



Concussion in sport

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Please help us to continue to provide free information to people affected by brain injury by making a donation at www.headway.org.uk/donate. Thank you.

Acknowledgements: many thanks to Dr Kevin Foy, Consultant Neuropsychiatrist at The Walton Centre, Liverpool, for his contribution to this factsheet.

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Introduction

Sport plays a key role in keeping us fit and healthy. Every week, millions of us enjoy playing sport, either professionally or recreationally. It is always important to be aware of the risk of injury in sports, one of which can be concussion. More importantly, people who engage in sports should be clear on what to do in the event that a concussion is sustained.

At Headway, we want to ensure that everyone is able to enjoy sport while being protected



from the risks of concussion. This factsheet therefore aims to offer information on what a concussion is, how to identify it and what to do if you or someone you know experiences a sports-related concussion, as well as answering some frequently asked questions about concussion in sport.

What is a concussion?

Concussion, often also referred to as a minor head injury or minor traumatic brain injury (mTBI) is a temporary disturbance in the brain's functioning as a result of a blow to the head. This can be from an object such as a ball striking the head, from two players knocking into one another or from a whiplash injury.

Concussion may also result from non-sporting injuries such as in cases of domestic abuse, road traffic accidents, falls or assaults. The impact causes the brain to shake around in the skull, which can cause both immediate and longer-term symptoms. These are discussed in more detail below.

What are the symptoms of concussion?

In the initial instance after the impact, an individual may lose consciousness as a result of the head injury. However, only around 10% of reported concussions involve a loss of consciousness, so it is important to not solely rely on this as an indicator - a sense of feeling confused is far more common.

Concussion commonly produces a mixture of physical, cognitive and emotional symptoms, which can vary greatly between individuals.

Some key signs of concussion to look out for include:

Physical signs

- Headaches
- Dizziness
- Light sensitivity
- Insomnia and sleep problems
- Balance problems
- Fatigue

Cognitive signs

- Poor concentration
- Forgetfulness
- Difficulty with processing information



Concussion is a temporary disturbance in the brain's function as a result of a blow to the head, and can occur following sporting injuries or other day-to-day injuries. Further information on managing concussions is available in Headway's booklet [Minor head injury and concussion](#).



Emotional signs

- Irritability
- Low mood
- Anxiety
- Feeling more emotional than usual

These symptoms can take place immediately following an impact to the head, or develop hours, days or weeks later. They are normal symptoms to experience and in most cases will improve by themselves within a couple of weeks. Usually the physical symptoms improve first, followed by the cognitive and emotional symptoms. However, if any of the symptoms become problematic or persist, the concussed individual should speak to their GP about any further assessment that may be necessary.

In the majority of cases, there will be no long-term damage caused by a concussion if treated appropriately with medical assessment and rest. Occasionally, however, complications can arise from seemingly minor blows to the head, which is why it is vital that people seek medical attention following a concussion.

The following symptoms necessitate an immediate visit to A&E, as they could be indicative of a more serious injury:

- **Loss of consciousness**
- **Deafness in one or both ears that was not present before**
- **Loss of balance or problems with walking**
- **Weakness in one or both arms or legs**
- **Any vomiting**
- **Clear fluid coming out of ears or nose**
- **Drowsiness when you would normally be wide awake**
- **Increased disorientation**
- **Problems with understanding or speaking**
- **Blurred or double vision**
- **Inability to be woken**
- **Bleeding from one or both ears**
- **Any fits (collapsing or passing out suddenly)**
- **Severe headache not relieved by painkillers such as paracetamol**
- **Reduced neck movement, stiff neck muscles or pins and needles down the arms/legs**

How to spot a sports-related concussion

Even a seemingly minor blow to the head can leave a person concussed. However, someone who has experienced a concussion might not be aware of it, or they might not

admit to it for fear of not being able to play on. The symptoms of concussion are often hidden, and might not be immediately obvious. In addition, concussion can be an evolving condition with the presentation of symptoms often delayed. It is therefore important for players to take responsibility for *any* suspicion of concussion (for instance if they don't quite feel right, develop blurry vision or feel nauseous), and for fellow participants, coaches, officials and spectators to look out for signs as well.

If a concussion is suspected, the individual should immediately stop participating and medical attention should be sought.

If a concussion is ignored and the individual continues to participate while concussed, they could be putting their short and long-term health at risk as a secondary blow to the head could exacerbate the initial injury. Individuals with concussion are at higher risk of further concussions and of musculoskeletal injuries. Repeated concussions are also more serious and associated with slower recovery and potentially chronic symptoms.



