

Dizziness & balance problems



Brain & Spine
Foundation

A guide for patients and carers

The **Brain & Spine Foundation** provides expert information and support for anyone affected by neurological problems.

We publish a range of booklets and fact sheets that aim to answer your questions and help you know what to expect.

Our publications are designed as guides for anyone affected by a neurological problem, including family, friends, and carers.

You can call or email our **Helpline team** for further support or information at:



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About this booklet

This booklet provides information on dizziness and balance problems in adults. It aims to support you in understanding more about dizziness, including what might cause it, how your balance system works, the tests you might need, and the treatments that might help. This booklet also includes information that may help you to manage your symptoms and maintain your quality of life.

Sources of further support and information and details on requesting references can be found at the back of this booklet.

Common questions

What is dizziness?

Dizziness is a common symptom that many people will experience at some point during their lifetime, and is not usually a sign of something serious.

Dizziness is often due to a problem affecting the balance systems in the inner ear. Many causes of dizziness may get better on their own, but if you are worried or it is affecting your quality of life then you should speak to your GP.

The word 'dizziness' is often used to describe a range of sensations, such as feeling:

- unsteady or off-balance
- lightheaded or faint
- giddy or woozy
- like you or the things around you are moving (vertigo, see opposite)

Some people who experience dizziness can find it difficult to describe, and might compare the feeling to:

- walking on a mattress or soft surface
- being tipsy or drunk
- being on a merry-go-round, or a boat on choppy water

Dizziness and balance problems can affect people of all ages. You are more likely to experience dizziness as you get older, and some studies suggest that it is more common in females than males.

Most people who experience dizziness or balance problems make a good recovery, although some people might experience frequent or constant episodes of dizziness that can have a significant impact on their lives.

What is vertigo?

The word vertigo is often used by health professionals to refer to a specific type of dizziness. Someone with vertigo will experience a strong feeling that either they, or their surroundings, are moving when they are actually standing still.

The sense of movement that someone experiences usually has a spinning, swaying or revolving feel to it. Less commonly, people might feel as if they are falling or being pushed forward.

Vertigo is sometimes used in general conversation to describe a fear of heights or falling. This is not an accurate use of the word, but some people can experience vertigo (as a type of dizziness) when they are aware of being at a great height (especially when they do have a fear of heights).

What are common causes of dizziness?

There are many different conditions that may cause dizziness or balance problems, for example vestibular neuronitis (see page 18), benign paroxysmal positional vertigo (BPPV, see page 19) and migraines (see page 23).

Dizziness is often caused by problems affecting the inner ear (see page 7), but sometimes it can be caused by problems affecting other parts of the body like the heart, blood vessels, or nervous system. Dizziness is rarely the only symptom of conditions affecting these areas and your doctor or specialist will check for other signs and symptoms to help them make the right diagnosis.

Dizziness and balance problems can also occur due to motion sickness, stress, dehydration, low blood sugar or as a side-effect of medications (see pages 27-31).

Who should I see if I am worried?

If you are worried about your symptoms, you should speak to your GP.

Your GP will refer you to see a specialist if they think it is necessary, and will also be able to support you in finding ways to manage your symptoms.

Talking to your friends and family can also be helpful, especially if your dizziness and balance problems are affecting your day-to-day life. They may be able to help you with everyday activities, and support you in finding ways to stay active and maintain your quality of life.

When to seek immediate medical advice

You should call your GP or the emergency services if your dizziness is accompanied by any of the following:

- a new, different or severe headache
- after a head injury
- falling or trouble walking
- fainting or collapsing
- vertigo
- chest pain
- hearing loss or a ringing noise (tinnitus)
- changes to your behaviour
- numbness in your face or slurred speech
- double vision or visual loss

What can I do to ease dizziness in the short term?

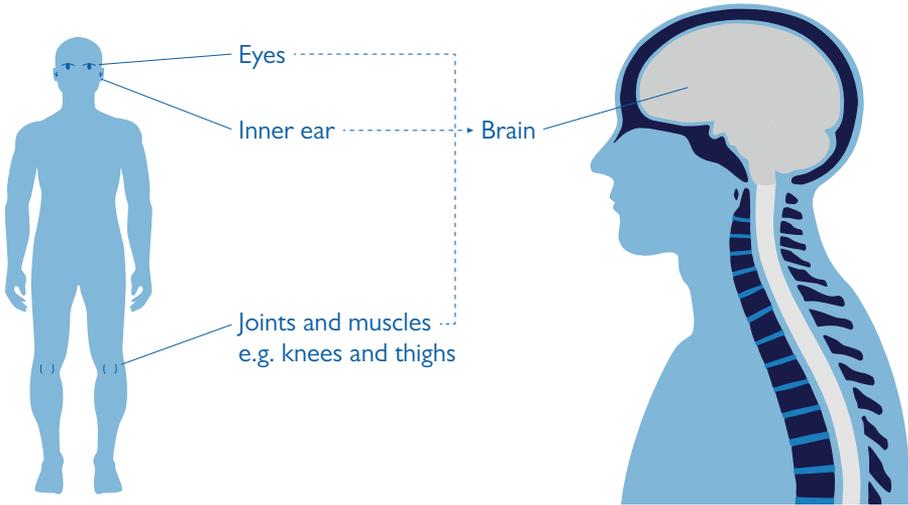
Dizziness or balance problems can often ease on their own and may go away after only a short while.

While you are feeling dizzy there are things you can do to care for yourself:

- move slowly and take care when standing up from lying down or from a seated position
- keep hydrated by drinking water
- avoid caffeine, alcohol and tobacco
- when out and about, avoid overly crowded spaces with lots of people moving about
- if you find yourself feeling unsteady, it can help to look at a fixed object around you

The balance system

Your sense of balance allows you to stand and move your body, without falling over:



Maintaining balance is a complex process. It depends upon your brain receiving and making sense of signals from your:

- eyes (visual system)
- inner ear (vestibular system)
- joints and muscles (proprioception)

These signals give your brain information about:

- where you are and what is around you
- the position of your body in relation to your surroundings (i.e. upright, upside-down etc...)
- the position and movement of parts of your body (e.g. feet and legs)

Different areas of your brain are involved in processing and comparing the signals it receives from around your body.

