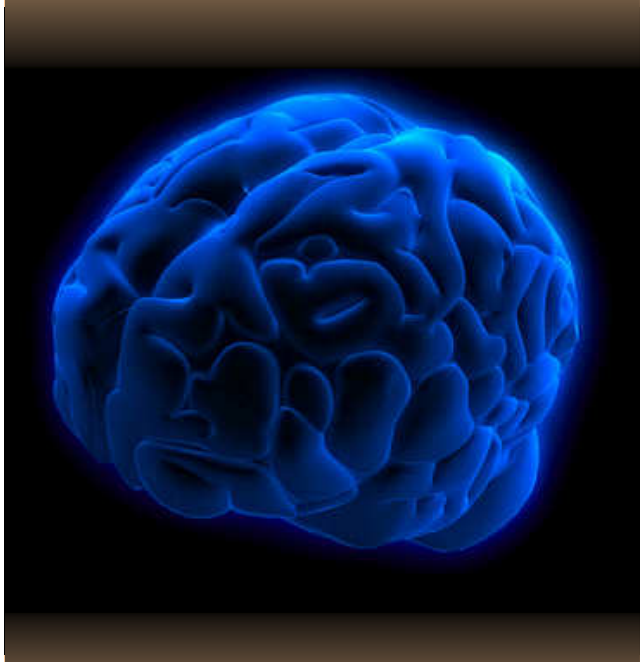
Headaches and Dizziness Following Traumatic Brain Injury

Patient Information Booklet



Talis Consulting Limited

What is a Headache?

A headache is one of the most common complaints following a head injury. Estimates vary as to the prevalence of headaches following a head injury, but between 30% and 90% of patients who suffer a head injury will experience headaches.

Headaches can also be caused without a direct impact to the head, whiplash injuries where the head undergoes rapid acceleration or deceleration are also able to cause problems with headaches.

There is no obvious relationship between the severity of the injury and the severity of headaches. In fact some researchers have suggested that it is 'milder' head injuries which cause the worst headaches. Why this might be the case is not fully understood, but it has been suggested that a severe head injury might also damage the mechanisms responsible for detecting insults to the brain (and therefore causing headaches).

Are there different types of headaches?

There do seem to be different types of headaches, which may be caused by different things. Headaches can loosely be classed into three categories:

Tension Headache:
This is probably the most common headache. It is linked to physical or emotional stress. Sufferers report it feeling like a tight band of pressure around the head.

Migraine Headache:
This type of headache tends to afflict more women than men. It is commonly thought to be triggered by narrowing and widening of blood vessels within the brain, and some sufferers report there are certain things (like certain foods, stresses, smells or emotions) which can set it off. Sufferers report it feeling like a throbbing or pulsing pain. This can also be preceded by visual disturbances such as loss of peripheral vision (a 'tunnel vision' feeling).

Cluster Headaches:
These headaches are relatively uncommon and tend to primarily affect men. They can be triggered by alcohol and/or cigarettes, although the underlying cause is unknown. The pain is usually reported as being localised to one eye. The affected eye can sometimes also swell or water.

It is important to identify which type of headache you may be experiencing as this can have implications for the appropriate treatments. For example whilst tension headaches are best tackled with lifestyle changes, migraine headaches may require some form of medication.

What Causes Headaches?

There are many different causes of headaches, and these can each trigger different types of headaches (such as tension, migraine or cluster headaches) which might explain why headaches are so common.

Where do my sensations of head pain come from?

Headaches are caused by activation of certain pain receptors in the head. These receptors are situated in the nerves of the muscle and skin of the head, or the arteries leading to the brain. The brain tissue itself is unable to feel pain.

Why can a stiff neck cause a headache?

Pain receptors are also situated in the neck and jaw, which means that headaches can be reported when the problem is actually situated in the neck or jaw.

Why has my brain injury caused me to start getting headaches?

Headaches following a brain injury are considered to be 'secondary headaches'. This term is used because the headaches are a side effect of the injury, and therefore brain injury itself is the underlying cause.

Brain injury can cause headaches through damage to specific areas of the brain, however it is also likely that the headaches result from widespread diffuse injury to the brain cells. This is especially true in whiplash-type injuries. When the brain rapidly accelerates or decelerates, the different areas of the brain move at different speeds. This can cause shearing forces between different areas of the brain and this may result in damage to the brain cells.

