athletes with a suspected concussion should not be left alone and should not drive a motor vehicle.

It is recommended that, in **ALL** cases of suspected concussion, the player is referred to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.

RED FLAGS

If ANY of the following are reported then a player should be safely and immediately removed from the field. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment. If in doubt, sit them out.

- **Athlete complains of neck pain**
- **Increasing confusion or irritability**
- **Repeated vomiting 10 minutes apart**
- **Seizure or convulsion**
- **Weakness or tingling/burning in arms or legs**
- **Deteriorating conscious level**
- **Severe or increasing headache**
- **Unusual behaviour**
- **Double vision**

In all cases, the basic principles of first aid apply (**D**anger, **R**esponse, **S**hout, **A**irway, **B**reathing, **a**nd **C**irculation)

DO NOT ATTEMPT to move the player (other than required for airway support) unless trained to do so

DO NOT REMOVE helmet (if present) unless trained to do so.

Recover

There is good evidence that during the recovery period the brain is more vulnerable to further injury. If a player returns to sport with a predictable risk of head injury before they have fully recovered and have further concussions this may result in:

- Prolonged concussions symptoms
- Possible increased risk of long term health consequences e.g. mild cognitive impairment or degenerative brain disorders in later life
- In adolescents, a further concussive event before recovery can in rare cases be FATAL, due to severe brain swelling (second impact syndrome)

It is therefore imperative that careful consideration is given to returning players following a concussion in an appropriate timeframe.

After a concussion the brain needs to rest, so initially the player should rest from all physical and brain activities such as exercise, reading, TV, computers, video games and smart phones. For a period of no less than 24 hours before light activities of daily living are resumed.

Following guidance from the RFU – if a student is suspected to have concussion, parents will be asked to collect and keep them at home for 48 hours. For full boarders, they will be expected to be absent from school and cared for in the boarding house or medical centre for the first 48 hours.

Return

Following the recommended rest period of 48 hours the player should return to sport by following a graduated return to play (GRTP) programme Framlingham College will be using the England Rugby U19 and below concussion management guidelines (Appendix 3).

Stage 1 initial total rest of 48hrs

Stage 2 return to activities of daily living NO SPORT for a minimum of 14 days if symptom free, is off all medication that modifies symptoms and has returned to normal studies may proceed to stage 2b

Stage 2b light aerobic exercise if symptom free for 48hrs may proceed to stage 3

Stage 3 sport specific exercise 48hrs symptom free move to stage 4

Stage 4 non-contact drills, 48 hrs symptom free move to stage 5

Stage 5 full contact practice, 48 hrs symptom free move to stage 6 after being reviewed by a Doctor.

Stage 6 returns to sport.

NOTE if at any stage symptoms return the player must rest for 48hrs until symptom free and then may return to the previous stage.

Students will be monitored by the medical centre every 48 hours throughout the stages or advised to be cared for at home if unsuitable for school environment.

7.0 Summary

Most players who sustain a concussion make an uneventful recovery but it is important that we all work together to ensure that they are managed appropriately to ensure a safe and long term recovery.

It is recognised that players will often want to return to play as soon as possible following a concussion. It is imperative that players, parents, teachers, coaches and medical centre staff exercise vigilance and caution to ensure a safe return to play.

Ensure that all symptoms have subsided and pupils have returned to academic studies successfully before commencing the GRTP this will be the responsibility of the Medical centre staff assessing the pupil.

Ensure that the advice of those experienced in managing the GRTP is sought and the GRTP is followed this will be the responsibility of the Head of sport.

Ensure that the advice of healthcare professionals is sought and followed when appropriate.

After returning to play all involved with the player must remain vigilant for the return of symptoms even if the GRTP has been successfully completed.

5.0 Appendices

Appendix 1: Government response to DCMS Select Committee report on concussion in sport

Foreword

This report outlines the government's approach to reducing the risks associated with concussion and head injuries in sport. This work has been developed in parallel with, and greatly benefiting from, the work of the House of Commons' Digital, Culture, Media and Sport Select Committee inquiry into concussion in sport. The Select Committee published its report and recommendations in July 2021, and references are made to the Committee's findings and recommendations throughout this report. A full response to each of the Committee's recommendations is provided in Annex A.

Section 1: Introduction

The welfare and safety of everybody taking part in sport is of paramount importance. Everybody involved in the running of sport, and indeed everybody taking part, has a level of responsibility to ensure that as many people as possible can enjoy sport safely.

The government is clear that being physically active and taking part in sports has a wide range of benefits, both for individuals of all ages, genders and demographics, and for communities more widely. Sport brings people together and builds social bonds, it can help drive economic activity at local and national levels, and it can help people develop skills and confidence.

Arguably one of the most widely recognised benefits of being active and taking part in sporting activities is the positive impact it can have on physical and mental health, with its inherent benefits across society.

As acknowledged in the July 2021 report of the DCMS Select Committee's Inquiry into Concussion in Sport, the health benefits to people through mass participation in sporting activity are tangible, including the potential of reducing the risk of dementia in later life. Being active has been shown to help prevent or lower the risk of the incidence of many health conditions, such as stroke and heart disease, obesity (with all of its associated implications), many forms of cancer and depression.

However, in recent years there has rightly been increased attention on the potential for unintended negative health impacts from being active, particularly around acquired brain injury and concussion. This is not least due to advances in training, coaching, equipment, facilities and technology that have resulted in stronger, faster, better-trained players across all levels of sports. This increased focus also chimes with a move towards the greater recognition and acceptance of the need to address wider issues around the welfare of sports participants and fostering positive culture in sport, as highlighted by Baroness Grey-Thompson in her 2017 Duty of Care in Sport Report.

The DCMS Select Committee's inquiry into concussion in sport has served as a very welcome addition to this important topic. Its report and recommendations are a valuable call to action, which reflect much of the Department for Digital, Culture, Media and Sport's thinking around how we can make sport safer for everyone.

The government's ambition is to help as many people as possible enjoy the benefits of being physically active, whatever their circumstances, age, gender, motivation or level of sporting ability. Concussion and the risks posed by head injury represents a cross-sport issue, and the government believes it is necessary to bring the sport, health, education and technology sectors together to address the issue collaboratively.

The end goal is to reduce risk where possible, and make sure people know what action to take if head injury does occur. Not all risk can be removed from sport, nor is it necessarily the case that the rules and structure of sports need drastic change. Unpredictability and risk are inherent elements of many sporting activities, and are difficult to completely remove while protecting the essence of each of the wide panoply of sports played in the country. However, this does not mean that nothing can be done.

This report sets out what the government is doing to reduce risks around head injury and concussion in sport, and what further action we will take. This will involve working with partners from across the sport, health, education, academic and technology sectors. The actions set out in this report do not represent the final word on the subject, but rather set out a starting point for the work that has already been initiated and is intended to be continuously carried out as research, technology and data collection evolve. We are working, and will continue to work, with others to keep these actions under review, and take further action in the future where needed.

Section 2: Roles and responsibilities

There are a number of different types of organisations in the sport sector that have a role to play in ensuring the safety of participants.

National governing bodies are the organisations responsible for the running of their sport, including the rules and regulations that govern sporting activities. They are able to issue guidance to their affiliated leagues and clubs, and set requirements around training, medical provision and welfare, including the use of new equipment and technology to enhance safety and the treatment of injuries. They can also take action if these standards are not met. Governing bodies are also the custodians of the rules of their sports, and can make adaptations to what happens on and around the field of play. Their role is to encourage participation in their sport across all age groups, levels of ability and

genders, as well as to identify and support sporting excellence, and to do this in an inclusive and safe way.

