



HEADCASE

EXTENDED GUIDELINES

Information, guidance and resources on how to recognise and manage a concussion.



September 2023



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This document is split into identifiable sections to allow the relevant and appropriate information to be found quickly and easily.

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Introduction

The England Rugby HEADCASE Concussion resources provide information and guidance including how to recognise a concussion.

This Extended Guidelines document aims to provide comprehensive information which may be useful for those seeking out answers to specific questions and/or want to expand their understanding of the topic.

HEADCASE Essentials is a more succinct document that provides important information on how to recognise and manage a concussion and is designed for parents, players, coaches, and others as a quick reference.

The HEADCASE resources are aligned with the [UK Concussion Guidelines for \(non-elite\) Grassroots Sport](#) (published by the UK government in April 2023) and have been adapted to provide rugby specific context and examples.

At all levels of community rugby, if a player displays one or more observable signs or symptoms of concussion, they should be **removed from the pitch immediately** irrespective of whether it is a match or training session. The player should be assessed by an appropriate on-site Healthcare Professional or by accessing the NHS by **calling 111 within 24 hours of the injury**. The player should then follow the [Graduated Return to Activity and Sport \(GRAS\) programme](#). This provides a standard framework for all community level players which is designed to safely allow a return to education, work, and sport after a concussion.

Remember...

If in doubt, sit them Out!

These guidelines are intended to give guidance to those managing concussion at all levels of adult and age-grade community rugby.

Elite level adults playing in competitions with access to the **World Rugby HIA protocol** (International, Premiership, Championship and Premiership Womens rugby) have access to healthcare professionals experienced in sports concussion management who take responsibility for supervising individualised, structured, multi-disciplinary, multi-modal management plans. As such, adult players who are managed in these Enhanced Care pathways may be formally cleared for an earlier return to competition.

The [UK Concussion Guidelines for \(non-elite\) Grassroots Sport](#) and corresponding HEADCASE resources have been developed based on current evidence and examples of best practice from a wide range of peer reviewed sources. These include the Concussion in Sport Group's 6th (2022) Consensus Statement on Concussion in Sport, and consultation with other sports and organisations. Advice has also been provided by the **RFU's Independent Concussion Expert Panel (ICEP)** which is made up of the leading independent medical practitioners in this area. The RFU continues to produce its own research, and constantly monitors and reviews the latest evidence to inform policy and practice within the sport.



The free **HEADCASE eLearning module**, accompanies these guidelines. The module provides more detailed information to help you understand what concussion is and how it should be effectively managed.

Seeking Appropriate Medical Advice

The information contained in this document is intended for **educational purposes only** and is not meant to be a substitute for appropriate medical advice or care.

If you believe that you or someone under your care has sustained a concussion, as per the UK concussion guidelines for non-elite (grassroots) sport, **we strongly recommend that you contact a qualified health care professional for appropriate diagnosis and treatment.**

The RFU has made responsible efforts to include accurate and timely information. However, it makes no representations or warranties regarding the accuracy of the information contained and specifically disclaims any liability in connection with the content.

This version has been updated as of **September 2023**.



↑ Roles, Responsibilities & Key Messages

The welfare of players is paramount. Everyone has a responsibility to ensure that they are appropriately informed and understand what role they play in the **prevention, recognition and management of concussion.**

- Concussion is not always a visible injury, so it is important that a cautious approach is taken following a suspected concussion and that it is treated appropriately.
- **Concussion must be taken extremely seriously** to safeguard the safety and long-term health of players.
- Players suspected of having concussion **should be removed from play/ training immediately.**
- All those suspected of sustaining a concussion should be assessed by an appropriate onsite Healthcare Professional or by accessing the **NHS by calling 111 within 24 hours of the injury.**
- If there are concerns about other significant injuries or the presence of 'red flags,' then the player should receive urgent medical assessment onsite or in a hospital Accident and Emergency (A&E) Department using ambulance transfer by calling 999 if necessary.
- Players suspected of having concussion or diagnosed with concussion **should go through a Graduated Return to Activity & Sport (GRAS) programme.**
- Anyone with symptoms that last longer than 28 days should be assessed and managed by an appropriate Healthcare Professional (e.g., their General Practitioner [GP]).