Why do my headaches get worse when I'm feeling stressed or tired?

Stress is also an important factor in headaches, and one which many people overlook. Stress can cause tension to build up in the muscles of the head, neck and jaw which can cause headaches, or can cause existing headaches to get worse. Stress will also increase blood pressure, placing greater strain on the blood vessels in the brain, which is also another risk factor for headaches.

What Treatments are Available?

Most headaches which occur following a brain injury will clear up by themselves within a month. Self repair mechanisms in the brain are very effective at sorting out the causes of your headaches. However it is estimated that between 8 - 35% of patients will still suffer some headaches a year after their injury. For these people with ongoing headaches some from of treatment may be necessary.

What are the additional treatments for ongoing headaches?

Treatments can vary based on the type and severity of your headaches. For example tension headaches may be treated more commonly with lifestyle or behaviour changes; whether migraine headaches are more commonly treated with medication.

Medication can be used to either lower pain from the headache (painkillers) or they can be used to try and stop the headache from occurring in the first place (such as some migraine medications).

Painkillers can be very effective but it is important not to start to rely on them. Some patients also report that with heavy use of painkillers (for example using painkillers on more than three days in a week) their headaches start to get worse. This is known as an 'analgesic rebound headache' and while it does not affect everybody, it is important that you are aware it may occur.

What non-pharmaceutical treatments are there?

Behavioural treatments can also be effective in relieving headaches. Stress management and muscle relaxation techniques can have a beneficial effect. Stress has a very important relationship with headaches. Unfortunately this can lead to a vicious circle of headaches causing you stress which makes your headaches worse. It is important that you make sure this doesn't happen and take steps to relax.

You may also wish to try and work out what triggers your headaches. It might be a good idea to keep a 'headache journal' where you write down when and where you experience headaches. An underlying pattern of situations or emotions might be revealed which trigger your headaches (such as certain stresses, or foods for example). You can then take steps to avoid these situations.

What can I do to Help Myself?

There are a number of simple changes you can make to your lifestyle which can help your headaches. The recommendations listed here are just a guide and will not suit everyone, therefore you should pick the ones which are right for you, and tailor them to suit your needs.

Try to reduce stress in your life

It has already been mentioned how important stress is when it comes to headaches. Therefore it is a good idea to remove as much stress from your life as you can. Make sure you take enough time to plan for any activities you need to be doing, and schedule in plenty of rest. You might also want to consider making sure there's a quiet place which you can go if you need to. If you know that there are certain things in life which stress you out, then try and avoid these situations.

Try not to do too much

You might find that you can't do the same amount of work you used to be able to. Make sure you decline any work you feel you can't cope with or delegate it to someone else. You may find that you can gradually increase the amount of work you're doing as your headaches improve. Think of your headaches like a 'temperature gauge', which lets you know when to increase demands, and when to take things easy.

Make sure you get enough sleep

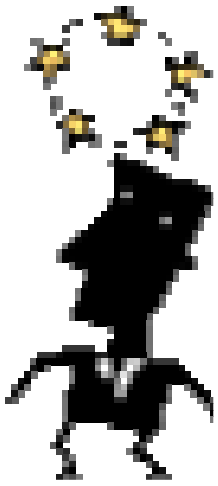
Headaches can be triggered by not having enough good quality sleep. Keep your bedroom quiet and dark and do relaxing activities in the hours before you go to bed. It is also important that you keep a regular sleeping routine. When you're used to going to bed and getting up at the same time each day, it will make sleeping easier.

Do gentle exercise

Taking gentle exercise is a good way to relieve stress and 'get away from it all'. Exercise can also release natural hormones into the brain which help to alleviate pain. However it is important that you do not do too much too quickly, only do an amount of exercise you feel comfortable with.

It is important that you bear in mind that headaches following a brain injury are very common, and they usually clear themselves up within four weeks.

What is Dizziness?



Dizziness is a subjective feeling (which means that only you know when you're experiencing it, the only way others know you're dizzy is when you tell them). Whilst loss of balance is an obvious sign of being dizzy it does not always have to exist for you to feel dizzy. Dizziness tends to be used to describe a number of sensations, from feeling light-headed to feelings of vertigo (which is the sensation that you are standing still, but the world is moving around you).

Dizziness can also be very selective, some people find that they can walk around perfectly well, however feel dizzy when the floor becomes uneven, or if it is moving (like an escalator or bus).