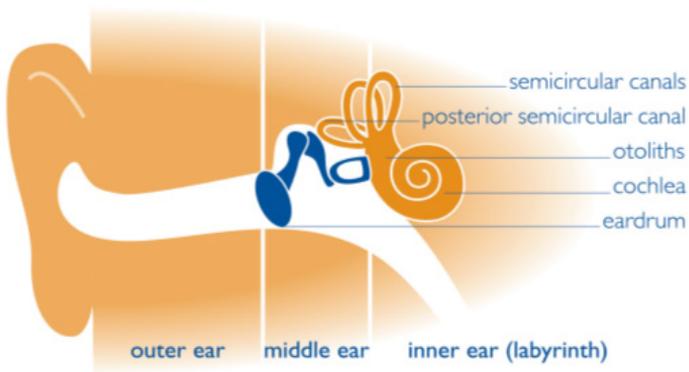
Your brain uses the information it gathers to help coordinate your movements and keep you balanced.

If your brain has been affected by an injury or a health problem, then it may find it difficult to process the information it receives and control your movements and balance.

Your balance can also be affected if the signals being sent to your brain are interrupted for example by an injury to a nerve, or if they are providing your brain with 'false' information.

The inner ear and the vestibular system

The structure of the ear



Your ears have three main parts:

- the external or outer ear (the part you can see on the outside)
- the middle ear (which carries sound from the outer to the inner ear)
- the inner ear (also known as the labyrinth)

The structure of the inner ear, called the labyrinth, is located inside your skull. There are two labyrinth structures, one on each side of your head.

The balance system

Each labyrinth is divided into two parts:

- the cochlea (responsible for hearing)
- the vestibular system (responsible for balance)

Because of the close link between the hearing and balance systems, your GP will also ask you about your hearing when investigating your dizziness and balance problems.

The vestibular system is a complex system of nerves, small tubes called semicircular canals, and fluid. The vestibular system sends signals that inform your brain about the movements and position of your head.

There are three sets of tubes (semicircular canals) in each vestibular system. These detect when you move your head.

There are also two structures called the “otolith organs.” These tell your brain about the position of your head and can also detect when your head is moving in a straight line.

Dizziness or vertigo may occur when the signals from your right and left vestibular systems provide conflicting information, or if your brain thinks your head is moving when it is not. Many forms of dizziness may be triggered or made worse by moving your head.

Vision and other parts of the balance system

Alongside the vestibular system, your brain gets information from your eyes and your joints and muscles which it uses to help maintain your balance.

Your eyes send information about your surroundings, movement and the position of your body. Good vision through both eyes is an important part of your sense of balance.

Information sent by the nerves in your muscles and joints also tells your brain about the movements and position of your body. Your neck, ankles, legs and hips are particularly important sources of information when it comes to your sense of balance.

Your ability to stay balanced will also depend on whether your muscles and nervous system (brain, spinal cord and nerves) are able to coordinate and perform any movements needed to maintain a steady stance or position. Conditions or injuries that cause muscle weakness or that affect your coordination can sometimes affect your balance as well.

Many people can still have a good sense of balance despite inner ear problems. This is because the brain is able to adapt and control your balance by relying more on the other sources of information it gets. This process is called vestibular compensation (see page 32) and can take time to occur.

Other symptoms

What other symptoms might I have?

Problems that cause dizziness may also cause other symptoms, depending on what part of your body they are affecting and how. These other symptoms can be important in helping to diagnose the cause of your dizziness. You should discuss any other symptoms you experience with your GP or specialist.

A severe episode of dizziness, especially vertigo, can cause you to feel sick (nausea) or be sick (vomiting).

Ear infections may also cause you to feel sick or be sick, as well as other symptoms like pain (earache), a high temperature (fever) or discharge coming from your ear.

If your dizziness is caused by inner ear problems, you might also notice problems with your hearing. This is because the balance and hearing systems are close together in the inner ear. Problems with hearing can include a ringing or buzzing noise in one or both ears (tinnitus), or some hearing loss.

Some people become clumsy or unsteady because of physical problems like numbness or weakness in their legs.

Other possible symptoms are double vision, numbness in your face, and problems with your speech. These might be signs that there are problems with the nerves in your face or head.

See page 4 for advice about when to speak to your GP and when to seek immediate medical advice.

Tests & investigations

In order to understand what is causing your dizziness your GP or specialist will need to know more about your symptoms.

They will ask you questions such as:

- when and how did your dizziness start?
- how long does it last?
- is it constant?
- does anything trigger it or make it worse?
- what other symptoms do you have?
- are you taking any medications?

It can be helpful to keep a diary of your dizziness and other symptoms, recording details like when you experienced them, what you were doing at the time, how long your symptoms lasted, and anything you did or took at the time which helped. You can share this with your GP or specialist and it can help to answer some of their questions.

Often you will also have a physical examination and may be referred for further tests. Which tests you have will depend upon your symptoms and any findings from the examination.

The Hallpike test

The Hallpike test is used to see whether your dizziness is triggered or made worse by particular movements of your head. It is often used alongside the roll test (see page 12) as part of a series of 'positional tests'.

Your doctor will talk you through the movements involved before the test. You will begin by sitting up on the bed, and they will ask you to turn your head

to one side. They will then place their hands on the sides of your head, and help you to lie down while keeping your head turned. Your head will be lowered slightly, past the end of the bed, but will be supported by your doctor.

You will be asked to keep your eyes open during the test. Your doctor will watch your eyes for 30 seconds after you lie down. They will then turn your head to face the other direction and continue to watch your eyes for another 30 seconds.

The movement of your eyes during this test can help to identify the cause of your dizziness. This test is particularly useful in helping to diagnose benign paroxysmal positional vertigo (BPPV, see page 19).

You may find that the test makes you feel dizzy, and your doctor will be there to support you if that happens.

The roll test

The roll test, or supine roll test, is another test used to help diagnose BPPV (see page 19).

The test is performed while you are lying down with your head slightly elevated. Your doctor will support you to turn your head to each side, and will observe the movement in your eyes. You may be asked to keep your head in the turned position for a short period of time. This test may cause you to feel dizzy.

Videonystamography and electronystamography

Videonystamography (VNG) and electronystamography (ENG) are tests that involve recording your eye movements.

Our eye movements can be affected by the activity of the balance systems in our inner ear and brain. VNG or ENG can help to identify if there is a problem affecting these areas.

Your eye movements can be recorded using special goggles (VNG), or with electrical wires (ENG) connected to small pads that are gently attached to the skin surrounding your eyes.