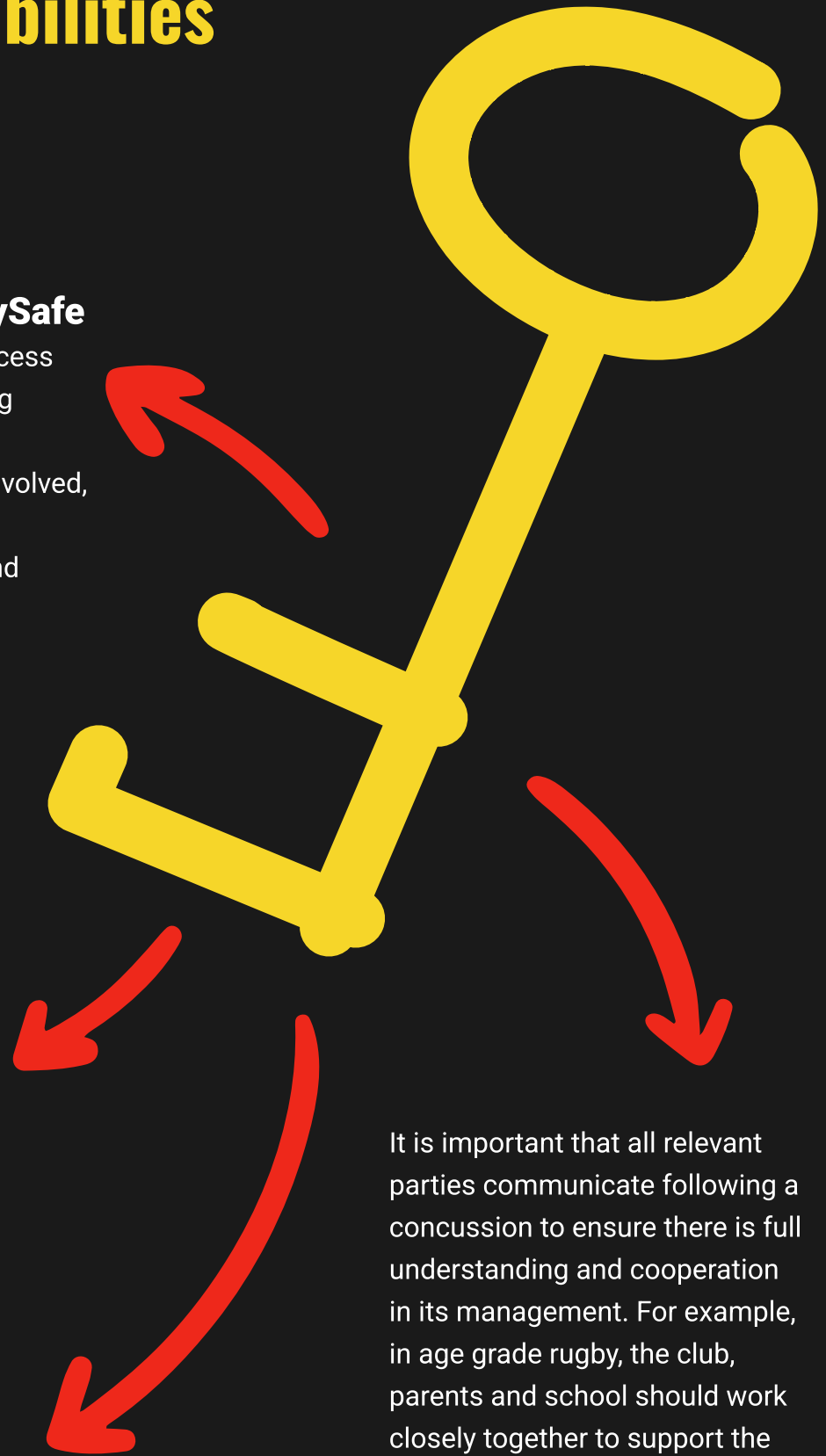
Key Responsibilities

Clubs should utilise the **RugbySafe HEADCASE Toolkit** to access free resources and the eLearning module to ensure that coaches, parents, players, and all those involved, are appropriately informed and understand how to recognise and manage a concussion.

Players may also sustain a concussion outside of rugby but present with the symptoms and signs at training or before a match. It is important that this situation is recognised, as it may put them at risk of more serious consequences if they sustain another concussion before recovery.

Coaches, teammates, teachers, and parents should encourage players to report all concussions whether they occur during games and training sessions or outside of rugby.

It is important that all relevant parties communicate following a concussion to ensure there is full understanding and cooperation in its management. For example, in age grade rugby, the club, parents and school should work closely together to support the player. Adult players should engage with the club and their workplace/university for support.



2 General Information

What is a Concussion?

Concussion is a traumatic brain injury caused by a direct blow to the head, neck or body resulting in an impulsive force being transmitted to the brain. It results in a disturbance of brain function, and affects the way a person thinks, feels, and remembers things.

Concussion can present with a wide range of signs and symptoms, and can affect a players' thinking, concentration, memory, mood and behaviour.

The **majority (80-90%) of concussion symptoms resolve in around 7-10 days**, with symptoms resolving within 1-2 days in around a third of cases.