Case study

In 2012, David was playing rugby when a fierce tackle caused a severe whiplash effect as David fell backwards, forcing his brain forward against his skull.

"I remember having an instant headache and feeling incredibly dizzy after the hit," said David. "I didn't realise at the time how serious it could be and I adopted the stereotypical 'macho man' approach of taking painkillers after the match, with a few pints before going home."

"Three weeks later, I suffered another dizzy spell and fell to the ground, spraining my ankle. I went to the doctors, but when he asked me questions about dizziness and headaches, he referred me to hospital. Doctors there identified a severe head trauma caused by a suspected concussion and bleed in my brain."

To read David's full story, visit Headway's website at www.headway.org.uk/about-brain-injury/individuals/brain-injury-and-me.

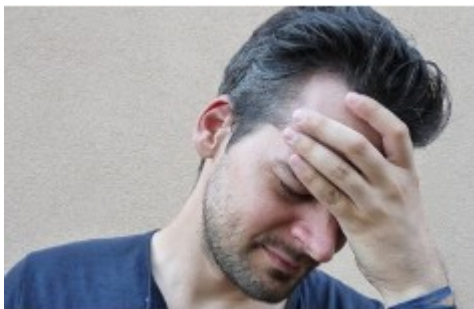
What to do if concussion is suspected

The most important and immediate advice to follow if someone experiences a sports-related concussion is ***if in doubt, sit it out***. If there is any doubt of whether the person with the impact to the head is experiencing concussion, it is important that they alert their coach and sit out rather than immediately returning to the sport. They should not be left alone at any point following for several hours after the injury and medical attention should be sought as soon as possible.

Identifying concussion (particularly in non-medical settings such as sports fields) is notoriously difficult. Only suitably qualified medical professionals should attempt to diagnose concussion and even then a cautious approach should always be taken.

There are some sideline diagnostic tools in circulation, such as the Sports Concussion Assessment Tool (SCAT3). However, it is important to make clear that these should only be used medical professionals.

In the weeks that follow a concussion taking place, it is important to get plenty of rest. This is because the brain needs time to recover from the injury, and straining it can prolong the time it takes to make a recovery.



You can use the following example to understand how important rest is after a concussion, or any kind of head injury:

If someone sprains their wrist, they will need to rest it for a certain amount of time. This would involve not using the wrist for any strenuous tasks. Any extra strain and the wrist will take longer to heal. This is the same with the brain; it needs time to rest after an injury so that it can heal, and extra work (such as strenuous thinking, prolonged concentration, or excessive sensory stimulation) can hinder the recovery process.

While resting is important, resting for prolonged periods of time with no physical activity can also sometimes lead to health problems. Gradual, graded and gentle exercise where the individual spends progressively longer periods of time engaging in non-strenuous gentle exercise, such as walking, can be helpful in between periods of rest.

Further suggestions of what to do in the weeks that follow a concussion are as follows:

- **DO** stay within reach of a telephone and have medical numbers at hand if you need them
- **DO** have plenty of rest and avoid stressful situations
- **DO** share this information with a friend or a family member who can keep an eye on your condition
- **DO** take painkillers such as paracetamol for headaches; however, avoid long-term use of regular, high-dose painkillers as these can cause analgesic overuse headaches (where an individual gets a headache when they fail to take painkillers)
- **DON'T** stay at home alone for 48 hours after the injury has taken place
- **DON'T** drink alcohol until you feel better
- **DON'T** take sleeping tablets without consulting a doctor; instead, to aid sleep problems practice sleep hygiene, avoid caffeine and overstimulation before bed



factsheet

- time, and explore natural herbal remedies to aid sleep such as chamomile teas
- **DON'T** play or train for contact sports for at least three weeks without consulting your doctor
- **DON'T** return to driving until you feel you have recovered; if in doubt, consult your doctor
- **DON'T** isolate yourself, but avoid meeting too many friends all at once, and avoid loud, busy, overstimulating social situations

Above all, don't lose hope. The prognosis for concussion is usually good and most will feel back to normal within weeks.

If you are struggling with any of the ongoing effects of concussion, you might wish to consider consulting your doctor as they might be able to recommend things such as medication or therapies that can help. You can also show your doctor, sports coach or employer this factsheet, or any of the other information resources that Headway offer at www.headway.org.uk/information-library.

To find out more about concussion and Headway's Concussion Aware campaign, visit www.headway.org.uk/get-involved/campaigns/concussion-aware.



Frequently asked questions

I had a concussion. Am I going to get Chronic Traumatic Encephalopathy (CTE)?