The series of tests may include some which are listed separately in this section. During some tests you may be asked questions or given a mental task to perform, and this is to help with the accuracy of the results.

Caloric test

This test is used to check the balance systems in your inner ear.

A small amount of cool or warm water is trickled into your inner ear on one side. This creates a difference in temperature between your right and left side. Sometimes, a small amount of pressurised air might be used instead of water.

Your doctor or specialist will observe the movement of your eyes after this is done.

Each side will be tested using both warm and cold water, and you will be given time to rest between each part of the test. You might feel dizzy during or after the test, but this should not last long.

Hearing tests

Some conditions that cause dizziness may also affect your hearing, and you may be sent for a series of hearing tests to help detect this.

These tests may involve you listening with headphones and saying when you can hear certain tones.

Others might involve you having your hearing system assessed directly by electrical wires. The wires are connected to small pads that are gently attached to your head.

Tympanometry

This test is used to check the movement of your eardrum, and can help to show problems such as an infection or a buildup of fluid behind your eardrum.

Your doctor or specialist will place a soft tip in your ear canal, almost like the end of a headphone. They will play a sound in your ear and will carefully control and change the pressure of the air inside your ear. The movement of your eardrum will be measured and plotted on a chart.

You will hear a low tone and feel a slight pressure. If the test causes you discomfort, your doctor or specialist will be able to stop.

Vestibular evoked myogenic potential (VEMP)

This test measures the activity in your neck muscles after a loud sound is played in your ears.

It helps assess the nerves related to a part of the inner ear called the saccule, which is responsible for detecting 'up and down' movements of the head.

The test may be done with you lying down, or in a seated position. Your doctor or specialist will place earphones in your ears, and will gently place a small number of pads connected to electrical wires on your head and neck.

During the test you will hear loud sound(s) for about 45 seconds. You may need to hold your head in a particular position while this takes place.

CT or MRI scan

CT (Computerised Tomography) scans and MRI (Magnetic Resonance Imaging) scans produce detailed three-dimensional (3D) images of the body.

You might have one or both of these types of scan to look in more detail at areas such as your inner ear or brain.

Causes of dizziness & balance problems

Dizziness and balance problems can be caused by a range of problems and conditions. Your doctor or specialist will use the information they gather from talking to you, alongside any test results, to help diagnose what is causing your symptoms.

Problems affecting the inner ear are among the most common causes of dizziness. These include:

- benign paroxysmal positional vertigo (BPPV) (page 19)
- vestibular neuronitis (page 18)
- Ménière's disease (page 20)

Dizziness can sometimes be caused by problems affecting your brain. For example, vestibular migraine (page 23) is a common cause of dizziness or vertigo that is thought to relate to changes in the activity of the brain.

Conditions that can affect your spinal cord or nerves, your heart or blood vessels, and blood disorders like anaemia, may also cause dizziness. Your doctor or specialist will check for other signs and symptoms, as dizziness is rarely the only symptom of conditions affecting these parts of the body. If it is suspected that a condition affecting one of these areas might be causing your symptoms, you will be referred to the relevant specialists who will be able to support you with the right care and treatment.

If you have been referred to a neurologist or an inner ear specialist (e.g. neuro-otologist, audiovestibular physician or ENT consultant) then it is likely that causes such as these have been ruled out.

Peripheral vs central vestibular disorders

Problems affecting the vestibular system (see page 7) can be divided in to peripheral or central vestibular disorders.

Peripheral vestibular disorders

Peripheral vestibular disorders are causes of dizziness that are related to the parts of the vestibular system found in the inner ear.

Vestibular neuronitis, BPPV and Ménière's disease are all examples of peripheral vestibular disorders.

Some people may experience dizziness that cannot be categorised as one of these well-defined conditions. However, your doctor may still diagnose you with a peripheral vestibular disorder if they are able to identify that the cause is related to this part of your balance system.

Central vestibular disorders

Central vestibular disorders are causes of dizziness that are due to problems affecting the brain.

Areas of the brain that might be affected include the brainstem and the cerebellum. These parts of the brain play important roles in maintaining our balance, and are also responsible for movement, posture and speech. If they are affected, then the other functions they are responsible for might also be affected.

Vestibular neuronitis and labyrinthitis

Vestibular neuronitis (or neuritis) and labyrinthitis are both conditions that may cause inflammation of parts of the inner ear. They are usually caused by a virus, or less commonly by bacteria; and may often occur after a previous infection, such as a cold, flu or sore throat.

Vestibular neuronitis affects your vestibular nerves. These nerves (one on each side of your head) connect the balance systems in your inner ear to your brain. Vestibular neuronitis may cause you to experience dizziness and balance problems, but will not usually affect your hearing.

Labyrinthitis affects the whole of your inner ear, including the parts that are involved with hearing. This means that labyrinthitis may cause you to experience changes to your hearing, such as ringing in the ears (tinnitus) or hearing loss, as well as dizziness and balance problems.

Symptoms of both of these conditions may include:

- sudden onset of dizziness
- spinning sensation (vertigo)
- general feeling of unsteadiness
- feeling sick (nausea)
- being sick (vomiting)
- blurred vision
- difficulty concentrating

Symptoms may come on suddenly in the morning or during the day, and might be quite intense and distressing. Some people may feel unable to stand upright for the first few days. Usually symptoms begin to improve after a few days and can take a few weeks to disappear completely.

Treatment involves rest and drinking plenty of fluids to avoid dehydration. You may be given medication to help manage some of your symptoms while you recover.

If the infection is caused by bacteria, you may be given antibiotics.

Most people will make a full recovery after a few weeks, but some people may experience symptoms for longer. Although in some cases the dizziness is not as intense, it might be enough to affect their everyday lives. If you are experiencing ongoing symptoms your doctor may refer you to a physiotherapist for vestibular rehabilitation training (see page 32).

Some people may also find that their condition affects their mental health and can lead to feelings of anxiety, depression or panic attacks. If you are struggling with these issues, see page 27 for more information or speak with your GP.

Benign paroxysmal positional vertigo (BPPV)

Benign paroxysmal positional vertigo (BPPV) is a common cause of dizziness. It can cause intense, short-lived episodes of dizziness and vertigo that usually only last a minute or less.

The episodes of dizziness are typically brought on by particular head movements, e.g. turning over in bed, or looking up to place a book on a shelf. Most people with this form of dizziness know exactly what sort of movements trigger their symptoms and will try to avoid them.

