



UK Government

# IF IN DOUBT, SIT THEM OUT

## UK Concussion Guidelines for Non-Elite (Grassroots) Sport

April 2023



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IF IN DOUBT, SIT THEM OUT

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# Introduction

The following guidance is intended to provide information on how to recognise concussion and on how it should be managed from the time of injury through to a safe return to education, work and playing sport.

This information is intended for the general public and for individuals participating in all grassroots sports – primary school age and upwards - where Healthcare Professionals are typically not available onsite to manage concussed individuals.

This document contains general medical information, but this does not constitute medical advice and should not be relied on as such. Nor is this guidance a substitute for medical advice from a qualified medical practitioner or healthcare provider. You must not rely on this guidance as an alternative to seeking medical advice from a qualified medical practitioner or healthcare provider. In particular, if you have any questions or concerns about a particular medical matter you should immediately consult a qualified medical practitioner or healthcare provider. If you think you may be suffering from a medical condition you should seek immediate medical attention. You should never delay seeking medical advice, disregard medical advice or discontinue medical treatment because of information contained in this guidance.

**At all levels in all sports, if an individual is suspected of having a concussion, they must be immediately removed from play.**

## IF IN DOUBT, SIT THEM OUT

No-one should return to competition, training or Physical Education (PE) lessons within 24 hours of a suspected concussion. Anyone with a suspected concussion should NOT drive a motor vehicle (e.g. car or motorcycle), ride a bicycle, operate machinery, or drink alcohol within 24 hours of a suspected concussion and commercial drivers (HGV etc.) should seek review by an appropriate Healthcare Professional before driving.

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 injury 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.

Anyone with concussion should generally rest for 24-48 hours but can undertake easy activities of daily living and walking, but must avoid intense exercise, challenging work, or sport. They can then progress through the [graduated return to activity \(education/work\) and sport 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 points

- **Most-people with concussion recover fully with time.**
- A concussion is a brain injury.
- All concussions are serious.
- Head injury can be fatal.
- Most concussions occur without loss of consciousness (being 'knocked out').
- Anyone with one or more visible clues, or symptoms of a head injury must be immediately removed from playing or training and must not take part in any further physical sport or work activity, even if symptoms resolve, until assessment by an appropriate Healthcare Professional or by accessing the NHS by calling 111, which should be sought within 24 hours.
- Return to education/work takes priority over return to sport.
- Individuals with concussion should only return to playing sport which risks head injury after having followed a [graduated return to activity \(education/work\) and sport programme](#).
- All concussions should be managed individually, but there should be no return to competition **before** 21 days from injury.
- Anyone with symptoms after 28 days should seek medical advice from their GP (which may in turn require specialist referral and review).

## What is concussion?

Concussion is a traumatic brain injury resulting in a disturbance of brain function. It affects the way a person thinks, feels and remembers things.

Loss of consciousness (being 'knocked out') occurs in less than 10% of concussions and is not required to diagnose concussion. However, anyone who loses consciousness because of a head injury has had a concussion.

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.

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Concussion can affect people in four main areas,

### **Physical**

e.g. headaches, dizziness, vision changes

### **Mental processing**

e.g. not thinking clearly, feeling slowed down

### **Mood**

e.g. short tempered, sad, emotional

### **Sleep**

**e.g. not being able to sleep or sleeping too much**

There may be times when the person may have no visible signs such as looking blank and being off balance. It can be very difficult to differentiate concussion from other more serious injuries, such as bleeding in the brain. Other significant injuries such as injuries to the neck or face can also occur along with concussion.

Playing on with symptoms of concussion can make them worse, significantly delay recovery, and, should another head injury occur, result in more severe injury and in rare cases, death (known as second impact syndrome). This is why it is so important to remove anyone with suspected concussion from the at-risk activity immediately.

## What causes concussion?

Concussion can be caused by a direct blow to the head but can also occur when knocks to other parts of the body result in rapid movement of the head (e.g. whiplash type injuries).

## What can be the consequences of concussion?

A history of previous concussion(s) increases the risk of sustaining a further concussion, which may then take longer to recover.

A history of a recent concussion also increases the risk of other sport-related injuries (e.g. musculoskeletal injuries).

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

- May be more susceptible to concussion.
- Take longer to recover and returning to education too early may exacerbate symptoms and prolong recovery.
- Are more susceptible to rare and dangerous neurological complications, including death caused by a second impact before recovering from a previous concussion.

## Initial assessment

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 injury 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.