Player associations are involved with advocating for, and supporting the welfare of, elite and professional sportspeople, most often those actively playing sport but in many cases those retired as well. Player associations champion the needs of their members, commission research, provide education and training, as well as providing short and long-term support to those affected by sporting injuries.

Sports councils are bodies established at arm's length from governments in each of the home nations. They are responsible for providing public funding to sports organisations in their countries, and are tasked with supporting the sector and creating an overall environment that will encourage both wider and greater participation in sporting activity.

Individuals also have a role in helping to prevent and manage injuries. Those involved in running clubs, or coaching or officials, whether as paid staff or as volunteers, have a responsibility to understand what is expected of them, implement approved protocols, undertake any relevant training and certification, set and implement standards, and act on any concerns. This means upholding standards around medical provision, ensuring equipment is safe to use, and that players receive the treatment they need if they suffer an injury.

Most importantly, perhaps, the people taking part in sport are central to all considerations around safety. Individuals need to be made aware of the risks of taking part and be provided with clear advice about safety. They are also entitled to speak up if things are unclear or do not seem right. Players can be supported in this by their family, friends, fellow players, coaches, organisers, officials and spectators, who may be able to spot risks or issues that are not immediately obvious to those on the field of play.

We agree with the Select Committee that the government also has a role to play. The government is able to step in and take action when and where it believes others are not able to, or where there is need to accelerate and coordinate action. The government can use its convening power to bring organisations together to tackle complex, wide-ranging and long-term issues. It can hold organisations to account, particularly where public funding is involved, and can raise the profile of issues, helping to draw attention to areas where more education, research and awareness is needed. It can also legislate if deemed essential.

In the case of head injuries in sport, the risks to health and the potential negative impacts that this may have on participation in sport are such that the government believes there is a need to ensure appropriate action is being taken, to raise the profile of the issue and to improve understanding, protocols and treatment.

The government intends to make use of its ability to bring sectors together to help improve awareness and practice around head injuries in sport. This is an area where the immediate impacts may be 'passing' or perhaps not even be apparent to an observer or the person involved. However, there is increasing evidence to indicate that over the long-term, repeated head injuries can be associated with brain damage which may manifest itself in later life.

Many sports organisations are already taking action to improve awareness and limit the risk of injury. However, much more must be done in a coordinated and consistent manner to improve national awareness, education and communication on this subject.

Definition of sport-related concussion

Concussion happens in many different settings, not just within sport. Concussion in sport is similarly not just limited to team sports where contact between players is obvious - athletes taking part in individual sports may also be subject to an incidence of concussion while playing or training (e.g. cycling or snow sports).

A definition of sport-related concussion (SRC) has been agreed by the Concussion in Sport Group, via its consensus statement agreed in Berlin in 2016. The statement is designed to develop further conceptual understanding of SRC, using an expert consensus-based approach.

The Concussion in Sport Group's definition of sport-related concussion, in the broadest clinical sense, often represents the immediate and transient symptoms of traumatic brain injury. Such operational definitions, however, do not give any insights into the underlying processes through which the brain is impaired, nor do they distinguish different grades of severity, nor reflect newer insights into the persistence of symptoms and/or abnormalities on specific investigational modalities.

The Berlin expert panel modified the previous definition as follows:

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

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

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

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

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

The clinical signs and symptoms cannot be explained by drug, alcohol, or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction, etc) or other comorbidities (eg. psychological factors or coexisting medical conditions).

Section 3: Work to date on concussion in sport

The Berlin Concussion in Sport Group Consensus Statement

The 5th Berlin Concussion in Sport Group Consensus Statement provides a global summary of the then current views of best practice in concussion prevention, diagnosis and management, underpinned by systematic reviews and expert consensus. The consensus drew from over 30 contributors to the concussion statement, with a further 40 individuals giving representation.

The international quadrennial conference on concussion in sport was held in Berlin in October 2016. The next conference was originally scheduled to meet in Paris in 2020, but due to the Coronavirus pandemic, the 6th conference has now been rescheduled to take place in Amsterdam in October 2022, with the revised consensus statement expected to be published in early 2023.

Individual sports adapt concussion guidelines according to their specific regulatory environment, due to the different settings and rules. Consistent application of the Berlin Consensus Statement's themes across sporting codes has helped to facilitate improved diagnosis and management, and concussion education, and to highlight collaborative research opportunities.

However, such consensus statements are not necessarily the final word on the issue. They do not alleviate the need for consistent and coordinated UK action to ensure that sports at all levels benefit from having the most advanced research, technology, equipment, protocols and education that is available. Such consensus statements do provide a reasonable starting point to develop a 'base line', to be used when developing national protocols for this country. Such protocols will be continuously developed as knowledge, technology, product and equipment developments and improvements, innovation, research and processes continue to evolve.

Existing protocols have so far been uncoordinated across the multiple sporting bodies and there remain differing views among the various constituents' stakeholders as to their relative levels of effectiveness. The government is committed to working with all sports to build on the positive work that is already taking place in the sporting sector, while improving coordination, communication and consistency.

Examples of sports' actions on concussion

Football

As mentioned in the Select Committee's report, The FA and PFA's comprehensive FIELD research study looked into the incidence of degenerative neurocognitive disease affecting the long-term health of former professional footballers, assessing the NHS records of thousands of Scottish male professional footballers.

The results showed that on average, the former footballers lived over three years longer than the normal population and were less likely to die of many diseases such as heart disease or lung cancer. However, they were more likely to die of dementia. The health records of 11% of the former footballers who had passed away stated that they had died from dementia, compared to around 3% for the socio-demographically matched sample. The study also showed that the professional footballers in this research were around 3.5 times more likely to die of dementia than the matched

population. However, overall, this group of former professional footballers did not on average die earlier of dementia than people living with dementia in the general population. The study was not able to determine what exactly causes the increased rates of dementia.

Trial concussion substitutions started in the Premier League on 6 February 2021. The new rule piloted in this trial means that permanent substitutions can be made if a player suffers a head injury, even if all replacements have already been used. To avoid potential abuse of the rule, opposition teams are also able to make a change at the same time. The FA has also allowed teams to introduce two concussion substitutes per FA Cup match from February 2021 onwards.

The Premier League also constituted a Head Injuries Advisory Group in early 2020. This group is composed of team doctors, medical experts and stakeholder representatives with a remit to discuss and review all aspects of the Premier League's Brain Health Plan. In August 2021 the Premier League's first Head Injury Research Fellow commenced work with the organisation and it is hoped that this post will galvanise data collection and research activity in this vital area.

The Premier League is currently in the process of forming an independently chaired Football Medical Governance Group composed of senior medical and legal professionals alongside selected members of club medical staff. It is envisaged that the group will meet for the first time in December 2021 and will meet quarterly thereafter.

Rugby Union

The RFU's HEADCASE education programme aims to increase understanding and provide information on concussion and other related topics, including how to prevent and manage suspected concussions.

These guidelines are intended to manage concussion at all levels of adult and age grade community game, including how to recognise a suspected concussion, how it should be managed, and good practice to reduce the risk of concussion in players.

At all community levels of rugby, if a player displays one or more observable signs or symptoms of concussion, the guidance stresses that they should be removed from the pitch immediately irrespective of whether it is a match or training session. The player should then follow the appropriate Return to Play programme (either U19 and below or adult). The HEADCASE online awareness module accompanies the guidelines with more detailed information, and can be accessed via the HEADCASE homepage.