BPPV is caused when tiny particles (sometimes called otoconia or otoliths) move from their normal position within the balance systems of the ear, to inside one of the tubes called the semicircular canals (see page 7). Here, they can move during or after certain head movements and cause your brain to think that you are moving, even if you are not.

BPPV often has no known cause. Most people affected are over 40 and some cases of BPPV may follow a head injury or an inner ear infection.

BPPV may be diagnosed based on the description of your symptoms and by the Hallpike test (see page 11). BPPV causes specific jerking movements of the eyes (nystagmus) during the Hallpike test which can help to confirm a diagnosis.

BPPV may improve without treatment and clear up after a few weeks or months.

If treatment is needed, it may involve canalith repositioning procedures (or particle repositioning procedures, see page 38). These treatments can be performed by a doctor or physiotherapist, and do not require the use of any special instruments. They are usually performed by a specialist rather than your GP who might not be familiar with them. After successful treatment with these procedures, it is quite common to have some dizziness for up to three months afterwards.

Ménière's disease

Ménière's disease is a condition that affects the inner ear and can cause repeated episodes of intense dizziness or vertigo, ringing in your ears (tinnitus), hearing loss and a sense of pressure inside your ear. This condition most commonly affects those aged 20-60 and may be slightly more common in females than males.

An episode of Ménière's disease often lasts for two to three hours, but can sometimes last up to 24 hours. Your symptoms may cause you to be sick (vomit) and you may notice changes in your hearing either before or during an episode.

You might be more sensitive to sound or find that loud sounds are distorted. You may also feel a tenderness or pressure in one of your ears immediately before or during an episode.

Ménière's disease may progress through different stages. In the early stages, your symptoms may completely disappear between episodes.

As the condition progresses, tinnitus and hearing loss may get worse and might become permanent. The intensity of dizziness or vertigo during an episode can lessen but you may have ongoing balance problems and in some cases, people may eventually develop symptoms in both ears.

It is important to understand that the symptoms and severity of this condition can be different for each person. For example, some people may experience hearing loss with regular episodes of vertigo, whereas others may experience slight vertigo with severe tinnitus.

Episodes of Ménière's disease can be unpredictable and may occur in clusters which can be separated by days, weeks, months or years.

Usually, there is no warning sign that an episode is going to happen. People are often anxious about having an episode in public places because they are concerned that on-lookers will think they are drunk due to the symptoms of being sick and losing balance.

The cause of Ménière's disease is still unknown but each episode is thought to result from a build-up of pressure in the inner ear. A family history of Ménière's disease may increase your risk of developing it.

There is no known cure for Ménière's disease and treatment focuses on managing and easing the symptoms and episodes.

Medication can help reduce symptoms during an episode or may reduce the frequency of episodes

Anti-vertigo drugs and labyrinthine sedatives may both help if they are taken as soon as the first symptoms develop. These drugs can reduce the intensity of an episode and ease the symptoms.

Some labyrinthine vasodilators, such as Serc (betahistidine), taken over a prolonged period may help reduce the frequency of the episodes in some people, but they do not help during an episode.

Vestibular rehabilitation (see page 32) may also be recommended as a treatment, as well as relaxation techniques. In more severe cases, surgery may be required.

Although there is little research evidence to support it, some people report that lifestyle changes have helped to improve their symptoms. These changes have included:

- eating a low-salt diet
- regular exercise
- relaxation techniques and mindfulness
- stopping smoking
- avoiding alcohol, caffeine and other food that they know may trigger an episode

Some people may also find that their condition affects their mental health and can lead to feelings of anxiety, depression or panic attacks. If you are struggling with these issues, see page 27 for more information or speak with your GP.

Migraine and dizziness or vertigo

Some people may experience dizziness or vertigo as a symptom of migraine. This may be referred to as vestibular migraine, vertiginous migraine, migrainous vertigo or migraine-associated vertigo.

Dizziness or vertigo might be the main or only symptom of your migraine, or it may be a part of the symptoms you experiences before or during their migraine.

Other common symptoms of migraine include an intense headache, feeling sick (nausea) and being sick (vomiting). You might also have visual problems, speech problems, stiffness in your neck, and an increased sensitivity to light or noise.

Avoiding triggers can be an effective way of preventing migraines and any associated dizziness or vertigo that they may cause. Triggers may include stress, tiredness and loss of sleep, certain food and drink (e.g. chocolate, cheese or alcohol), hormonal changes, weather changes (barometric-pressure variations) and smoking or smoky environments. Certain medications may also trigger migrainous vertigo.

Medication may be used to treat or manage migraine. This may include general pain-relief drugs like aspirin and paracetamol, anti-inflammatory drugs like ibuprofen, anti-sickness medication, and specific migraine pain-relief medication only available on prescription.

Sometimes, medication may be prescribed to try and prevent migraines. Your GP or pharmacist will be able to discuss any medication options with you, and you should always speak to your GP before starting any medication.

Vascular vertigo

The term vascular is used to describe conditions that involve the blood vessels or that are caused by a reduced supply of blood reaching a particular part of the body.

If the blood flow to your inner ear or the areas of your brain involved in balance is affected, then this can lead to symptoms of dizziness and vertigo.

Vascular conditions that may cause dizziness or vertigo include:

- low blood pressure (hypotension) (see page 30)
- narrowing (stenosis) of blood vessels in the head and neck
- transient ischaemic attacks (TIA)
- stroke
- vasculitis

Migraine is sometimes described as a vascular cause of vertigo because during a migraine there may be temporary changes to the blood flow within the brain.

If your dizziness is caused by a vascular condition, you are likely to experience other symptoms as well. This might include hearing loss, visual problems, and numbness in the face or limbs. Dizziness or vertigo on its own rarely has a vascular cause.

Vascular causes of dizziness and vertigo are more common in older people. The symptoms may be an indication of more general vascular disease and relate to risk factors like high blood pressure, smoking, high cholesterol, diabetes, or a family history of vascular disease (high blood pressure, heart attacks, and strokes).

Treatment of these causes of dizziness and vertigo is aimed at reducing the vascular risks and doctors may prescribe a small dose of aspirin each day to

thin the blood, as long as there are no reasons for someone to avoid taking it (e.g. other medication, indigestion or other stomach problems).

Cervicogenic dizziness or cervical vertigo

Some people may experience dizziness caused by moving their neck. This is sometimes referred to as cervicogenic dizziness or cervical vertigo, and it is often felt alongside neck pain or a limited range of neck movement.