What Causes Dizziness?

Dizziness is very common following a head injury. It is usually a result of damage to the Vestibular System (the system which allows us to balance). However short term dizziness can be caused my hyperventilation or shock fluctuating the oxygen levels in the brain.

The vestibular system consists of three canals in the middle ear which are filled with fluid. When we move the fluid tends to remain stationary, and therefore can give information to the brain about our movements. This information is then processed by multiple structures in the brain which give us a sensation of balance and allows us to stand up straight. Unsurprisingly, when the vestibular system is damaged this causes us to feel dizzy.

Because of the many parts of the vestibular system it is unfortunately quite likely to get damaged in a brain injury. This is especially true if the bones on the side of the skull are fractured as the canals of the vestibular system are buried within the skull. However damage to the brain areas which interpret the signals from the canals can also cause dizziness.

Because the two ears work together to signal for balance, damage to one of the ears can cause un-equal signals to be sent to the brain, confusing it and causing a loss of co-ordination.

Finally, problems with the visual system can cause dizziness. If the visual system is damaged we may experience 'double vision'. This conflicts with the correct signals sent by the vestibular system and this conflict can cause feelings of dizziness or nausea.

What can be Done to Help?

The good news is that dizziness is often a short-term problem after brain injury and there are a number of treatments which can help. There are some sedative-type medications which can be used to help dizziness, but these do have problems with side-effects when they are taken in the long-term.

There are physical and behavioural therapies which can help to alleviate the feelings of dizziness. These are usually performed by a physical therapist. The treatment usually involves inducing dizziness (for example by walking down a corridor and looking from side to side rapidly). Repeated exposure to feelings of dizziness causes the brain to adapt and to feel less dizzy. However this treatment can be tough as often you will feel worse before you feel better, so it's important to remain motivated.

What can I do to Help Myself?

There are a number of simple steps which you can use to help yourself to feel less dizzy. You may like to try some or all of the following tips:

Don't use alcohol or other drugs

It's common knowledge that alcohol can cause problems balancing, so it's a good idea to avoid it if you're having problems with dizziness.

Get out of bed slowly in the morning

Getting out of bed is a risky time for feelings of dizziness and the sudden change in posture can produce dizzy feelings. Therefore it's important that you are slow and careful when you do get up.

Sit or lie down if you do feel dizzy

When you feel dizzy stop what you're doing, trying to muddle through will only make you feel worse. Sit or lie down and wait for the dizzy spell to pass.

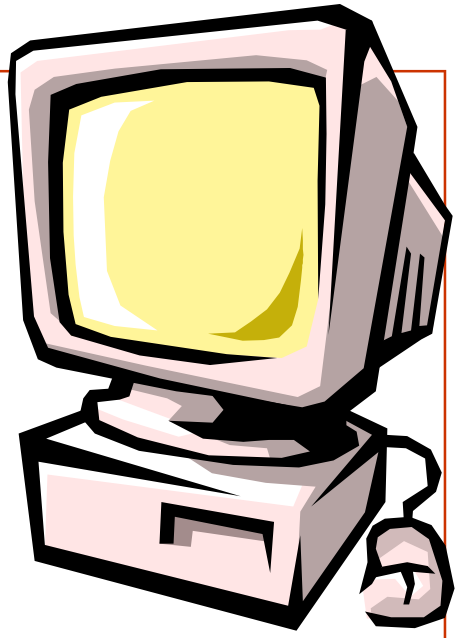
Slow down problematic movements

Some movements will make you feel more dizzy than others. If this is the case then slow these movements down. You might also like to pinpoint those activities which do make you feel dizzy and try and cut out these activities entirely.

Cut down on salt

Salt can increase the sensations of vertigo, so try and cut down on the amount of salt you eat.

Useful Websites:



www.headway.org.uk
- A useful web site with much information about brain injury and rehabilitation in the UK.

www.birt.co.uk
- Another useful web site concerning brain injury, with downloadable leaflets about brain injury and its implications.

www.headacheexpert.co.uk/HeadachesAfterHeadInjuries.html
- A website with information specifically on headaches after a brain injury, and possible treatments

http://braininjury.org.au/portal/sensory/motor/balance-problems-and-dizziness---fact-sheet.html.
- A fact sheet on dizziness and vertigo following a brain injury.