Rugby League

The RFL has a detailed set of protocols outlined under the banner, 'Don't be a Headcase'. Their website details background on concussion, information for coaches and teachers, ideas for prevention and recognition, return to play guidance, information for match officials and parents, as well as outlining resource material, such as poster summaries and information, including Pitchside Advice Cards.

Horse racing

The British Horseracing Authority (BHA) maintains a database of all jockeys' injuries, including those incurred off the racecourse, which is accessible by all racecourse doctors. BHA has particular procedures in place for jockeys returning to race following concussion. BHA also monitors the progress of injured jockeys to ensure that they only return to race riding once it is safe to do so.

Taekwondo

GB Taekwondo point to the Sport and Recreation Alliance's concussion guidance on their website, aimed at professionals working in the education sector. They also receive support from Taekwondo's national governing body, British Taekwondo (BT).

BT extends beyond World Taekwondo's rules on head injuries, with a best practice approach (with consideration of The FA, World Rugby and GB Taekwondo guidance) to cover BT full contact training Events including in club sessions, gradual return to play and a gradual return to training.

Cricket

From 2018, the England and Wales Cricket Board (ECB) has ensured that each county team at first and second team level, must be supported by a medical professional who is qualified to make judgements on possible concussion following a head-strike. Concussion replacements were also introduced for the first time in 2018, covering all four professional domestic competitions.

Boxing

England Boxing's Rule Book contains concussion protocols, advice and guidance, for both under and over-18s. The protocols stipulate a six-step graduated return to competition for both under and over-18s, with a minimum 39-day period post-injury before returning to competition for under-18s and a minimum 35-day period for over-18s.

Examples of work on concussion in sport technology

Love of the Game

As referenced in the Select Committee report, Love of the Game (LOTG) is a campaign launched in January 2021 to develop awareness and practical solutions in tackling concussion in sport. Its motto is 'save the player save the game'. LOTG seeks both to reduce concussion-related issues arising from contact and non-contact sports whilst protecting the broad structures of the sports themselves. Amongst other initiatives, LOTG takes a solutions-based approach to developing new technologies that prevent, diagnose and treat head injuries in sport. LOTG will also take forward a feasibility study into improving the coordination and use of existing medical centres/clinics during 2022.

With the endorsement of DCMS ministers, LOTG hosted the UK's first sporting Hakathon in March 2021 to find solutions to early-onset dementia caused by head injuries. This brought together creative people from the design, developer and engineering worlds combined with amateur and professional sports people, academics and researchers in the sport health fields. Experts collaborated to create solutions to diagnose, grade and treat the effects of head injuries and concussion within sports.

The proposals identified ranged from how to improve female brain health and support the prevention of concussion, to finding preventative or diagnostic tools that can reassure parents when their children are playing higher risk sports.

Five teams were ultimately recognised by the judges as having winning ideas with real potential, given financial incentives and have been given the opportunity at a future 'Demo Day' in December 2021 to showcase their concepts, and pitch for funding for development and eventual adoption.

Further Hakathons and Demo days are an active area of focus in 2021-2022 to build on current ideas to find solutions to brain injury challenges and concussion in sports. They will include leading minds across campaign groups, science, sport and various sporting bodies with the aim of also testing new ideas and solutions. LOTG intends to provide incremental financial support to assist teams as they drive towards commercial roll out and market driven applications.

Concussion clinics

Existing concussion clinics around the country are already doing valuable work in this area. Two of these are the Birmingham Sport Concussion Clinic and Institute of Sport, Exercise and Health (ISEH) Concussion Clinic.

The Birmingham Sport Concussion Clinic is open to professional and amateur athletes aged 16 years or over from all geographical areas. The clinic is run as part of a wider initiative to promote safety, awareness and research on sport concussion. Patients can be referred by GPs, physiotherapists and club doctors.

The Institute of Sport, Exercise and Health (ISEH) Concussion Clinic, based in London, is a multidisciplinary clinic for professional and amateur athletes with concussion-related issues.

The ISEH, in collaboration with the National Hospital for Neurology and Neurosurgery, has developed a pathway to primarily support retired professional athletes who are concerned about neurocognitive issues. This includes expert cognitive neurological assessment, state-of-the art brain imaging and, if needed, cognitive testing with a neuropsychologist as well as individualised identification and management of modifiable risk factors to maintain brain health throughout life.

Section 4: Government's work on concussion in sport

Background

Since early 2021, the government has been working to understand what more can be done to improve the understanding around, prevention of, and management of head injuries in sport.

This has involved discussions at ministerial and official level with a wide range of individuals and organisations, including:

- former and current sportspeople, and those with close experience of the effects of sports-related brain injury
- national governing bodies: leadership and medical professionals
- player associations
- sports councils

- other sports organisations, including, but not limited to, professional and elite clubs
- medical experts domestically and internationally
- academics and academic organisations domestically and internationally
- the Devolved Administrations
- not-for-profit organisations and campaigns
- technology and research startups and ongoing businesses

The government also appointed Laurence Geller CBE as ministerial adviser on concussion in sport in July 2021. Mr Geller is a leading expert in dementia care and is a pioneer in bringing the latest research and technology to bespoke dementia care facilities. He has a background in the care business, hospitality, sports and charity sectors, including co-founding the Love of the Game charity.

The aim of this approach has been to gather ideas and evidence to help articulate and facilitate the new actions the government can take. In this, government's overall aims are to:

- raise awareness of the frequency and the dangers of head injury in sports
- improve consistency of messaging about concussion across sports at all levels
- clarify and facilitate the improvement of the multiple health pathways involved in brain injury, trauma and concussion in sports
- facilitate better coordination, prioritisation and actionable translation of research projects and sharing of findings
- strengthen the links between the sports and technology sectors to develop and harness innovations more rapidly

Further work

Government's work in this area is structured into four main areas: research, education, health and technology.

1: Research

Current situation:

Many sports bodies, player associations, medical researchers and academics are involved in research into acquired brain injury and sport. As well as National Governing Bodies, domestically this includes the UK Dementia Research Institute (UKDRI), Imperial College, Nottingham and Glasgow Universities, the Medical Research Council and the Drake Foundation as well as internationally the Mayo Clinic, the American National Football League (NFL) and World Rugby.

Research is happening on an ongoing basis - for example the Premier League announced two research studies to inform heading in training guidelines in March 2021 to identify the forces involved in heading footballs. The outcome of these studies may help inform guidelines for heading in training at professional and adult football levels.

The first study is being carried out with Sports & Wellbeing Analytics, who operate their PROTECHT system (see technology section below) where mouthguards will collect data to show how the force and frequency of impacts affect the brain and body. The second study is being conducted in partnership with Second Spectrum, the official tracking and analytics provider for the Premier

League. This study will compare match-tracking data from the 2019/20 season with results from the mouthguard study. Further research is being done in football^[footnote 1] and rugby union

Podium Analytics, a charity that seeks to significantly reduce the incidence and long-term impact of injury in sport, announced the establishment of an Institute of Sports Medicine and Technology in partnership with Oxford University in September 2021 (see Action 1 below). The new Institute aims to bring together world-class academics to drive a clearer understanding of the impact, incidence, cause and effect of injury.

Areas to be addressed:

Despite these important efforts, there are a number of challenges where the government believes further work is needed as a priority.

Firstly, there is a lack of shared understanding about the scale and prevalence of acquired brain injury through sporting activities in the UK. This is partly hampered by the lack of clarity about what degree and/or frequency of head trauma may cause long-term injury.

Secondly, there is a lack of robust UK data about the impact of sporting head injuries. It is clear that no amount of quantitative analysis has come close to adequately capturing the impacts on everyday life for people with acquired brain injury or their family and friends. However, there is still value in looking at what can be quantified and establishing the scale of the impacts that sports-related acquired brain injuries can give rise to for both individuals, their families and to our broader society.