Cervicogenic dizziness is thought to be caused by a disruption of the information sent from the joints in your neck to your brain. The signals from your neck may be affected by pain or inflammation after an injury; or because of changes to the joints caused by arthritis, for example.

Often, your doctor or specialist will first rule out other possible causes of your dizziness before making a diagnosis of cervicogenic dizziness. Treatment can often involve treating any injuries or problems affecting your neck, which may involve medication, manual therapy (e.g. physiotherapy), or exercises and postural advice.

Post-traumatic vertigo

If you have dizziness or vertigo after an injury (trauma) to the head or neck, then it may be referred to as post-traumatic vertigo.

The exact cause of your dizziness or vertigo will depend on what parts of your head and neck were injured and whether your inner ear or brain have been affected. Dizziness can occur after only minor head injuries, such as a concussion.

After an accident involving a head injury, you may have injuries to other parts of your body and depending on how severe the injury is, you may experience other long-term effects due to a traumatic brain injury (TBI).

Dizziness and balance problems might not become apparent until later, when you are well enough to be up and about again. This might be some time after the injury.

Visual vertigo

Some people may find that certain visual surroundings can trigger dizziness, or make existing dizziness and balance problems worse.

For example, you may feel disorientated and dizzy in supermarkets when surrounded by tall stacked shelves, or in crowded train stations when surrounded by people. Or you may find that the sight of fast-moving or spinning objects can cause dizziness or make your dizziness worse.

You might experience dizziness in a car or other vehicle when you see fast-moving scenery out of the window, or when you see fast-paced action on a TV or cinema screen. This is often called motion or travel sickness. Other common symptoms of motion sickness include feeling sick (nausea) and being sick (vomiting).

You might also experience dizziness when you are adjusting to new prescription glasses or contact lenses.

Visual vertigo can also occur if you are experiencing problems like reduced or blurred vision. You should speak with your GP, optician or specialist if you experience problems with your vision.

Peripheral neuropathies and myelopathy

Problems with the nerves in your body or your spinal cord can interrupt both the signals going to the brain from your joints and muscles, and the signals coming back from your brain to your muscles.

This may mean that your brain is not getting the information it needs to maintain your balance, and that your muscles may not be receiving the signals needed to coordinate and control your movements. This can lead to balance problems, difficulty walking and may cause feelings of dizziness or unsteadiness.

If a nerve in your arm or leg is affected, this is often called a peripheral neuropathy. Some people may develop a peripheral neuropathy due to diabetes, or because of an infection, a genetic condition (e.g. Charcot-Marie-Tooth disease), or an auto-immune condition (e.g. Guillain-Barré syndrome).

If your spinal cord is affected, then this is often called a myelopathy. Myelopathies may be caused by narrowing of the space around the spinal cord, perhaps due to a disc herniation or changes to the bony structure of the spine (e.g. arthritis).

If the spinal cord is affected due to inflammation then this is usually called myelitis, instead.

Treatments to help with a peripheral neuropathy or a myelopathy will depend on what is causing the problem.

Stress or anxiety

Sometimes feeling stressed, anxious, or tense can cause you to experience dizziness or a sense of imbalance.

This type of dizziness may be called psychogenic dizziness.

The feelings that may be causing your dizziness could be due to something happening in your life, (e.g. stress at work or a stressful life-event), an anxiety disorder, or low mood.

In some cases, it might be a fear of falling over or a fear of feeling dizzy that is causing your stress and anxiety. Some people may worry about falling and the consequences of a fall, even if they have not had one.

Dizziness caused by stress or anxiety may sometimes result in a feedback loop. This happens when the dizziness caused by your feelings, increases your feelings of stress and anxiety and this then leads to more dizziness.

Feelings of anxiety may sometimes lead to panic attacks. During a panic attack, your breathing might become fast and excessive (hyperventilation). Hyperventilation can also cause light-headedness and dizziness, alongside the feelings of stress and anxiety.

Learning to cope with feelings of stress and anxiety can help improve your symptoms, your confidence and your quality of life. Mindfulness, cognitive behavioural therapy (CBT), medication or talking to a psychologist may help you to manage any stress or anxiety. You should discuss what options are available to you with your GP.

Making time for yourself to relax can also help to relieve stress. Things such as exercising, taking a walk in nature, having a relaxing bath, or listening to some calming music, may help you to manage your feelings. Different people find different activities relaxing, so do what best suits you.

Low blood sugar level (hypoglycaemia)

Low levels of sugar (glucose) in your blood can lead to dizziness and may be a sign that your body doesn't have the energy it needs to function properly.

Other symptoms of low blood sugar may include feeling hungry, trembling or feeling 'shaky', and sweating. In severe cases you may lose consciousness.

To treat low blood sugar levels, you should eat or drink something sugary, for example some sweets or a glass of fruit juice.

Low blood sugar is most common in people with diabetes. If someone with diabetes misses a meal, pushes themselves too hard, or takes too much insulin, this may lead to low blood sugar and cause them to feel dizzy. If this is happening regularly, you should talk to your diabetes care team about things you can do to help prevent it.

Dehydration or heat exhaustion

Dehydration is when your body does not have as much fluid as it needs. This can happen when the body loses more fluid (e.g. by sweating) than it takes in. Dehydration can affect the way the body functions as it upsets the balance of salts and sugars in the body.

Symptoms of dehydration may include feeling thirsty, lightheaded or dizzy, tiredness, passing dark coloured strong-smelling wee (urine), and passing urine less frequently than normal.

If you are dehydrated, you should drink plenty of fluids. Sipping small amounts regularly may be best if you have a stomach upset at the same time. Try to avoid alcohol, caffeine and fizzy drinks as these may be less effective.

Heat exhaustion occurs when your body is exposed to too much heat and struggles to maintain a normal, constant temperature.

Symptoms of heat exhaustion may include feeling sick (nausea), feeling faint or dizzy, headache, tiredness and sweating heavily.

If someone is suffering from heat exhaustion they should be taken to a cool place with any unnecessary clothing removed, and given water to drink. They

should feel better within approximately 30 minutes. If they do not improve, seek urgent medical advice.

Low blood pressure and postural hypotension

Low blood pressure (hypotension) means that the pressure in your blood vessels is unusually low. If your blood pressure drops too low, not enough blood may reach your brain and this might lead to dizziness or or fainting.