Anyone with suspected concussion should be immediately removed from the field of play and assessed by an appropriate Healthcare Professional or access the **NHS by calling 111 within 24 hours of the injury**.

It is important that all signs and symptoms of a suspected concussion are noted and communicated either with the healthcare professional or when contacting 111. In some cases, the coach/parent/teacher etc. may need to do this on behalf of the player. Irrespective of how quickly the symptoms resolve, all players with a suspected concussion should go through the full [Graduated Return to Activity & Sport programme \(GRAS\) programme](#) (See Section 6 →)



3 Concussion in Rugby

In all community matches and training involving adult players and all age grade activities the **RECOGNISE and REMOVE** principle should be applied. This is regardless of the **qualification/profession of the individual providing the pitch-side first aid and/or immediate care provision.**

Concussions occur in everyday life and not just in sport. As a contact sport, rugby does involve frequent body impacts and a risk of accidental head impacts, which may result in a concussion.

According to data collected through the RFU's Community Rugby Injury Surveillance & Prevention (CRISP) programme and summarised in the graphic on p.10; in age grade rugby (players aged 15 – 18) on average there is one concussion per team every 6-9 games. This changes in adult men's community rugby, where on average there is one concussion per team every 11-14 games.

The vast majority (60-70%) of concussions in these settings occur in the tackle, which is why there is so much focus on trying to make the tackle as safe as possible.

Remember...

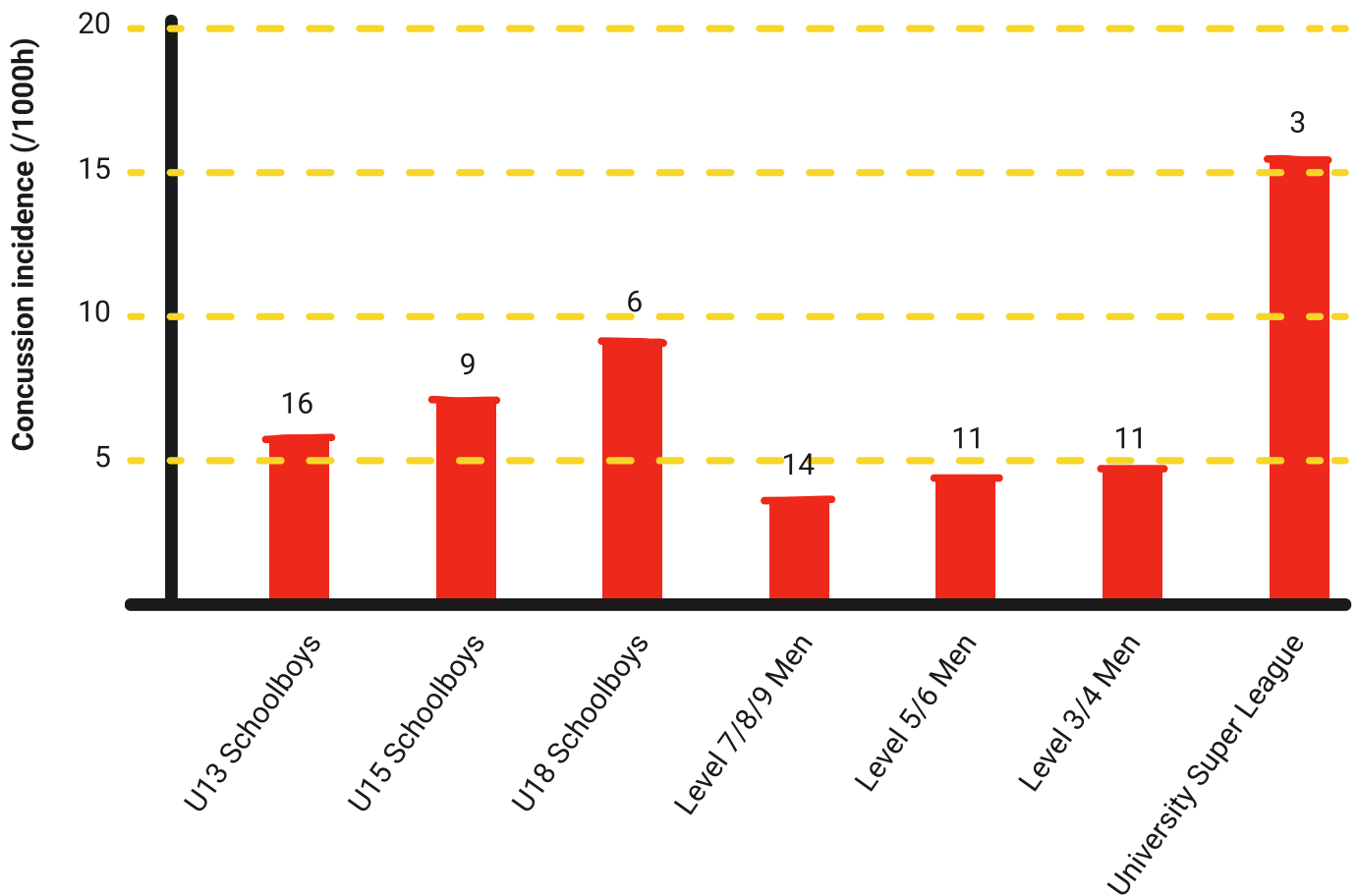
If in doubt,

sit them out!