Thirdly, we believe that there is scope for greater coordination of research. Individual sports and a variety of related organisations have varying levels of involvement in commissioning research. However, there are some areas of commonality across sports where there would be merit in agreeing shared research goals, and where the findings could be beneficial for more than one sport. Working with the individual sports bodies, specific research needs and gaps (such as female players) may be identified and assistance given to develop the relevant research in a shared and coordinated manner.

Above all, it is clear that there is a need for targeted research which is common to all sports and which should be carried out in an encompassing, disciplined, methodical and coordinated manner.

Action to be taken:

1. To address the issue of a lack of data about the scale and impacts of sporting head injuries in the UK, the government is supporting plans for a world-leading research project led by the University of Oxford and backed by the sport concussion charity, Podium Analytics.

To facilitate this project, Podium Analytics announced in September 2021 the establishment of an Institute of Sports Medicine and Technology in partnership with the University of Oxford. This will be a 10-year financial commitment to the University with the aim to create a world-leading system to understand, monitor and prevent sport injury. This research will involve the new Institute producing an independent report to qualify and quantify the incidence of concussion in general and in sport in this country, its prevalence by individual sports, age and gender and the associated costs to the UK

economy of concussion in general and sports in particular. This will be the first such report of its kind and will allow the UK to become one of the first countries in the world to build up a clear picture of the current situation across the world of sport. The Minister for Sport has encouraged all National Governing Bodies of sport to collaborate with Podium in their research programmes.

2. The government is convening a 'sports concussion research forum' in conjunction with the Medical Research Council to bring together sports and academics to identify the priority research questions for the sector. This will work with relevant parties to initiate the delivery of those priorities to address gaps in research.

Research will then be translated into relevant actions and will be short, medium and long term (longitudinal). These projects will then be directed to existing research funding institutions. The forum will also enable the sharing of findings of research across sports.

Milestones:

Findings from the Oxford University research study will be available by the end of March 2022.

The Sports Concussion Research Forum will be convened by government by the end of January 2022, with initial findings presented later that year.

2: Education

Current situation:

Although the issue of concussion and acquired brain injury in sport has received greater media attention in recent years, there remains a fundamental need to ensure that all sports participants have, at minimum, a basic understanding of what to look out for and what steps to take if someone receives a head injury.

As acknowledged by the Select Committee, sportscotland published an updated set of universal concussion guidelines in March 2018 for all sports to follow. Scotland was the first nation in the world to produce such guidelines covering all types and levels of sport (from grassroots to the elite level) and was updated in March 2021. Northern Ireland and Wales have also made good progress in improving concussion awareness in the sport setting.

The Sport and Recreation Alliance produced helpful concussion guidelines for the education sector in England in June 2015. These guidelines were approved by a panel of independent medical experts, as well as the Faculty of Sport and Exercise Medicine, the Royal College of Emergency Medicine and the Society of British Neurological Surgeons and were circulated to schools via the Association for Physical Education.

UK Coaching (the professional association for sports coaches in the United Kingdom) has advice on what coaches should look out for if they witness an incident that could lead to a concussion, as part of their 'If in Doubt Sit Them Out' document, which can be accessed online via their subscription service.

UK Coaching's Code of Practice for sports coaches stresses that coaches should ensure the relevant sporting environment is as safe as possible, taking into account and minimising possible risks, and

must promote safe and correct practice, including the potential use of new technology and safety equipment.

The Chartered Institute for the Management of Sport and Physical Activity (CIMSPA), is the professional body for the United Kingdom's sport and physical activity sector, recognised and partnered with Sport England and sportsotland. It has an extensive and accessible professional standards library that refers to the health and wellbeing of adults and children taking part in sport, with the expectation that practitioners have a knowledge of the relevant age specific Chief Medical Officer (CMO) guidelines for physical activity. CIMSPA education partners can also access full versions of professional standards via their partnership manager.

To meet the CIMSPA professional standard, coaches must demonstrate that they are able to take appropriate action to deal with hazards based on the level of risk, including dynamic risk assessment. As part of the sport coaching sector's continued development as a respected profession, from 30 September 2020, CIMSPA have only endorsed qualifications mapped to CIMSPA professional and apprenticeship standards, including around Duty of Care issues.

A number of sports have taken steps to produce their own set of education resources around concussion, including the Rugby Football Union's HEADCASE programme, recognised as one of the UK's leading concussion awareness and education resources, which was updated in February 2021.

The Rugby Football League also has a detailed set of protocols outlined under the banner, 'Don't be a Headcase'.

The FA's concussion guidelines are headlined, 'if in doubt, sit them out'. The guidelines were developed in consultation with The FA's Expert Panel on Concussion and Head Injury.

It is right that sports provide their participants with information specific to their sports, particularly around the detailed advice of returning to play following an injury.

Areas to address:

The government believes that basic information about head injuries and the initial action to take should be, at a minimum, consistent across all sports. It should be regularly and consistently updated, easily accessible and easy to understand, regardless of the sporting activity being undertaken and irrespective of age and gender, whether it is at an amateur or professional level, or where it is being played.

Action to be taken:

3. The government agrees with the Select Committee and will commission a set of shared protocols around concussion in sport. We will build upon the existing work undertaken across the different nations of the UK with stakeholders to aim to develop a single set of shared guidelines across the whole of the UK.

These protocols will ensure that no matter where someone is playing sport, or what sport they are playing, there is clear and consistent guidance available (through a wide variety of media) about the

basic facts about concussion and the steps that should be taken. At a minimum, the protocols will cover information about:

- what is concussion/head injury/brain trauma
- how to recognise the signs on and off the field
- removal from play
- what to do in the short-term (immediately)
- what to do in the medium term (recovery protocols)
- what to do in the longer term (management of post-concussion syndrome)
- returning to play
- how to get more information

These protocols will be designed to be relevant to all participants of sport, regardless of age or gender, as well as those involved in delivering sports, such as sports coaches, officials, family members and teachers.

We expect these protocols to be the initial 'base line' upon which each governing sport body will build their own specific protocols relevant to their sport.

In addition, we recognise that the development of protocols is in itself not sufficient to raise awareness or change behaviours. Effective communication of the new shared protocols is vital to ensure the key messages reach those who need the information the most. Education is an essential component of an effective communication plan.

We will therefore seek to use existing networks to distribute the protocols across schools, community sports clubs, sports coaches and national governing bodies of sport. We will look to the whole sport sector to get involved with the process of developing, distributing and actively promoting the protocols. DCMS will therefore create a distribution network of key stakeholders to ensure that the new protocols are shared as widely as possible across the sporting and educational landscape.

4. The Minister for Sport will write to UK Sport and Sport England to explore what more can be done to ensure that the shared protocols be implemented by those sports in receipt of public funding.

5. DCMS will create a distribution network of key stakeholders in receipt of new concussion protocols to be communicated widely across the sport and education sectors.

Milestones:

The concussion protocols will be completed, and communication started, by summer 2022.

3: Health

Current situation:

We agree with the Select Committee that awareness of concussion needs to be increased. Improving awareness, prevention and treatment of concussion cannot be achieved by the sport sector on its own.

There are already strong links between the sport and health sectors, with established and respected organisations specialising in sport and exercise medicine across the country. This includes a number of sports concussion clinics around the country, such as the Institute of Sport, Exercise and Health (ISEH) and at the University of Birmingham that seek to provide world-leading care and conduct research into the prevention, causes and effects of acquired brain injury and sport.