Some people's blood pressure may drop suddenly when changing from one position to another, such as when standing up from lying down. This is termed postural (or orthostatic) hypotension and is more common in older people.

Symptoms of low blood pressure may include dizziness, loss of balance, fainting, blurred vision, a rapid or irregular heartbeat, confusion, feeling sick (nausea), and general weakness. Not everyone with low blood pressure will experience symptoms.

Low blood pressure only needs to be treated if it is causing symptoms. Very few people are given medication to treat low blood pressure. Instead, lifestyle changes can be made to help relieve symptoms. These include:

- standing up slowly
- avoiding standing for long periods
- wearing support stockings
- limiting intake of alcohol
- avoiding caffeine in the evening
- eating smaller, more regular meals instead of large meals.

Colds, allergies and sinus infections

Some people may experience dizziness or vertigo as a symptom of a cold, flu or sinus infection, or if they have an allergy.

If your sinuses become blocked due to one of these problems, then it can affect your ability to equalise the pressure inside your ear and may affect your sense of balance.

Side-effect of medication

Dizziness may be experienced as a side effect of medication. You should discuss any concerns you have about medication with your GP or pharmacist. If it is felt that your medication might be causing your symptoms, your prescription may be changed.

Possible treatments

Some causes of dizziness, like vestibular neuronitis and BPPV, may recover on their own.

If your dizziness does not improve or if you are experiencing ongoing balance problems, then you may need to see a specialist for further treatment.

There are a number of available treatments for dizziness and balance problems. Your specialist may take you through an assessment and will discuss with you which treatments might be most suitable for you.

Vestibular rehabilitation

Vestibular rehabilitation is an exercise-based treatment programme that can help treat most causes of dizziness.

A programme of vestibular rehabilitation may include:

- Cawthorne-cooksey exercises (see page 36)
- gaze stabilisation exercises (see page 37)

The aim of vestibular rehabilitation is to help manage and reduce your symptoms by promoting a process called vestibular compensation.

Vestibular compensation is where your brain uses sensory information from other parts of the body (e.g. your eyes and your joints) to maintain and control your balance, when there is a problem with the information coming from the vestibular systems in your inner ear.

This process can happen without the need for any specific exercises or training, and is thought to play an important role in how some people recover

without treatment. But if you do need specialist support, vestibular rehabilitation uses exercises and movements that encourage the compensation process.

Improving your vestibular compensation may help manage and reduce your dizziness even when the damage to your inner ear is permanent.

The exercises used in a vestibular rehabilitation programme may involve movements of the eyes, the head, the upper body, and then the whole body. Some exercises may be performed under different 'visual conditions' (e.g. with the eyes open or closed, or looking at steady objects or a moving ball), and on different surfaces and in different environments.

An important part of these exercises, and of developing your vestibular compensation, is understanding that the brain must experience feelings of dizziness or imbalance to encourage it to learn and adapt. If, for example, you are regularly taking anti-vertigo drugs or lying still in bed, you might not experience dizziness and the process won't take place.

For this reason, your physiotherapist or specialist overseeing your rehabilitation may ask you to reduce and eventually stop taking your anti-vertigo medication. This will be done in consultation with your GP.

Although it is important that you experience some dizziness as part of vestibular rehabilitation, you should not try to make yourself dizzy by moving or exercising so much that you are sick or become exhausted.

As you progress to more difficult or challenging vestibular rehabilitation exercises, you might find that you continue to experience dizziness when you perform them. This is not a setback or a reason to stop.

Possible treatments

Depending on the cause of your dizziness, you may still have problems affecting the information coming from your inner ears or balance centres of your brain.

Remember that the exercises you are doing are helping your brain to continuously adapt and learn to manage your balance despite these problems.

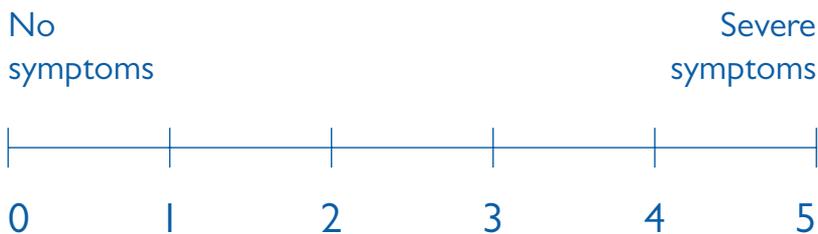
Pacing yourself and staying safe

As part of your programme of vestibular rehabilitation exercises, you will be given advice on how many of each exercise to do and when to progress to the next set of exercises. As a general rule, you should build up gradually from one set of exercises to the next.

You might find that your dizziness problems get worse for a few days after you start the exercises. This is normal, but if it does not improve or if it makes your symptoms much worse then you should speak to your doctor or specialist.

To help pace yourself and to avoid moving onto exercises that are too difficult before you are ready, you could rate how severe your dizziness is during or after an exercise.

For example, you could use a scale of '0' through to '5', with '0' being no symptoms and '5' being severe symptoms.



Your doctor or specialist will discuss with you how to recognise when you are ready to move to the next exercise. For example, they may advise you to only move on to the next exercise once your current exercise gets a '0' on the scale, for three days in a row.

Make sure that you are in a safe environment before you begin a set of exercises. It is important to remember that you may feel dizzy whilst doing these exercises and you should think about how you can reduce the risk of hurting yourself.

Important information

Please note that you should not attempt any of these exercises without speaking to your doctor or specialist about them first.

Your doctor or specialist will be able to go through an assessment with you and help you plan a personalised exercise programme. This is to ensure you are doing the right exercises to help with what is causing your dizziness or balance problem.

Some of the exercises in this booklet may not be suitable for everyone, and some may only be suitable for certain conditions. Always follow the advice or instructions given to you by your doctor or specialist.

You might find it helpful if a friend or relative can learn the exercises with you and is able to help you with them if needed.

Please read the section on 'Pacing yourself and staying safe' before starting any of these exercises (see opposite).

Cawthorne-Cooksey Exercises

These are exercises that are often included in a vestibular rehabilitation programme. They aim to:

- relax the neck and shoulder muscles
- train the eyes to move independently of the head
- practise good balance in everyday situations
- practise the head movements that cause dizziness (to help the development of vestibular compensation)
- improve general coordination
- encourage natural unprompted movement.

