

# Post Concussion Syndrome



Post-concussion syndrome is a description given to a cluster of physical and cognitive symptoms that sometimes occurs after **minor head injury** or **concussion**. These include

- Dizziness
- Poor Memory and Concentration
- Headache
- Fatigue
- Sleep Disturbance
- Light sensitivity
- Tinnitus
- Neck Pain
- Irritability

In this situation when doctors refer to **minor head injury** they are not talking about any knock to the head. A minor head injury normally means that there was a brief loss of consciousness (less than 15 minutes) and little in the way of memory loss after the accident (less than one hour).

**Concussion** doesn't have a universally agreed definition but it generally means a knock to the head without loss of consciousness or amnesia which results in symptoms immediately afterwards.

In the first few hours and days after a concussion it is normal to experience some dizziness, poor concentration and other symptoms listed above.

But we know from large studies that after a mild head injury or concussion, symptoms usually settle within days, weeks, or at most several months.

There are sometimes specific reasons for some symptoms.

For example, a knock to the head of any sort can dislodge 'grit' in the balance parts of the ear causing dizziness (a condition called benign paroxysmal positional vertigo (BPPV)). There are other potential complications of head injury that a doctor may need to look for but usually there is no specific reason found for symptoms and tests such as MRI brain scanning are normal.

The brain has a good capacity to recover from knocks to the head like this, as long as they don't keep happening

There are situations where people have a blow to the head and may experience very little in the way of symptoms. Think of the regular blows to the head experienced by American football players, rugby players, or footballers heading the ball. Although this can be dangerous if there are repeated injuries over many years, it's worth thinking how your head injury compares to just one of these sporting head injuries in severity.

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**Normally symptoms after head injury or concussion are worst at the time of the injury and slowly improve**

In post-concussion syndrome symptoms persist longer than would be expected from the nature of the injury. They often get WORSE over time whereas symptoms directly related to a head injury are worst at the beginning and slowly improve.

**So what causes post concussion symptoms then?**

What happens is that after experiencing an injury, 'volume knobs' in pathways in the nervous system become 'turned up'. These include pain pathways, as well as sensory pathways involved in symptoms like dizziness. The brain is usually very good at filtering out sensations so that we can concentrate on the ones that we need. After a bang on the head this process can go wrong for a variety of reasons additional pain signals and sensory signals can get through.

Normally those 'volume knobs' get turned down again and the 'brain filters' are restored as you slowly recover but in post-concussion syndrome they stay turned up, or even become increased further over time.

If you add in to this mix, the shock of having a blow to the head and the worry that there is some form of brain damage, it's not hard to see how this could make things worse

But as with all functional symptoms, you don't need to be worried or low to have them, it's just that being worried or low will tend to make them worse.

**So is post concussion syndrome caused by brain damage then?**

In a nutshell, no.

It is TRIGGERED by a blow to the head, during which there may have been some minimal damage to the brain. But don't forget that adults lose brain cells every day, and remember those sporting bangs on the head

By the time 8-12 weeks have gone by it's very unlikely that any of the symptoms that are left are still caused by brain damage. Instead they arise because of abnormal nervous system and brain functioning. In other words they are functional neurological symptoms.

The symptoms of dizziness, poor concentration, fatigue are identical to those seen in patients with functional symptoms who have not had blow to the head. So the advice about them on this website is therefore relevant to you if this is your situation.

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## Post Concussion syndrome or Post-traumatic syndrome?

In one of the most remarkable pieces of research on this topic in recent years a group in Australia showed that the proportion of people seen in hospital with a minor blow to the head who developed post concussion symptoms was exactly the same as people seen in hospital with a blow to their leg, arm or other part of the body excluding the head (

The evidence suggests that there is a post-traumatic syndrome in which people develop predominantly functional, and of course genuine, symptoms. Its further evidence that 'brain damage' which is what people are understandably normally worried about - is not the cause of the problem.

## An approach to the treatment of post-concussion syndrome

Most of the symptoms of post-concussion syndrome can be approached as functional symptoms occurring without a knock to the head.

Look on pages on [www.neurosymptoms.org](http://www.neurosymptoms.org) about dizziness, fatigue, poor memory and concentration, sleep disturbance, headache, anxiety, sensory symptoms and others for more information.

There are several specific aspects to treatment of post-concussion syndrome to be aware of

1. **Getting your understanding of the diagnosis right.** Because the symptoms were triggered by a blow to the head and have been there ever since, its often reasonable to feel that the injury 'caused' the symptoms. That in one sense may be true. But if you become convinced that the symptoms are due to brain damage, then that is likely to hamper your recovery. If symptoms get worse when you try to do things then you might feel despondent that you are 'damaged' and there is no hope for improvement. If you can become convinced that your symptoms are potentially reversible your rehabilitation will be easier

2. **Missing other causes of post-head injury symptoms** which may have more specific treatments, for example

a. **Migraine** can sometimes be exacerbated or triggered by a knock to the head. When this happens it should be treated as migraine

b. As mentioned earlier, quite a mild knock to the head can cause a type of **vertigo** known as Benign Paroxysmal Positional Vertigo (BPPV). this is caused by bit of grit becoming dislodged in the balance parts of the ear. The symptoms of BPPV are episodes vertigo (feeling that things are spinning) . the treatment is repositioning manoeuvre such as Employ's manoeuvre or exercises such as Brandt-Daroff exercises that your doctor or physiotherapist can teach you. these kinds of vestibular exercises are also useful for chronic dizziness

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c. **Post-traumatic Stress Disorder** describes a collection of psychological symptoms such as frequent re-experiencing of the event, nightmares, being excessively vigilant or jumpy and feeling anxious. After a severe traumatic event some of these symptoms may be normal for a while but if they persist or get worse it may be worth discussing with your doctor as there are specific treatments

d. **Anxiety or Depression.** Having a head injury and symptoms afterwards can lead to anxiety and depression, especially if you have been off work. It's always worth remembering that fatigue, sleep disturbance and poor memory and concentration can be part of either anxiety and depression. It may be worth discussing with your doctor.

3. **Claims for compensation.** You may have a claim for compensation in relation to your injury. There is nothing wrong with that but it is worth being aware how this can impact sometimes on health. Many patients who go through this process don't realise how long it sometimes takes (years in some cases). They also don't realise that as part of the claim that some people need to repeat their story many times over, sometimes to sceptical professionals. This process can be stressful for some people. It also forces people to look back, sometimes angrily and with frustration and resentment, to past events which can sometimes get in the way of attempts at rehabilitation even when symptoms are genuine.

This website neither encourages nor discourages compensation claims but understanding how they can interact with post-concussion symptoms can be helpful.

## I'd like to find out more....

There is more information on Post-Concussion Syndrome at these locations

Mayo Clinic - information on Post Concussion Syndrome

Headway - UK Brain injury charity information on Minor Head injury and concussion

NHS choices - UK

You can explore more about individual symptoms mentioned above at [www.neurosymptoms.org](http://www.neurosymptoms.org)