Areas to address:

We believe there is merit in strengthening the links between these existing and future clinics to build a more cohesive response to the problems caused by concussion occurring in a sporting context.

DCMS needs to improve liaison with other government departments on concussion issues in sport, to share best practice and improve the effectiveness of concussion health interventions in emergency medical settings for those engaging across the sporting landscape.

Action to be taken:

6. DCMS will work on strengthening and coordinating links across government. This will include the production of more effective protocols and pathways for use in treating concussion in sport injuries in NHS accident and emergency settings which will focus on the specific needs and issues of individuals and continually improve the safety of players of all levels, genders and ages across sport.

We will liaise with key organisations such as the Medical Research Council, UK Dementia Research Institute, Alzheimer's Research UK and leading centres of research in the UK to provide a focal point and encouragement for research in this field. We will also consider the approach of the Ministry of Defence (MOD), who have undertaken extensive work on concussion in regards to the UK armed forces. (The Department for Health and Social Care, through the National Institute for Health Research (NIHR), and the MOD are co-funding the NIHR Surgical Reconstruction and Microbiology Research Centre (SRMRC) at the Queen Elizabeth Hospital Birmingham. This joint funding has been supporting the REpetitive COncussion in Sport (RECOS) project in the SRMRC portfolio, which seeks to develop a yes/no concussion test with the aim of catching all concussion, working with participants who had suffered blast and concussion injuries).

7. We will be asking sports to convene with player associations to discuss training protocols. DCMS ministers will contact sports to stress the crucial need to account for the long-term welfare of players when considering their training methods. We expect sports to go further in ensuring that player safety is treated with maximum importance. Should sports not demonstrate sufficient progress in prioritising player protection, government will be prepared to consider the matter through the lens of welfare in sport.

Our discussions with player associations made clear the importance of sports addressing training protocols. The associations were keen to contribute to further discussions with sports on this important issue.

We acknowledge that sports have progressed work in this area, such as The FA's introduction of heading guidance, focused on training sessions (where most heading occurs) across the professional and amateur game from the start of the 2021-22 season. The Premier League's two research studies into heading in training are also welcome initiatives. World Rugby has also recently introduced guidelines to reduce the amount of full contact training undertaken by rugby players to 15 minutes per week.

8. We will also explore further the possibility of working with the Premier League on a pilot scheme for clubs to embed player welfare as part of the governance of their organisations which could then be extended across the sporting sector.

Premier League clubs have been working on integrating their duty of care responsibilities into governance plans. This work needs further examination and could prove to be a useful template for other parts of the sport sector. The Premier League Board recognises that it has a legal duty of care towards protecting the health and safety of its employees and others, and that managing health and safety is a business-critical function.

This work needs further examination with the help of the Premier League's Football Medical Governance Group, and could prove to be a useful template for other parts of the sport sector.

Milestones:

The first phase of LOTG's feasibility study into improving coordination and use of existing medical centres/clinics will be completed during 2022. DCMS will consider the recommendations of the study aligned to its ongoing work in this area.

The Minister for Sport will write to national governing bodies to emphasise the importance of player welfare, including concussion, when formulating governance procedures for their sports by the end of 2021.

DCMS will convene a meeting with the Premier League and relevant Premier League clubs to discuss player duty of care as a key requirement of those clubs' training and playing contracts. We will then look to initiate a pilot scheme in partnership with selected clubs to assess the effectiveness of introducing such a governance requirement for players with a view to further rollout into other parts of the sporting sector

4: Technology

Current situation:

There are already a number of examples where technology is helping sports to understand the incidence and impacts of head injuries among players. For example, Sports & Wellbeing Analytics Ltd works with Swansea University and other partners to deliver innovative technology solutions in

sports welfare. Their PROTECHT system is a real time head impact monitoring and management system for making contact sports safer. Initially developed for Elite Rugby Union, the system uses instrumented mouthguards to provide a quantitative measure of the intensity, direction and duration of all impacts to each athlete's head whether they are direct to the head or not.

LOTG-led technology trials are commencing immediately with a portable brain scanning system measuring brain activity and function going through Medicines and Healthcare products Regulatory Agency (MHRA) approval. Training in its use for professional and amateur players has been completed in Cornwall, London and Kent and it is hoped that they will be a valuable aid to diagnostics and return to play protocols. The objective is to keep the product inexpensive and allow sports teams and schools access to their own scanning technology

LOTG has developed a complete Concussion Management Partnership with a North American provider, allowing the UK immediate access to a tested system with quantifiable results in concussion symptom reduction. The initial roll out is planned to occur in 2022 with an objective of having similar systems available and rolled out across the country by 2026.

The Rugby Football League also launched a pilot scheme from May to August 2021 involving more than 1,200 players for an extensive game-wide research project into the cause and effects of concussion.

The 12 Super League clubs are to work with the Rugby Football League on the Instrumented Mouth-Guard Project, with research led by Leeds Beckett University designed to quantify the risk of head impact in rugby league. The scheme aims to cover around 50 teams at all levels of the game, including academy, the Betfred Women's Super League and community clubs. Researchers are testing different instrumented mouthguards in both training and matches. Leeds Rhinos have been using such mouthguards since 2020 and Salford Red Devils have also started to use them this season.

The findings will determine which instrumented mouthguards are selected for the project, which is expected to begin in January 2022 and run for three years.

Not only can this type of information help individuals understand more about their own health, it can help teams take steps to reduce risks for players, such as by adapting training to limit the likelihood of head injuries outside of competition.

This is one example of where technology can have an immediate and positive benefit for research and sports. Advances in technology mean that new equipment and new software is being developed constantly as experts seek to find ways to capture increasingly real-time information in as unobtrusive a way as possible.

Areas to address:

The government sees benefit in helping to strengthen the links between the sports, technology and financial/commercial sectors to find innovative solutions to research and practical challenges around preventing and measuring head impacts. There is scope also to increase the involvement of technology companies who have an interest in the health of sport, through sponsorship or

ownership into translatable solutions that will improve the safety of players at all levels, ages and genders.

Action to be taken:

9. DCMS will convene a roundtable of tech companies with an interest in finding technological innovations and solutions designed to mitigate the effects and instances of concussion in sport.

As part of its work in identifying research priorities, the 'sports concussion research forum' will also identify a list of technology challenges. This will include areas that would benefit from innovative solutions and will seek input from appropriate communities including, but not limited to, sporting organisations, academic institutions, innovation and enterprise hubs, sporting products companies and technology corporations in the UK and globally. As part of this, the government will convene a roundtable of tech companies to explore technological solutions that could aid player safety. Immediate and translatable research will be rolled out through various methods such as the Hakathon run by LOTG, which aims to rapidly develop technological solutions to assist with the specific challenges around head injuries in sport. Following further analysis by LOTG of the Hakathon results and other technology initiatives, the sports concussion research forum will identify technological advances.

10. The sports concussion research forum will be asked to identify technological advancements to mitigate concussion in sport issues, which can be translated into practical improvements for players.

Milestones:

DCMS will convene a roundtable of tech companies to explore areas where technological solutions may improve concussion prevention, diagnosis and treatment by December 2021.

Working with LOTG, DCMS will identify potential technological solutions that may be applied on a practical basis by summer 2022, using input from tech companies and Hackathon outcomes of March 2022.

The sports concussion research forum will identify technology-related opportunities to improve player safety by Autumn 2022.

Section 5: Summary of main actions (with timescales and owners)

The government is supporting plans for a world-leading research project led by the University of Oxford and backed by the sport concussion charity, Podium Analytics. The plans for this project were announced in September 2021.