Cawthorne-Cooksey exercises can include:

1. In bed or sitting:
 - A. Eye movements (move eyes slowly at first, then quickly)
 - up and down
 - from side to side
 - B. Head movements (move head slowly at first, then quickly; with eyes open, then closed)
 - C. Bending forwards and backwards
 - D. Turning from side to side
2. Sitting:
 - A. Eye and head movements, as for 1A and 1B
 - B. Shrug and circle your shoulders
 - C. Bend forward and pick up objects from the ground
 - D. Bend side to side and pick up objects from the ground

3. Standing:
 - A. Eye, head and shoulder movements, as for 1A, 1B and 2B
Change from a sitting to a standing position with eyes open, then closed (please note this is not advised for people with postural hypotension)
 - B. Throw a ball from hand to hand above eye level
 - C. Throw a ball from hand to hand under the knees
 - D. Change from a sitting to a standing position, turning around in between

4. Moving about:
 - A. Walk across the room with eyes open
 - B. Walk up and down a slope with eyes open
 - C. Walk up and down steps with eyes open
 - D. Throw and catch a ball
 - E. Any game involving stooping, stretching and aiming (e.g. bowling or bowls)

Gaze stabilisation exercises

The aim of gaze stabilisation exercises is to improve the ability of your eyes to focus on a stationary object while your head is moving.

Your vestibular rehabilitation programme might include a gaze stabilisation exercise such as:

1. Looking straight ahead and focusing on a letter of the alphabet held at eye level in front of you on a piece of paper or card.
2. Begin moving your head from side to side, staying focused on the target letter. Build up the speed of your head movement gradually. It is crucial that the letter stays in focus. If you get too dizzy, slow down.
3. Try to continue for up to one minute (the brain needs this time to adapt).

Build up gradually to repeating this exercise three to five times a day.

You may also be suggested to do this exercise with an up and down (nodding) movement.

These exercises may be progressed by placing the target letter on a busy background (e.g. with patterns) or by changing the position of your feet. For example, you might be advised to start the exercise while seated and then move on to standing, and then to change the position of your feet.

Canalith (or otolith) repositioning procedures (CRP)

Canalith repositioning procedures (CRP) may be used to treat people with benign paroxysmal positional vertigo (BPPV, see page 19).

The aim of these procedures is to encourage the movement of particles (also known as otoliths) that are trapped in the semicircular canals in the inner ear and that may be causing someone's dizziness.

CRP involves a series of head and upper body movements that are performed by a trained specialist. They should only be performed by a trained specialist to prevent the risk of neck and back injuries.

The two main CRP treatments are:

- the Epley manoeuvre
- the Semont (Semont-Liberatory) manoeuvre

Brandt-Daroff exercises

Brandt-Daroff exercises are a treatment for BPPV that can be performed at home without the supervision of a specialist.

To perform these exercises:

1. Sit on the edge of the bed and turn your head 45 degrees to one side.
2. Quickly lie down on your opposite side (that is, to the left if you turned your head to the right, and vice versa) so that the back of your head behind your ear touches the bed.
3. Hold this position for about 30 seconds, or until the dizziness symptoms stop.
4. Return to the sitting position.
5. Repeat on the other side, alternating until you have completed six repetitions on each side.

These exercises may work differently to CRP. Instead of moving the particles to a new position, they may disperse them or help you to get used to the dizziness through repeated head movements. Brandt-Daroff exercises are sometimes called habituation exercises, as this describes the process of reducing your symptoms by repeatedly exposing yourself to the movements that cause them.

Medication

Depending on what is causing your dizziness, you may be given medication to help:

- treat the cause of your dizziness
- manage or reduce your symptoms
- prevent further episodes of dizziness

Possible treatments

Your doctor or specialist will discuss with you what medications, alongside other possible treatments, might help you. You may be advised to take medications regularly, or they may only be needed during (or for a short time after) an episode of dizziness.

There are different types of drugs that you may be prescribed or given by your GP or specialist. They might be described as:

- anti-sickness drugs (or anti-emetics)
- motion-sickness drugs (or anti-vertigo drugs)
- labyrinthine sedatives
- antihistamines
- anticholinergics
- diuretics
- anti-anxiety drugs
- migraine-prevention medication
- antibiotics (only if there is a bacterial infection)

Some drugs may fall into more than one of these categories.

Medication such as motion-sickness or anti-vertigo drugs, may be given at the beginning of an episode of dizziness or if your symptoms become more severe. These drugs may be prescribed for 3-14 days, depending on which condition they are treating.

Some medications can make you feel drowsy or tired, especially if you are taking high doses. It is best to speak to your GP or pharmacist about the side effects of your medications, and you may be advised to avoid driving or operating machinery whilst taking them.

You may be advised to use certain medications only during the early stages of a condition or episode of dizziness, and to try to reduce and eventually stop

taking them as soon as possible. This is because the effect of these drugs may affect the process of vestibular compensation, which is an important part of recovery and other treatments.

Your doctor or specialist may also ask you to stop taking medication before an appointment. This is so that your medication does not affect the results of any tests or interfere with other treatments or exercises.

If you have been diagnosed with dizziness and balance problems related to or caused by migraine (see page 23), your doctor or specialist might advise you to take certain medication to prevent the onset of migraines and to treat the symptoms.

Some people may find that their dizziness or balance problem impacts their mental health and can lead to feelings of anxiety, depression or panic attacks. If you are struggling with these issues, you should speak with your GP. They may prescribe you medication to help manage anxiety or depression, or refer you for talking therapies like counselling or cognitive behavioural therapy (CBT).

Surgery

Only a very small number of people with dizziness and balance problems will need surgery to help treat or improve their symptoms.

Surgery may be considered as an option for people who have not had noticeable improvements in their dizziness after long-term treatment with medication and rehabilitation. It may also be used to treat individuals who experience dizziness associated with ear discharge, long-standing middle ear infections, or ear drum perforations.

Your doctor or surgeon will discuss with you what type of surgery is needed to treat the cause of your symptoms.

Tips for everyday life

Managing stress and anxiety

Dizziness and balance problems can cause stress, anxiety and worries. If you have experienced dizziness for a long period of time, you might be concerned that you will never recover or that, despite what your doctors are telling you, you might have a serious underlying health problem.

Your dizziness might create worries about going to work or attending social events. You might feel concerned about visiting friends and family, or looking after your children or grandchildren. Many people are anxious about experiencing an attack of dizziness in public and fear the embarrassment it could cause them. Some people feel anxious in stressful situations like crowded public places, or in small or confined spaces.