English Community Game Concussion Rates (2017-2022) – data from CRISP

The height of the red bar outlines the concussion incidence (or the likelihood of concussion expressed as the number of concussions reported per thousand hours of match play).

The values presented in each red bar are the number of games a team plays before a concussion can be expected to occur in that setting.



There has been a notable rise in concussion rates at all levels of the game over the last 10 years or so. This could be attributable to the increased awareness of, and a lower threshold for suspecting concussion, which may at least in part reflect the success of education programmes and media coverage.

For more information on concussion and other injury research, please visit the [RugbySafe Research Toolkit](#).

Protective Equipment and Concussion

Mouthguards

The RFU strongly recommends that mouthguards (also referred to as gum shields) are worn for any contact rugby activity (both training and matches). The use of mouthguards can help to protect the teeth and face. However, there is currently no conclusive evidence that mouthguards can reduce the risk of concussion.

Headguards

Headguards (sometimes referred to as scrum caps) can help to protect the head from cuts and abrasions, and prevent the development of 'cauliflower ears'. Wearing a headguard is permitted on the basis that they should not cause harm or injury to any player and meet [World Rugby standards](#) (see Regulation 12).

However, padded headgear has never been approved or marketed by World Rugby or the RFU to reduce the risk of concussion and there continues to be no conclusive evidence that wearing headguards reduces the chances of sustaining a concussion while playing or training.

Wearing a headguard should be the personal choice of the player and/or parent. While a headguard can provide some protection (e.g. covering the ears) and confidence (e.g. when introducing players to contact); there is a possibility that wearing protective equipment could potentially change a player's behaviour. Therefore, players and coaches are encouraged not to neglect correct technique, particularly in the tackle and ensure that players are aware of the purpose of headguards and their limitations.

For more information on the use of protective equipment visit the [RugbySafe Essential Guide Toolkit](#)

4 Recognising a Concussion

Signs & Symptoms

Symptoms of concussion typically appear immediately or within minutes of injury but may be delayed and appear over the **first 24-48 hours** following the initial head injury. Additional symptoms may also evolve over the next few days.

Loss of consciousness (being 'knocked out') occurs in less than 10% of concussions and is **not required** to diagnose concussion, though by default loss of consciousness means that the player has suffered a concussion.

The typical signs and symptoms of concussion are outlined in the table below.

ANY ONE OF THE FOLLOWING VISUAL CLUES (SIGNS)

What you might see in a player.

- Loss of consciousness or responsiveness
- Lying motionless on ground/slow to get up
- Unsteady on feet/balance problems or falling over/ incoordination
- Dazed, blank or vacant look
- Slow to respond to questions
- Confused/not aware of plays or events.
- Grabbing/clutching of head
- An impact seizure/convulsion
- Tonic posturing – lying rigid/ motionless due to muscle spasm (may appear to be unconscious)
- More emotional/irritable than normal for that person
- Vomiting

SYMPTOMS OF CONCUSSION AT OR SHORTLY AFTER INJURY

What the player might tell you / what you should ask a player about.

- Disoriented (not aware of their surroundings e.g., opponent, period, score)
- Headache
- Dizziness/feeling off-balance
- Mental clouding, confusion or feeling slowed down
- Drowsiness/feeling like 'in a fog'/ difficulty concentrating
- Visual problems
- Nausea
- Fatigue
- 'Pressure in head'
- Sensitivity to light or sound
- More emotional
- Don't feel right
- Concerns expressed by parent, official, spectators about a player

Should any of the following ‘red flag’ signs or symptoms be present following a head injury or should any of these symptoms arise in the period following a head injury, the player **should receive urgent medical assessment** (either from an appropriate Healthcare Professional onsite, or in a hospital Accident and Emergency (A&E) Department) using emergency ambulance transfer if necessary. These “red flag” signs and symptoms are outlined in the table below.