DCMS is convening a 'sports concussion research forum' in conjunction with the Medical Research Council to bring together sports and academics to identify the priority research questions for the sector. The forum will be convened by the end of January 2022.

DCMS will commission a set of shared protocols around concussion in sport. We will build upon the existing work undertaken across the different nations of the UK and internationally while working collaboratively with stakeholders to develop a single set of shared guidelines across the whole of the UK. Shared protocols will be agreed in 2022.

The Minister for Sport will write to UK Sport and Sport England to explore what more can be done to ensure that the shared protocols be implemented by those sports in receipt of public funding. The Minister will contact UK Sport and Sport England on that basis in December 2021.

DCMS will create a distribution network of key stakeholders in receipt of new concussion protocols to be widely shared across the sport and education sectors by summer 2022.

DCMS is working with Mr Geller and LOTG to look at ways of strengthening and coordinating links across government. We will aim to set in place more effective protocols and pathways for use in treating concussion in sport injuries in NHS Accident & Emergency settings which will focus on the specific needs and issues of individuals and continually improve the safety of players of all levels, genders and ages across sport by June 2022.

DCMS will be asking sports to convene with player associations to discuss training protocols. DCMS ministers will stress to sports the crucial need to account for the long-term welfare of players when considering their training methods. The Minister for Sport will write to National Governing bodies on that basis in December 2021.

DCMS will also explore further the possibility of working with the Premier League on a pilot scheme for clubs to embed player welfare as part of the governance of their organisations which could then be extended across the sporting sector. We will convene a meeting with the Premier League and relevant Premier League clubs in early 2022 with a view to agreeing a pilot scheme later that year.

DCMS will convene a roundtable of tech companies with an interest in finding technological innovations and solutions designed to mitigate the effects and instances of concussion in sport. The roundtable will be convened by the end of 2021.

The sports concussion research forum will be asked to identify technological advancements to mitigate concussion in sport issues, which can be translated into practical improvements for players by autumn 2022.

Appendix 2: Pocket Concussion Recognition Tool

CONCUSSION RECOGNITION TOOL 5[®]

To help identify concussion in children, adolescents and adults



FIFA[®]

Supported by



FEI

RECOGNISE & REMOVE

Head impacts can be associated with serious and potentially fatal brain injuries. The Concussion Recognition Tool 5 (CRT5) is to be used for the identification of suspected concussion. It is not designed to diagnose concussion.

STEP 1: RED FLAGS – CALL AN AMBULANCE

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported then the player should be safely and immediately removed from play/game/activity. If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- Neck pain or tenderness
- Double vision
- Weakness or tingling/burning in arms or legs
- Severe or increasing headache
- Seizure or convulsion
- Loss of consciousness
- Deteriorating conscious state
- Vomiting
- Increasingly restless, agitated or combative

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Assessment for a spinal cord injury is critical.
- Do not attempt to move the player (other than required for airway support) unless trained to do so.
- Do not remove a helmet or any other equipment unless trained to do so safely.

If there are no Red Flags, identification of possible concussion should proceed to the following steps:

STEP 2: OBSERVABLE SIGNS

Visual clues that suggest possible concussion include:

- Lying motionless on the playing surface
- Slow to get up after a direct or indirect hit to the head
- Disorientation or confusion, or an inability to respond appropriately to questions
- Blank or vacant look
- Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements
- Facial injury after head trauma

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STEP 3: SYMPTOMS

- Headache
- "Pressure in head"
- Balance problems
- Nausea or vomiting
- Drowsiness
- Dizziness
- Blurred vision
- Sensitivity to light
- Sensitivity to noise
- Fatigue or low energy
- "Don't feel right"
- More emotional
- More Irritable
- Sadness
- Nervous or anxious
- Neck Pain
- Difficulty concentrating
- Difficulty remembering
- Feeling slowed down
- Feeling like "in a fog"

STEP 4: MEMORY ASSESSMENT

(IN ATHLETES OLDER THAN 12 YEARS)

Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion:

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

Athletes with suspected concussion should:

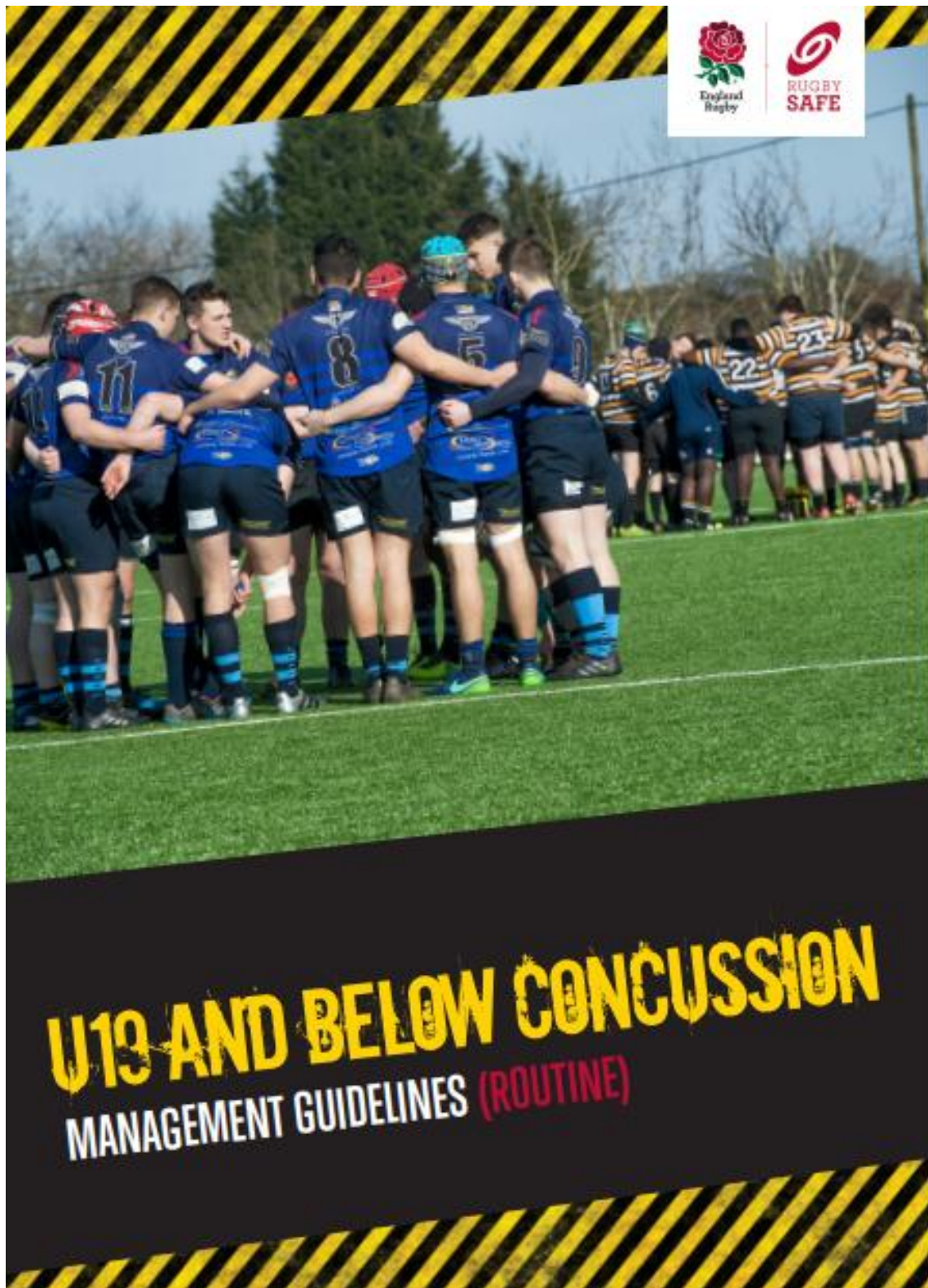
- Not be left alone initially (at least for the first 1-2 hours).
- Not drink alcohol.
- Not use recreational/ prescription drugs.
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a healthcare professional.