# Red flags – requiring urgent medical assessment

If any of the following ‘red flags’ are reported or observed, then the player should receive urgent medical assessment from an appropriate Healthcare Professional onsite or in a hospital Accident and Emergency (A&E) Department using emergency ambulance transfer if necessary :

- 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



## Onset of symptoms

The first symptoms of concussion typically appear immediately or within minutes of injury but may be delayed and appear over the first 24-48 hours following a head injury. Over the next several days, additional symptoms may become apparent (e.g. mood changes, sleep disorders, problems with concentration).

## How to recognise a concussion

Spotting head impacts and visible clues of concussion can be difficult in fast moving sports. 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 is dangerous and leads to a longer recovery period.

**Remember that the primary aim is to protect the individual from further injury by immediately removing them from play. Return to play should not be permitted until after evaluation by an appropriate Healthcare Professional and the successful completion of a [graduated return to activity \(education/work\) and sport programme](#).**

If any of the following visible clues or symptoms are present following a head injury, the player should be suspected of having a concussion and immediately removed from play or training and evaluated by an appropriate Healthcare Professional.

## Visible clues (signs) of concussion

### What you see

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



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

## Symptoms of concussion at or shortly after injury

### What you are told/what you should ask about

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

- 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



# Immediate management of a suspected concussion

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

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Once safely removed from-play, the player must not be returned to activity that day and until an appropriate Healthcare Professional has excluded concussion or the patient has completed a [graduated return to activity \(education/work\) and sport programme](#).

If a neck injury is suspected, the player should only be moved by Healthcare Professionals with appropriate training.

Teammates, coaches, match officials, team managers, administrators or parents/carers who suspect someone may have concussion **MUST** do their

best to ensure that the individual is removed from play in as rapid and safe a manner as possible.

- 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 screentime has been shown to improve recovery.

## Anyone with a suspected concussion should 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.



Anyone with a suspected

**concussion should:**



# Following a suspected concussion, what's your role?

## Coaches, teachers, volunteers

- Safely remove the individual from the field of play and ensure that they do not return to play in that game even if they say that their symptoms have resolved.
- Observe the player or assign a responsible adult to monitor the individual once the player is removed.
- If player is under 18 years old, contact parent/guardian to inform them of the possible concussion.
- Arrange for the player to get home safely.
- Arrange for a responsible adult to supervise the player over the next 24-48 hours.
- Ensure any relevant injury report form is completed and stored by the club/school/organisation.
- Follow a [graduated return to activity \(education/work\) and sport programme](#) with an emphasis on initial relative rest and returning to education/work before returning to training for sport.

## Parents, carers

- Obtain full details of the incident.
- Do not leave your child alone for the first 24 hours.
- Have your child assessed by an appropriate Healthcare Professional onsite within 24 hours or by accessing the NHS by calling 111.

- Monitor your child for worsening signs and symptoms of concussion for at least 24-48 hours.
- Encourage initial rest/sleep as needed and limit smartphone/computer and screen use for the first 24-48 hours.
- Inform school/work/other sports clubs of the suspected concussion.
- Support your child to follow a [graduated return to activity \(education/work\) and sport programme.](#)

- Stop playing/training **immediately** if you experience any symptoms of concussion.
- Be honest with how you feel and report any symptoms immediately to your coach, medic and/or parent.
- Delays in reporting and under-reporting of symptoms have been associated with a longer recovery and delayed return to activity and could risk incomplete recovery of the brain.
- If you have continuing symptoms, do not return to training or sport activities until evaluated by an appropriate Healthcare Professional.
- Inform your school/work/sports clubs.
- Follow the [graduated return to activity \(education/work\) and sport programme](#).
- During training and matches always watch out for teammates and encourage them to be honest and report any concussion symptoms.
- If you question whether another player may have symptoms of concussion, report this to the coach, match official or appropriate Healthcare Professional.



# Concussion recovery

## The graduated return to activity (education/work) and sport programme

Generally, a short period of relative rest (24-48 hours) followed by a gradual stepwise return to normal life and then subsequently sport is the cornerstone of concussion management. In the first 24-48 hours, it is ok to perform mental activities like reading, and activities of daily living as well as walking.

After initial assessment and confirmation of concussion by an appropriate Healthcare Professional onsite or via NHS by calling 111, the [graduated return to activity \(education/work\) and sport programme](#) typically can be self-managed, although severe or prolonged symptoms (over 28 days) should be under the supervision of an appropriate Healthcare Professional and management will depend on the severity of symptoms and the types of symptoms and difficulties that are present. This varies from person to person and is not a 'one size fits all' process.

After a 24-48 hour period of relative rest, a staged return to normal life (education/work) and sport at a rate that does not exacerbate existing symptoms, more than mildly, or produce new symptoms is the main aim. This is before return to sport is contemplated.