RED FLAGS | REQUIRING URGENT MEDICAL ASSESSMENT

- Any loss of consciousness because of the injury
- Deteriorating consciousness (more drowsy)
- Amnesia (no memory) for events before or after the injury
- Increasing confusion or irritability
- Unusual behaviour change
- Any new neurological deficit e.g.
 - Difficulties with understanding, speaking, reading, or writing
 - Decreased sensation
 - Loss of balance
 - Weakness
 - Double vision
- Seizure/convulsion or limb twitching or lying rigid/motionless due to muscle spasm
- Severe or increasing headache
- Repeated vomiting
- Severe neck pain
- Any suspicion of a skull fracture (e.g., cut, bruise, swelling, severe pain at site of injury)
- Previous history of brain surgery or bleeding disorder
- Current ‘blood-thinning’ therapy
- Current drug or alcohol intoxication

Spotting head impacts and visible clues of concussion can be difficult in fast moving and dynamic sports like rugby. **It is the responsibility of everyone** – players, coaches, teachers, referees, spectators, and families – to watch out for individuals with suspected concussion and ensure that they are immediately removed from play.

Continuing to play following a concussion puts that player at further risk and can also lead to a longer recovery period.

5 What happens after a Concussion

What is the usual recovery from concussion?

Most symptoms of a concussion resolve by two to four weeks, but some can take longer. Everyone is unique in the nature and timescale of their recovery which is why completion of a graduated return to activity (education/work) and sport (GRAS) programme is so important.

If symptoms persist for more than **28 days**, individuals need to be assessed by an appropriate Healthcare Professional, typically their GP. They may determine that specialist referral and review is required.

What are the short – medium term consequences of concussion?

Sustaining a concussion increases the risk of sustaining another concussion, which may then take longer to recover. Exposure to further head impacts before full recovery can increase the risk of a more serious brain injury and lead to **Second Impact Syndrome**, a potentially **FATAL** condition due to severe swelling on the brain. A history of a recent concussion also increases the risk of other sport related soft-tissue injuries.

It can be difficult in the initial stages to differentiate concussion from other serious brain injuries, which at their most extreme, can be fatal. It means that everyone should be aware of the '**red flags**' that necessitate urgent medical attention and adopt the "**Recognise and Remove**" approach across all forms of the community game.

Multiple / Repeated Concussions

Players who experience two or more concussions in 12 months or multiple concussions over the course of their time playing should be reviewed on an individual basis. The circumstances of the event associated with the concussion, the symptoms experienced by the player and the nature and timescale of the current and previous recoveries can all affect the approach that is taken; some players may require an extended period out of the game.

If a player has experienced repeated concussions, it is recommended that they are seen by a doctor specialising in concussion management (through a GP referral). Each concussion should be considered on its own merits but a more conservative timescale for recovery or directed rehabilitation may be recommended, especially if each time the force required to cause the concussion is lessened and/or the symptoms are prolonged.

It is also important to look at the mechanism of injury/how the concussions are occurring, for example poor tackle technique and, if identified, how each factor can be addressed by the coach/player.



How can we prevent concussions?

Concussion occurs in everyday life, on school playgrounds and in the workplace. Rugby is a contact sport and, while it is impossible to completely remove the risk of concussion, there are a number of measures which can help to reduce the risk and prevent concussions occurring.

1. Law and law application

Laws and regulations are in place to make the game as safe as possible. The emphasis for referees should be on safety, enjoyment, equity and learning to support the development of the players and good technique. Where foul play is clearly evident, the referee should take immediate action appropriate to address the issue and maintain safety.

Dangerous play and/or inappropriate behaviours by players could lead to a concussion and/or other injury. Law 9 covers foul play, it is important that high, tip and spear tackles and tackling players in the air are penalised immediately as **falling from height increases the risk of concussion and neck injuries.**

Lowering of the tackle height

CRISP (Community Rugby Injury Surveillance & Prevention Project) data tells us that 60-70% of all concussions occur in the tackle, across all non-elite (grassroots) settings. Detailed video analysis of over 10,000 tackles has consistently identified some key features of tackles that are consistently associated with higher concussion risk. These include:

- > Active shoulder tackles
- > Higher contact on the ball carrier
- > An upright tackler
- > A fast moving or accelerating tackler
- > Closer head proximity of players in relation to one another.

Measures to lower the tackle height in other countries has shown promising results, and as a result, from the start of the 2023-24 season, in England and the other home unions, the legal tackle height in non-elite (grassroots) rugby will be lowered to the base of the sternum.