The CRT5 may be freely copied in its current form for distribution to individuals, teams, groups and organisations. Any revision and any reproduction in a digital form requires approval by the Concussion in Sport Group. It should not be altered in any way, rebranded or sold for commercial gain.

ANY ATHLETE WITH A SUSPECTED CONCUSSION SHOULD BE IMMEDIATELY REMOVED FROM PRACTICE OR PLAY AND SHOULD NOT RETURN TO ACTIVITY UNTIL ASSESSED MEDICALLY, EVEN IF THE SYMPTOMS RESOLVE

© Concussion in Sport Group 2017

Appendix 3: England Rugby U19 and below concussion management guidelines



RECOVERY AND RETURN TO PLAY

Concussion must be taken extremely seriously to safeguard the short and long term health and welfare of players. The majority (80-90%) of concussion symptoms resolve in around 7-10 days, with around 1/3 of the symptoms resolving within 1 - 2 days.

It is widely agreed that children and adolescents take longer to recover, and because their brains are still developing a more conservative approach should be taken with them. Although symptoms may resolve, the brain takes longer to recover fully and we allow for this in the guidance.

THE MAJORITY (80-90%) OF CONCUSSION SYMPTOMS RESOLVE IN AROUND 7-10 DAYS*

There is good evidence that during this recovery period the brain is more vulnerable to further injury. If a player returns to sport with a predictable risk of head injury before they have fully recovered and have further concussions this may result in:

- Prolonged concussion symptoms.
- Possible increased risk of long-term health consequences e.g. mild cognitive impairment or degenerative brain disorders in later life.
- In adolescents, a further concussive event before recovery can in rare cases be FATAL, due to severe brain swelling (second impact syndrome).

It is therefore imperative that careful consideration is given to returning players following a concussion in an appropriate timeframe.

In these guidelines the player's age is deemed to be their age as at 1st September.

RETURN TO PLAY (RTP) PROGRAMME

The routine return to play programme is shown on the next page. This programme has been agreed across sports and reproduced as national guidelines for the Education Sector endorsed by the Department of Health and the Department for Education:

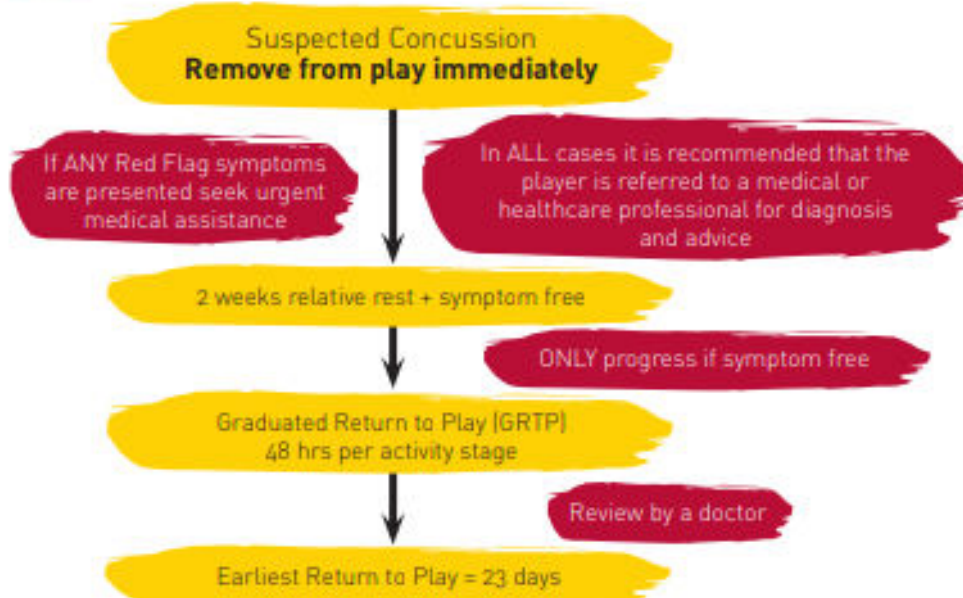
www.sportandrecreation.org.uk/concussion-guidelines

These guidelines can therefore be used across sports and in managing return to play in rugby when the concussion occurred in another sport or in everyday activities.

**Consensus statement on concussion in sport.*

RETURN TO PLAY PROGRAMME

ROUTINE U19 AND BELOW



The times stated at each phase are "minimums", players who do not recover fully within these timeframes will need to undertake a longer RTP.

Important notes on RTP:

- All those with suspected or diagnosed concussion should follow this programme.
- The timing starts from the day after the concussive injury.
- Players or parents/guardians are responsible for informing all sporting clubs and schools that the player attends of their concussion. However, it is good practice for the coach/manager of the team/club to do the same with the player's/parent's/guardian's consent.
- If signs or symptoms of concussion are clearly identified at the time of injury but have resolved by the time of the subsequent assessment by a healthcare practitioner, the player should still follow the RTP programme.
- The player should be reviewed by a doctor before returning to sport with a predictable risk of head injury (see review by a doctor section).

RECOVERY AND RETURN TO ACADEMIC STUDIES

One of the most important aspects of recovery is to have an expectation of recovery and a positive, open and honest approach. This should be reinforced with the player and the parents/guardians.

After a concussion the brain needs to rest, so initially the player should **rest from all physical and brain activities such as; exercise, reading, television, computer, video games and smart phones.** Sleep is good for recovery. There is however a balance needed and too much complete rest is thought to delay recovery, so returning to light activities of daily living as soon as the symptoms have started to reduce is advised. No more than 24hrs complete rest is all that is needed in most cases.

After this initial period of 24-48hrs rest, the player should gradually look to return to their normal activities of daily living provided this does not lead to a worsening of their symptoms. If this is the case they should limit activities to a level where this does not occur, while looking to return to full activities as symptom resolution allows.

SCHOOL/COLLEGE/UNIVERSITY ABSENCE

It is reasonable for a child to miss a day or two of academic study after a concussion if they feel unwell or if on returning to lessons their symptoms return. Extended absence is rarely needed.

Children and young people should return to academic studies before they return to sport:

- Good communication with the school is important and the school may have a support worker who can help and advise.
- Pupils should undertake a gradual return to academic studies.
- Consideration should be given to a managed return to full study days i.e. part days initially.
- Gradual re-introduction of homework is advised to avoid long days of work.
- Consideration should be given to delaying tests and exams until fully recovered. If this is not possible then the school should advise the Examinations Board.
- In a small number of cases, symptoms may be prolonged and this may impact on the child's studies. In such cases, early referral back to a doctor and educational support services is advised.