CTE is a neurodegenerative condition associated with progressive psychiatric, behavioural and cognitive problems. Despite its recent high media profile, there is still lots to learn and understand about this condition. Many individuals diagnosed as having CTE were found to have additional neurodegenerative conditions and had a history of multiple concussions and head injuries. It has long been known in sports such as boxing that repeated head trauma can lead to longer term memory problems. It is worth remembering though, that if managed appropriately, the vast majority of single-incident concussions will leave no



long-term effects.

My concussion symptoms aren't going. What's going on?

Symptoms of concussion can take some time to settle. For most, the symptoms will settle within a period of weeks. That period of time when an individual has concussion symptoms can feel never-ending, especially in fit, active, sporty people who find sitting down and resting difficult. If symptoms are continuing after a month or so, and particularly if they appear to be getting worse, consult with your doctor who can investigate further. More guidance on this is available in the Headway booklet [Minor head injury and concussion](#).

I had a CT brain scan but it came back clear. Does this mean that I don't have concussion after all?

Brain scans such as CT (computerised tomography) and MRI (magnetic resonance imaging) are sometimes performed to check for damage in the brain, but they are not powerful enough to show damage at a microscopic level. Therefore widespread, microscopic damage can be left undetected even with the use of these scans. This does not mean that an injury has not occurred - just that we cannot see it with existing imaging methods. It is more important to focus on the symptoms being experienced after a blow to the head rather than relying on brain scans to diagnose a concussion.

I'm struggling with returning to work. What should I do?

It is important not to return to work before you are ready. You could try discussing the situation with your employer and explaining your symptoms to them. Showing your employer this factsheet, or Headway's factsheet [Brain injury: a guide for employers](#), may also help them to better understand the effects of your injury. You could then try to arrange a gradual return, with part-time hours and starting with light, routine duties. Try to avoid making major decisions and becoming involved in stressful situations until you feel you are ready. This is especially the case in jobs with high levels of stress and pressure, and where margins for error are small. Mistakes made because of the injury could injure your confidence and hinder your recovery.

I wear a helmet/head guard while playing sports. Can I still get a concussion?

The brain moves around the inside the skull and it is this movement, including twisting and turning at speed, that causes the damage, so a concussion can still be sustained even while wearing protective headgear. Some sports, such as cricket, require or encourage participants to wear helmets. However, it is important to recognise and understand the primary purpose of headgear in different sports. For example, cricket helmets are designed to protect the skull from the ball being delivered by the bowler at high speed. Similarly, scrum caps worn in rugby are designed to protect against cuts and abrasions, not concussion.



Can I only get a concussion if my head is hit?

It is possible to sustain a concussion even if the head has not been hit by an object. If the head has been shaken back and forth, or rotated too quickly, a concussion can still be sustained even if there has been no physical impact from another object. This is because the brain has still been shaken around inside the skull due to the force of movement.

I hit my head but I didn't lose consciousness - can I still have a concussion?

Only around 1 in 10 concussions result in a loss of consciousness, so yes it is possible to still sustain a concussion even if consciousness was not lost. This symptom should never be relied on in isolation when trying to diagnose a concussion.

I don't want to let my teammates down by sitting out of a game if I have a bit of a headache after hitting my head. What should I do?

If you're concussed, you're likely to have slower reaction times, struggle to remember certain moves or plays and have blurred vision, among other symptoms. All of these are going to hinder your ability to carry on playing, so you will not be helping your teammates by carrying on. In addition, evidence suggests that you're most likely to suffer another injury while playing on with a concussion, with the risk of the additional blow to the head causing a more serious brain injury.

"If you do suspect a concussion, please alert your coach. Allow them to make a decision. Don't play on regardless thinking you're doing the right thing.... you could be letting your team down as if you have got a concussion you might not react as quickly, and you won't get there quickly. The last thing you want to do is let someone down."

Lewis Moody - former England Rugby Union captain, who is supporting Headway's [Concussion Aware](#) campaign.



Conclusion

People who engage in sports, whether at a professional or recreational level, should be aware of the signs of concussion and adopt the *if in doubt, sit it out* approach if a concussion is suspected. It is hoped that the information in this factsheet has helped you to become more aware of concussion, as well as directing you to further related resources through Headway's *Concussion Aware* campaign webpage.

To discuss any issues raised in this factsheet, or to find details of our local groups and branches, please contact the Headway helpline free of charge on 0808 800 2244 (Monday - Friday, 9am-5pm) or by email at helpline@headway.org.uk.

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First published 2015. Last reviewed 2018.