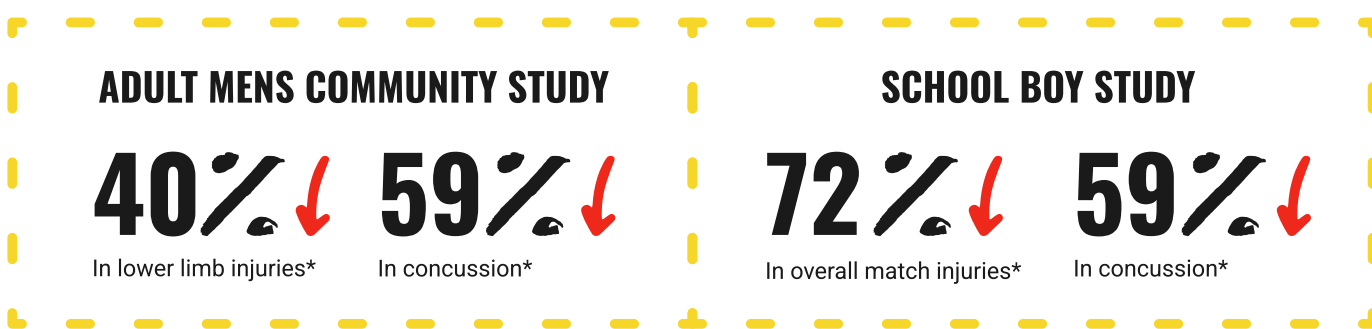
The RFU will be working with multiple stakeholders to roll-out this law change to maximise player welfare and will be continuing to collect data to evaluate the impact of this law change.

More information on the tackle height including details on the specific law changes are available on the [Tackle Height Hub](#)

2. Activate (Injury Prevention Exercise Programme)

Activate is the England Rugby Injury Prevention Exercise Programme that should be integrated into training and pre-match sessions. The **Activate programme includes Activate Kids (U7 – U12), Activate Youth (U13 – U18) and Activate Adult** versions, and has been shown to prepare players for the demands of the game, reduce the risk of all types of injury (including concussions) and improve playing performance.

Research showed that regular use of the Activate programmes has the potential to significantly reduce the risk of injury including concussion.



* When players used the programme 3 times a week.

The free Activate resources and videos are available in the [RugbySafe Activate Toolkit](#)

Exercises are designed to improve functional and core strength, balance, and agility, helping players with the game's physical demands.

The Activate programme includes:

- Activate Kids (U7 – U12)
- Activate Youth (U13 – U18)
- Activate Adult

Regularly doing Activate exercises can:

- > Improve playing performance
- > Prepare players for the physical demands of the game
- > Reduce the risk of injury including concussion, as well as support rehabilitation post injury
- > Mean more players are available (due to less players being injured).

How does Activate Work?

- > Improves muscle activation and enables them to respond better to the demands of exercise
- > Develops adaptability allowing for better 'physical' decisions and reaction around contact areas
- > Aids activation of stabilising head and neck muscles reducing the potential "whiplash" effect that can cause concussion.

The programme is based on evidence that showed the conditioning of players significantly contributes to reducing the risk of injury, including concussion. The specific exercises in the programme have been shown to improve functional conditioning, movement control and activation of muscles, all of which improve playing performance, prepare players for the physical demands of the game, and reduce the risk of injury.

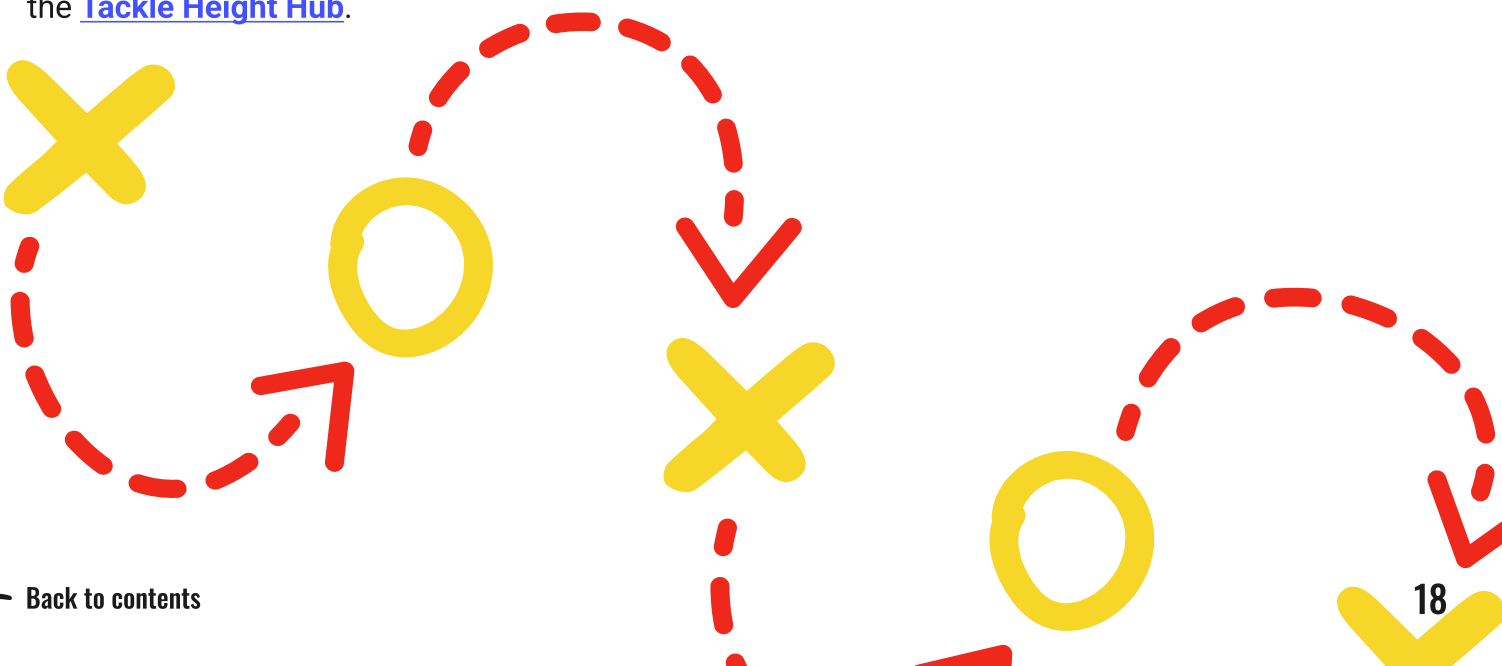
The free Activate resources and videos are available in the [RugbySafe Activate Toolkit](#)