GRADUATED RETURN TO PLAY (GRTP)

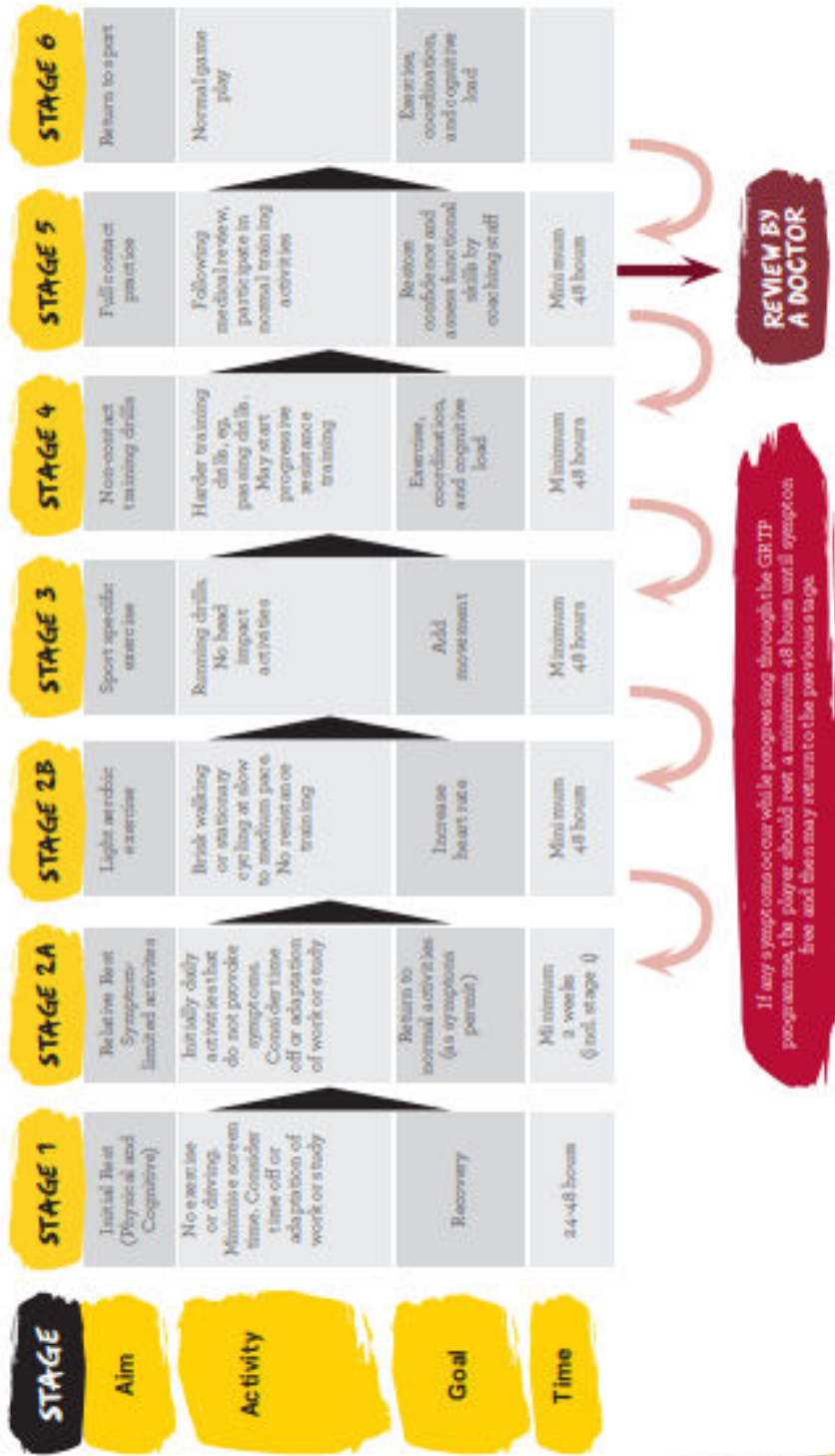
Following the recommended rest period the player should return to sport by following a graduated return to play (GRTP) programme.

Stage 2 should only be started when the person:

- Has had 14 days rest
- Is symptom free
- Is off all medication that modifies symptoms e.g. painkillers
- Has returned to normal work or studies

The GRTP should be undertaken on a case-by-case basis and with the full cooperation of the player and their parents/guardians.

GRADUATED RETURN TO PLAY - ROUTINE U19 AND BELOW



Healthcare practitioners should use the SCAT 5 symptom check lists to monitor recovery. The SCAT 5 is available to download from the HEADCASE HCP Resources Section.

www.englandrugby.com/headcase

IMPORTANT NOTES ON GRTP:

- Each stage of the Routine U19 and below is for a minimum of 48 hours.
- If symptoms do not resolve with Rest (Stage 1) then progression to symptom limited activities (Stage 2) is recommended.
- Players who are symptom free with daily activities can progress to Stage 2b.
- The player can progress through each stage as long as no symptoms or signs of concussion return.
- Where the player completes each stage successfully without any symptoms the player would normally progress through each stage 48 hours at a time.
- If any symptoms occur while progressing through the GRTP programme, the player should rest for a minimum of 48 hours or until symptom free and then may return to the previous stage.
- If it is not feasible for the coach to conduct stages 2 - 4, these may be done by the player in their own time and under parental supervision with appropriate guidance. Alternatively the programme may simply be extended with each level being conducted by the coach at training sessions or (if appropriate) in the school setting by other PE staff during PE lessons.
- On completion of stage 5 without the presence of symptoms and review by a doctor, the player may return to playing in full contact rugby games (stage 6).

REVIEW BY A DOCTOR

Following a concussion or suspected concussion, it is recommended that children and young people should be reviewed/assessed by a doctor (typically a GP) before returning to sport and other activities with a predictable risk of head injury e.g. football, rugby, gymnastics, horse riding, hockey, combat sports, skate boarding etc.

Some doctors are happy to clear a player to return to play, but formally clearing players to return to sport is not their role. It is however considered by most experts in concussion that good routine clinical management should include a review by a doctor at an appropriate time to confirm recovery and satisfy themselves that there are no other underlying conditions.

This review should be undertaken having completed the 14 days of relative rest and up to Stage 5 of the GRTP. This fits with the GRTP at around 23 days for children.

The doctor does not need to provide a letter as verbal confirmation by a parent/guardian for U18s is acceptable. Clubs are advised to make a record of this verbal confirmation. GPs may charge a fee for providing a letter.

The following should also be referred back to their doctor for review:

- Children and young people who struggle to return to their studies.
- Those who persistently fail to progress through the GRTP because symptoms return.
- Children and young people who sustain two or more concussions in a 12-month period should be referred to their doctor for a specialist opinion in case they have an underlying pre-disposition or risk factors.

CORRECTING PLAYER TECHNIQUES AND BEHAVIOURS:

If a player's concussion resulted from poor tackle technique, similarly, this needs to be corrected before return to play.

If there are concerns about the player's behaviour and approach to the game, putting them at increased risk of concussion, then this must also be addressed.

SUMMARY

Most players make an uneventful recovery from their concussion but it is important that we all work to ensure that they are managed properly for their short and long-term health.

It is recognised that players will often want to return to play as soon as possible following a concussion. Players, coaches and management, parents and teachers must exercise vigilance and caution to ensure a safe 'Return to Play':

- Ensure that all symptoms have subsided and students have returned to academic studies successfully before commencing the GRTP.
- Ensure that advice of those experienced in managing the GRTP is sought and the GRTP programme is followed.
- Ensure that the advice of healthcare professionals is sought when appropriate.

After returning to play all involved with the player, must remain vigilant for the return of symptoms even if the GRTP has been successfully completed.

IF SYMPTOMS REOCCUR THE PLAYER MUST CONSULT A HEALTHCARE PRACTITIONER AS SOON AS POSSIBLE AS THEY MAY NEED REFERRAL TO A SPECIALIST IN CONCUSSION MANAGEMENT.

More information on concussion and the RFU's Don't be a HEADCASE programme including the free online education modules, general information and FAQs is available at:

www.englandrugby.com/headcase.