It is acceptable to allow students to return to school or work activities, and subsequently school or work part-time (e.g. half-days or with scheduled breaks), even if symptoms are still present, provided that symptoms are not severe or significantly worsened. The final stage of return to school or work activity is when the individual is back to full preinjury mental activity, and this should occur before return to unrestricted sport is contemplated.

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.

Although symptoms may resolve following a concussion, it takes longer for the brain to recover. The aim is to:

## Rehabilitate the person – give the brain time to recover

# Concussion recovery time varies

Most symptoms of a concussion resolve by two to four weeks, but some can take longer. Everyone is unique in their recovery duration which is why completion of a [graduated return to activity \(education/work\) and sport programme](#) is important to reduce the risks of a slow recovery, further brain injury, and longer-term problems. Children and adolescents may take longer to recover than adults.

If symptoms persist for more than 28 days, individuals need to be assessed by an appropriate Healthcare Professional – typically their GP.

Please note that headaches can persist for several months or more, well after the acute injury from the concussion has resolved. They may resemble migraine and may be associated with nausea and sensitivity to light and/or sound. Sometimes they are from a neck injury. Persisting symptoms are not usually due to a more severe brain injury and, if the headache is not increased by mental or physical activity and the frequency and intensity is managed adequately, it should not preclude an individual from returning to school, work and physical activity.



## GRADUATED RETURN TO EDUCATION/WORK & SPORT SUMMARY

(See full table below for detail)

<b>Stage 1</b>	<p><b>Relative Rest for 24–48 hours</b></p> <ul style="list-style-type: none"> <li>• Minimise screen time</li> <li>• Gentle exercise*</li> </ul>
<b>Stage 2</b>	<p><b>Gradually introduce daily activities</b></p> <ul style="list-style-type: none"> <li>• Activities away from school/work (introduce TV, increase reading, games etc)*</li> <li>• Exercise –light physical activity (e.g. short walks) *</li> </ul>
<b>Stage 3</b>	<p><b>Increase tolerance for mental &amp; exercise activities</b></p> <ul style="list-style-type: none"> <li>• Increase study/work-related activities with rest periods* •</li> <li>Increase intensity of exercise*</li> </ul>
<b>Stage 4</b>	<p><b>Return to study/work and sport training</b></p> <ul style="list-style-type: none"> <li>• Part-time return to education/work*</li> <li>• Start training activities without risk of head impact*</li> </ul>
<b>Stage 5</b>	<p><b>Return to normal work/education and full training</b></p> <ul style="list-style-type: none"> <li>• Full work/education</li> <li>• If symptom-free at rest for 14 days consider full training</li> </ul>

# Graduated return to activity (education/work) and sport

## Overview

- Generally, 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.
- 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.

## Stage 6

**Return to sports competition (NOT before day 21) as long as symptom free at rest for 14 days and during the pre-competition training of Stage 5**

## If symptoms continue beyond 28 days remain out of sport and seek medical advice from a GP

### Notes

- The graduated return to activity (education/work) and sport programme is designed to safely allow return to education, work and sport after concussion for the overwhelming majority of athletes who will not benefit from individualised management of their recovery.
- Some athletes, as happens in Elite and Professional sport, may have access to Healthcare Professionals experienced in sports concussion management who take responsibility for an individualised, structured, multimodal, multidisciplinary management plan to include medical, psychological, cognitive, vestibular and musculoskeletal components. Athletes who are managed in such Enhanced Care pathways may be formally cleared for an earlier return to competition.

\*rest until the following day if this activity more than mildly increases symptoms.

## Graduated return to activity (education/work) and sport programme

Stage	Focus	Description of activity	Comments
Stage 1	Relative rest period (2448 hours)	Take it easy for the first 24-48 hours after a suspected concussion. It is best to minimise any activity to 10 to 15-minute slots. You may walk, read and do some easy daily activities provided that your concussion symptoms are no more than mildly increased. Phone or computer screen time should be kept to the absolute minimum to help recovery.	