3. Coaching & Correct Tackle Technique

If it is felt that a player's tackle technique has contributed to a concussion, the player and club should work with the coaching staff to optimise their tackle technique and reduce the future risk of it contributing to concussion.

Tackle technique is a skill that players should practice little and often to ensure that they are developing safe and effective technique and in varying ways and intensities. The free [Tackle Safe eLearning module](#) provides information and ideas for developing safe tackle practice and technique.

Additional information on the tackle height including specific coaching resources is available on the [Tackle Height Hub](#).



Concussion Management Guidelines

Graduated Return to Activity and Sport (GRAS) Programme

**Anyone with a suspected concussion should be
IMMEDIATELY REMOVED FROM PLAY**

Remember...

If in **doubt**,
sit them



Info

The table below outlines the immediate ‘do’s and don’ts’ after a concussion is diagnosed.

DO

- Be removed from play immediately.
- Get assessed by an appropriate Healthcare Professional onsite or access the NHS by calling 111 within 24 hours of the incident.
- Rest & sleep as needed for the first 24 - 48 hours – this is good for recovery. Easy activities of daily living and walking are also acceptable.
- Minimise smartphone, screen and computer use for at least the first 48 hours. Limiting screen-time has been shown to improve recovery.

DO NOT

- Be left alone in the first 24 hours.
- Consume alcohol in the first 24 hours and/or if symptoms persist.
- Drive a motor vehicle within the first 24 hours (*Commercial drivers (HGV etc.) should seek review by an appropriate Healthcare Professional before driving*).

Once the player has been diagnosed with a concussion and sought the appropriate medical advice, the player can start to follow the **Graduated Return to Activity and Sport (GRAS) programme** outlined in the summary table on p. 21.

This advocates that a short period of relative rest (first 24 - 48 hours) followed by a gradual stepwise return to normal life (education, work, low level exercise), then subsequently to sport is safe and effective.

Progression through the stages below is dependent upon the activity not more than mildly exacerbating symptoms. Medical advice from the NHS via 111 should be sought if symptoms deteriorate or **do not improve by 14 days after the injury**.

Those with symptoms after 28 days should seek medical advice via their GP.

Overview of:

Graduated Return to Activity & Sport (GRAS) programme



See Section 17 of the [UK Concussion Guidelines for Non-Elite](#) (Grassroots) Sport and its Graduated Return to Activity (Education & Word) & Sport Summary.

How does this programme differ from the previous graduated return-to-play (GRTP) programme?

Importantly this pathway **no longer** requires an initial complete 14-day stand-down.

After a first week of light exercise/symptom limited activity the player, if symptom free, will be able to start non-contact training activities in the second week with resistance training activities also started in this week. Training activities with a predictable risk of head injury can then be introduced in week three (but only if/when the player has been **symptom free for 14 days**).

Early Stages

Participating in light physical activity is beneficial and has been shown to have a positive effect on recovery after the initial period of relative rest. The focus should be on returning to normal daily activities of education and work in advance of unrestricted sporting activities.




Return to Activity (Education / Work)

The transition back to learning and to school following concussion is an important consideration for children, adolescents, and young adults. The GRAS programme follows a return to activity and a learn then play pathway. The priority is to return to normal life, school/work before rugby.