If you are experiencing issues like these, you should speak with your GP for advice and support on coping with stress and anxiety. It might be that you are referred to a counselling service. Cognitive behavioural therapy (CBT) can also be helpful for people experiencing stress, anxiety or depression, and you may be referred to a specialist for this.

Relaxation therapy or breathing exercises can also be helpful to reduce stress and anxiety and allow people to feel more in control of otherwise difficult situations. Many people find that mindfulness can also relieve stress.

For information on further support with mental health, see our 'Other useful organisations' section at the back of the booklet.

Keep active

Staying active is an important part of recovery. It helps your brain learn to manage your symptoms of dizziness and balance problems (see page 32 for more about vestibular compensation) and also can help you to maintain a good quality of life.

It might be tempting to avoid moving around or going out as much, so as to avoid experiencing dizziness or balance problems - but this can lead to you not engaging in your usual day-to-day life, and to you withdrawing from social activities. This can lead to feelings of loneliness, depression and anxiety, which are known to cause or worsen dizziness and balance problems.

It is important to perform any exercises given to you by your doctor or specialist regularly, even if you feel that it is difficult to see much progress at first.

When you feel ready, you might want to discuss with you doctor or specialist about returning to other physical activities and sports.

Initially, just going for walks might be enough physical exercise to help the process of vestibular compensation. Cycling and swimming are probably less effective in helping vestibular compensation but are worth trying if they are your preferred form of exercise.

Sports such as ball games that require coordination between your eyes, head and body, can be challenging but effective in helping you improve your balance control. More gentle forms of exercise such as Tai Chi have also been shown to improve balance.

Keep a diary

Keeping a diary of your symptoms can be a good way of recording how often you experience dizziness or balance problems and what you are doing at the time. It can also help you to identify possible triggers and to track any improvements or changes.

Taking your diary to your medical appointments can be very useful. The more information you are able to give your GP or specialist, the better able they are to help you.

It's good to talk

Talking to friends and family can help you to maintain a good quality of life and to manage your symptoms. Sharing your concerns and talking things through with them can be really helpful. It can make it easier for them to understand what you are going through and what it is they can do to support you.

Many people will experience dizziness or balance problems at some point in their lives. By talking to the people around you, you might discover a friend or family member has also experienced dizziness themselves, or knows someone who has. Talking to them can help you stay positive about your situation.

Healthcare professionals

Audiologist: a clinical specialist who performs tests and investigations as part of the diagnosis and treatment of hearing and balance problems.

Audiovestibular physician: a doctor who specialises in the diagnosis and treatment of hearing and balance problems.

Counsellor: a person trained to give guidance on personal or psychological problems.

Ear, nose and throat (ENT) surgeon: a specialist doctor who performs operations on the ears, nose, throat, head and neck.

Neurologist: a doctor who specialises in the diagnosis and treatment of people with neurological conditions (conditions affecting the brain and spine).

Neuro-otologist: a doctor who specialises in the diagnosis and treatment of people with hearing and balance problems, and eye movement disorders.

Otologist: a doctor who specialises in the diagnosis and treatment of people with problems relating to the ear (hearing and balance problems).

Physiotherapist: a specialist health professional who assesses, plans and treats people with physical problems.

Radiologist: a specialist doctor who performs, reports and reads scans such as CT scans, MRI scans, and X-rays.

Other useful organisations

Ménière's disease

Ménière's Society



menieres.org.uk



01306 876 883



info@menieres.org.uk

Support and information on Ménière's disease, vertigo, tinnitus and deafness.

Migraine

Migraine Trust



migrainetrust.org



0203 9510 150

Support and information on migraine.

Hearing problems and tinnitus

The British Tinnitus Association



tinnitus.org.uk



0800 018 0527 (helpline)



helpline@tinnitus.org.uk

Support and information on tinnitus

Action on Hearing Loss



actiononhearingloss.org.uk



0808 808 0123 (helpline)

0808 808 6666 (tinnitus helpline)

0808 808 9000 (textphone)



information@hearingloss.org.uk

tinnitushelpline@hearingloss.org.uk

Support and information for deaf and hard of hearing people.

Visual problems

Royal National Institute of Blind People (RNIB)



rnib.org.uk



0303 123 9999 (helpline)



helpline@rnib.org.uk

Support, information and advice to people in the UK with sight loss and visual problems.

Mental health

Anxiety UK



anxietyuk.org.uk



03444 775 774 (helpline)



support@anxietyuk.org.uk

Information and support on anxiety.

Other useful organisations

Mind



mind.org.uk



0300 123 3393 (helpline)



info@mind.org.uk

Research, information and support on mental health.

Samaritans



samaritans.org



116 123



jo@samaritans.org

Support for people who are struggling to cope, including those who have had thoughts of suicide.

General advice

NHS



nhs.uk



NHS non-emergency line: 111

Medical advice and information on NHS services.

Carers

Carers Direct Helpline



0300 123 1053

Information service from the NHS for carers

Carers UK



carersuk.org



England, Scotland and Wales: 0808 808 7777

Northern Ireland: 028 9043 9843

Support and advice for carers.

Driving

Driver and Vehicle Licensing Agency (DVLA)



gov.uk/browse/driving



0300 790 6806

Information and services for drivers.

Money and benefits

Citizens Advice Bureau



citizensadvice.org.uk



03444 111 444

Citizens Advice give free, confidential information and advice to assist people with money, legal and other problems.

Money Advice Service



moneyadviceservice.org.uk



0800 138 7777



enquiries@moneyadviceservice.org.uk

An independent service that provides free and impartial advice on money and financial decision to people in the UK.

More information from us

The Brain & Spine Foundation produces other booklets and fact sheets.

These publications are available to read or download through our website. Booklets are also available in print, on request.

Requests can be made through the website or the Brain & Spine Helpline:
0808 808 1000

References and feedback

Details of references used for this booklet can be requested by sending an email to references@brainandspine.org.uk

We welcome any feedback or comments you may have about this booklet. Send an email with your thoughts to feedback@brainandspine.org.uk

Thank you

We would like to thank all our service users who helped us review this booklet and our health professional reviewers.

Brain & Spine Foundation

Our mission is to improve the quality of life of people affected by neurological problems by providing expert information, support and education.

You can call or email our **Helpline** for further support or information at:



0808 808 1000



helpline@brainandspine.org.uk

We rely on donations to provide our services to anyone who needs us. If you want to **support us**, you can:



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