Stage 2	Return to normal daily activities outside of school or work.	<ul style="list-style-type: none"> <li>• Increase mental activities through easy reading, limited television, games, and limited phone and computer use.</li> <li>• Gradually introduce school and work activities at home.</li> <li>• Advancing the volume of mental activities can occur as long as they do not increase symptoms more than mildly.</li> </ul>	There may be some mild symptoms with activity, which is OK. If they become more than mildly exacerbated by the mental or physical activity in Stage 2, rest briefly until they subside.
	Physical Activity (e.g. week 1)	<ul style="list-style-type: none"> <li>• After the initial 24–48 hours of relative rest, gradually increase light physical activity.</li> <li>• Increase daily activities like moving around the house, simple chores and short walks. Briefly rest if these activities more than mildly increase symptoms.</li> </ul>	
Stage 3	Increasing tolerance for thinking activities	<ul style="list-style-type: none"> <li>• Once normal level of daily activities can be tolerated then explore adding in some home-based school or work-related activity, such as homework, longer periods of reading or paperwork in 20 to 30-minute blocks with a brief rest after each block.</li> <li>• Discuss with school or employer about returning part-time, time for rest or breaks, or doing limited hours each week from home</li> </ul>	Progressing too quickly through stages 3 - 5 whilst symptoms are significantly worsened by exercise may slow recovery. Although headaches are the most common symptom following concussion and may persist for several months, exercise should be limited to that which does not more than mildly exacerbate them. Symptom exacerbation with physical activity and exercise is generally safe, brief and is self-limiting typically lasting from several minutes to a few hours.
	Light aerobic exercise (e.g. weeks 1 or 2)	<ul style="list-style-type: none"> <li>• Walking or stationary cycling for 10–15 minutes. Start at an intensity where able to easily speak in short sentences. The duration and the intensity of the exercise can gradually be increased according to tolerance.</li> <li>• If symptoms more than mildly increase, or new symptoms appear, stop and briefly rest. Resume at a reduced level of exercise intensity until able to tolerate it without more than mild symptom exacerbation.</li> <li>• Brisk walks and low intensity, body weight resistance training are fine but no high intensity exercise or added weight resistance training.</li> </ul>	

## Graduated return to activity (education/work) and sport programme

Stage	Focus	Description of activity	Comments
Stage 4	Return to study and work	<ul style="list-style-type: none"> <li>• May need to consider a part-time return to school or reduced activities in the workplace (e.g. half-days, breaks, avoiding hard physical work, avoiding complicated study).</li> </ul>	Progressing too quickly through stages 3 - 5 whilst symptoms are significantly worsened by exercise may slow recovery. Although headaches are the most common symptom following concussion and may persist for several months, exercise should be limited to



	<b>Non-contact training (e.g. during week 2)</b>	<ul style="list-style-type: none"> <li>Start training activities in chosen sport once not experiencing symptoms at rest from the recent concussion. It is important to avoid any training activities involving head impacts or where there may be a risk of head injury. Now increase the intensity of exercise and resistance training.</li> </ul>	that which does not more than mildly exacerbate them. Symptom exacerbation with physical activity and exercise is generally safe, brief and is self-limiting typically lasting from several minutes to a few hours.
<b>Stage 5</b>	<b>Return to full academic or work-related activity</b>	<ul style="list-style-type: none"> <li>Return to full activity and catch up on any missed work.</li> </ul>	<p>Individuals should only return to training activities involving head impacts or where there may be a risk of head injury when they have not experienced symptoms at rest from their recent concussion for 14 days.</p> <p>Recurrence of concussion symptoms following head impact in training should trigger removal of the player from the activity.</p>
	<b>Unrestricted training activities (not before week 3)</b>	<ul style="list-style-type: none"> <li>When free of symptoms at rest from the recent concussion for 14 days can consider commencing training activities involving head impacts or where there may be a risk of head injury.</li> </ul>	
<b>Stage 6</b>	<b>Return to competition</b>	<p>This stage should not be reached before day 21* (at the earliest) <u>and</u> only if no symptoms at rest have been experienced from the recent concussion in the preceding 14 days <u>and</u> now symptom free during pre-competition training.</p> <p>* The day of the concussion is Day 0 (see example below).</p>	<p>Resolution of symptoms is only one factor influencing the time before a safe return to competition with a predictable risk of head injury. Approximately two-thirds of individuals will be able to return to full sport by 28 days but children, adolescents and young adults may take longer.</p> <p>Disabled people will need specific tailored advice which is outside the remit of this guidance.</p>

**Example:**

- Concussion on Saturday 1st October (Day 0)
- All concussion-related symptoms resolved by Wednesday 5th October (Day 4)
- No less than 14 days is needed before the individual returns to sport-specific training involving head impacts or where there may be a risk of head injury (Stage 5) on Wednesday 19th October (Day 18)
- 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 (Day 25)

**If symptoms continue beyond 28 days – remain out of sport and medical advice should be sought from a GP (which may in turn require specialist referral and review)**

# IF IN DOUBT, SIT THEM OUT

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This guidance has been a collaboration between key stakeholders in sport, physical activity and education, athlete healthcare providers, research institutions, the Royal College of General Practitioners, the Royal College of Emergency Medicine, the Society of British Neurological Surgeons and governmental departments from all four UK Home Nations. Special thanks is extended to concussion campaigner Peter Robinson and for the creation of “If In Doubt, Sit Them Out”.