While many students can quickly return to learning with no or minimal difficulty, the process can be more challenging for those who have severe symptoms or pre-existing learning disabilities which may affect recovery.

To minimise academic and social disruptions during this process, players should avoid complete rest and isolation, even for the initial **24–48 hours**, and instead undergo a period of relative rest. An early return to activities of daily living should be encouraged provided that symptoms are no more than mildly and briefly increased.

Students and parents should liaise with schools to discuss potential strategies to facilitate a successful return. These could include:

-  Environmental adjustments, such as modified school attendance, frequent rest breaks from thinking/deskwork tasks throughout the day and/or limited screen time on electronic devices.
-  Physical adjustments to avoid any activities at risk of contact, collision or falls, such as contact sports or game play during physical education classes or after-school activities.
-  Curriculum adjustments, such as extra time to complete assignments/homework and/or pre-printed class notes.

Adult employers should liaise with their employers or educators to facilitate similar adjustments, and each arrangement should be individualised to that player's symptoms, triggers, and type of work.

The final stage of return to school or work activity is when the individual is back to full pre-injury mental activity, and this should occur before return to unrestricted sport is contemplated.

Return to Sport

It should be emphasised that the GRAS is a pathway and not a protocol, and the pathway should be individualised for each player. There is a minimum return time of **21 days** (with the date of injury being day 0), provided there is a symptom free period of **14 days**.



This means players will **miss a minimum of two weeks** with the potential to play on the third weekend. If symptom free, they will be able to start non-contact training activities in the second week with resistance training activities also started in this week.

Training activities with a predictable risk of head injury can then be introduced in week 3 (but only if/when the player has been **symptom free for 14 days**).



Similar to the return to education/work progression, the return to sport progression can occur at a rate that does not, more than mildly, exacerbate existing symptoms or produce new symptoms.

It is acceptable to begin light aerobic activity (e.g., walking, light jogging, riding a stationary bike etc.), even if symptoms are still present, provided they are stable and are not getting worse and the activity is stopped for more than mild symptom exacerbation.

Symptom exacerbations are typically brief (several minutes to a few hours) and the activity can be resumed once the symptom exacerbation has subsided.

Example Concussion Timetable

For context, a concussion timetable could look like:

DAY 0 Concussion on Saturday 1st October.

DAY 4 All concussion-related symptoms resolved by Wednesday 5th October.

DAY 18 **No less than 14 days** is needed before the individual returns to sport-specific training in involving head impacts or where there may be a risk of head injury (Stage 5) on Wednesday 19th October.

DAY 25 Continue to be guided by the recommendations above and, if symptoms do not return, the individual may consider returning to competitive sport with risk of head impact on Wednesday 26th October.

7 Information for Healthcare Professionals (HCPs)

It is important that all signs and symptoms of a suspected concussion are noted and communicated to the HCP directly or via the player/parents to pass on.

Signs and symptoms are often short lived and may only be witnessed at the time of injury or immediately afterwards. If this is the case, even if the HCP confirms that there are no underlying issues, and the player has no ongoing symptoms the player should undertake the RTP.

Healthcare practitioners should avoid ruling out a concussion in players who are asymptomatic at the time, where there is even a suggestion of signs/symptoms at the time of injury, regardless of how brief these symptoms may have been.

Healthcare practitioners can use the updated **SCAT6** (Sports Concussion Assessment Tool) or **SCOAT6** (Sports Concussion Office Assessment Tool) as a guide to reviewing potentially concussed players, and also as a guide to monitor recovery. These are available to download from the [RugbySafe HEADCASE Toolkit](#)



8 Resources & Signposting

Resources

All HEADCASE related resources are available to download from the [RugbySafe HEADCASE Toolkit](#) including:

- HEADCASE Essential Guide
- HEADCASE Pitch-side Advice Card
- HEADCASE Changing Room Poster
- Concussion Recognition Tool 6 (CRT6) - for general use
- Sport Concussion Assessment Tool 6 (SCAT 6), Adult & Child versions available - for use by a Health Care Professional only
- Sport Concussion Office Assessment Tool 6 (SCOAT 6), Adult & Child versions available for use by a Health Care Professional only

Useful Information

[RFU Regulations 9 and 15](#) (including concussion management)

Please note that the following are external websites and the RFU is not responsible for the content of those websites.

[Sport & Recreational Alliance / Government Concussion Guidelines for Grassroots Sport](#)

[NHS Concussion Advice](#)

[World Rugby Laws](#)

[World Rugby Regulations](#)

[World Rugby Concussion Guidance and Education](#)

[6th International Conference Consensus statement on Concussion in Sport](#)