Balance problems after stroke

Problems with balance are common after stroke. If your balance has been affected, you may feel dizzy or unsteady which could lead to a fall or loss of confidence when walking and moving around. This factsheet explains how stroke can affect your balance, what can help and how you can look after yourself.

Balance involves the co-ordination and stability of our bodies in our surroundings. It affects most day-to-day activities, such as moving around and reaching for objects. If your balance is impaired, you may feel dizzy or unsteady. This can reduce your confidence and increase your risk of having a fall. If your balance problems have lasted for a long time, you might find that they affect your quality of life.

Balance is very complex and it involves many different parts of the body such as your ears, eyes and sensors in your muscles and joints. These work together automatically and subconsciously so you are usually unaware of them unless something goes wrong.

You are more likely to have problems with your balance if your stroke has affected the left side of your body.

How can your balance be affected by stroke?

A stroke can affect any, or all, parts of your balance system, and the way in which they work together. Usually your body can overcome mild problems, but if they are more severe, your system will be unable to work effectively and you will probably feel unsteady.

Weakness on one side of your body

When your balance is affected after a stroke, it is usually because of weakness on one side of your body. At worst, you may find it difficult to sit up safely, or you may have difficulty standing if you cannot keep your leg straight when you stand on it. On the other hand, you may be able to walk but find that you cannot lift your toes quickly enough to stop them catching when you step. This is a condition called drop foot. Another common problem is having difficulty adapting to unpredictable situations (such as crowds or uneven surfaces). Or you may find that you have less energy so that you tire easily and then become unsteady.

Loss of sensation

The second main factor affecting balance is loss of sensation in your affected side, particularly your leg. If you cannot feel where your leg and foot are, especially when your foot is safely on the ground, it is very difficult to know how to move. You will automatically
Balance problems after stroke

use your **vision** to compensate for the lack of feeling, which takes a lot of concentration and is tiring. It also means that you may be less aware of your surroundings. All of this increases your risk of having slips, trips and falls.

**Injury to your brain**

Sometimes if a stroke happens in your cerebellum or brainstem – the areas that control balance in the brain – you may be left with a **sensation that you are moving** when you are not.

**Lack of concentration**

After a stroke, moving around and keeping your balance is no longer automatic. It takes a lot of concentration, which is hard work. If your attention is distracted, it might be harder to concentrate on your balance. **Many people who fall report that they were not paying attention, were thinking of other things or doing several things at the same time** when they fell. One example is walking and talking at the same time – some stroke survivors often stop walking if you speak to them, or keep walking and do not answer. Other examples include coping with unpredictable situations such as crowds and uneven surfaces, turning or changing direction when walking or carrying things.

**Less common problems that can affect your balance**

**Perceptual problems.** Some strokes can affect your ability to interpret your surroundings. This is often associated with strokes that occur in the right side of the brain. It can be difficult to maintain your balance and plan how to move if the world around you does not make sense. You may feel unsure of your position and think that you are upright even when you are leaning heavily to your weak side, sometimes to the extent that you cannot sit up safely. This is called **’pusher syndrome’** and can happen (usually just in the early days) after a severe stroke.

A related problem is **’neglect’**. This occurs when you are not aware of one side of your body (usually the left side). Again, it is difficult to move if you are not aware of one of your legs. People with neglect may try to move but forget to move their weak leg causing loss of balance.

**Vision** is an important aspect of balance. Visual problems are quite common after stroke. They vary and include difficulty focusing, double vision, eye movement problems and blind patches. See our factsheet F37, *Visual problems after stroke* for more information. Again it is difficult to make the subtle and rapid changes to your posture and movements necessary to keep your balance if you cannot see clearly around you.

**Dizziness or vertigo** (a feeling that the world is spinning) is quite common after stroke, but for most people this does not usually last long.

**Ataxia** is the name for clumsy, uncoordinated movements. It is associated with strokes that happen in the back of the brain (the cerebellum or posterior circulation).

People with ataxia have difficulty producing movements quickly enough and in the right order to prevent losing their balance or to recover from a trip or slip.

**Side effects of medication**

Some medicines commonly prescribed after
stroke can cause dizziness and/or weakness. These include some drugs for high blood pressure, diabetes and depression. In rare cases, clopidogrel, a commonly used blood-thinning medicine, can cause dizziness. Interactions between different medicines can also cause problems with balance. Talk to your doctor if you have any concerns about the medicine you are taking. Never stop taking any medication without speaking to your doctor first.

**Other causes of balance problems:** A range of other conditions not directly related to stroke, such as inner ear infections and migraines, can also cause dizziness and loss of balance.

**What help is there for balance problems?**

Dizziness after strokes that have affected the cerebellum or brain stem rarely lasts for long. The problems caused by stroke may mean that you are not able to move straight away. Being unable to move for a long time may affect how long it takes your balance problems to improve. Trying to get moving as soon as possible will help your recovery. Improvement tends to be fastest in the first few days or weeks after stroke but can continue slowly for months or even years. However, everyone is different and there is no fixed time that it will take to get better.

As with all physical effects of stroke, a physiotherapist can assess you and recommend therapy or exercises that may help you to recover. Most people will see a physiotherapist whilst they are in hospital. If you are living at home, your GP can refer you for physiotherapy. Private physiotherapists and some NHS services will accept a self-referral where you can go directly to them without a referral from another professional. For more information, please see our factsheet *F16, Physiotherapy after stroke.*

**Balance retraining exercises**

There is good research evidence that exercise and balance retraining are very effective ways to treat balance problems. To be effective the exercises need to be:

- **intensive** – you need to do as much as you can, as often as you can
- **individual** – you need to work on the things that you find difficult
- **functional** – you need to practise the everyday activities that you find difficult, such as standing up and sitting down, negotiating uneven surfaces and obstacles, changing direction and speed, walking up stairs
- **progressive** – you need to move on to more challenging activities once you are able to do an activity to keep improving.

Keeping your balance whilst sitting up in bed or on a chair may be the first thing your physiotherapist addresses with you. Then they will start getting you to balance whilst standing, perhaps with the help of a hoist or two or three people.

**Exercises** may then include step-ups, moving from sitting to standing position, practising reaching for objects and standing on unstable surfaces.

Balance training may take place in one-to-one sessions with a physiotherapist. You may do exercises they prescribe in your own time (in hospital or at home), or in a group
run by a physiotherapist either in hospital or in a community setting.

Some stroke clubs and other community groups run exercise classes or offer other services to help people with disabilities stay active. Contact us for information on stroke clubs near you, and see our resource sheet R7, Exercise and stroke for more ideas.

Treadmill training is useful for people who can already walk. As part of a programme, it can help to gradually increase your stamina. This may be available at your local physiotherapy department, or many areas offer an ‘exercise prescription scheme’ (different names are used in different areas) in which you can work with a fitness trainer who is trained to work with people with disabilities at your local gym or fitness centre. They will be able to adapt the exercises and equipment to your needs. Your GP can tell you what is available in your area.

Gaze stabilisation exercises can help people with ongoing dizziness and vertigo. They need to be prescribed carefully and should be delivered by a physiotherapist who specialises in dizziness.

Exercises can take many forms and should be supervised by a physiotherapist who will provide individually-tailored activities to progressively challenge you. It is normal to feel worried or scared about carrying out some of the exercises. Unfortunately, rehabilitation carries a small risk of falling but it is important to practise to make the best possible recovery.

Computer games consoles like the Wii have games that can improve your strength and balance. They are worth trying if you already have the equipment. However many stroke survivors report that the movements required to take part in the games are too quick or complex for them. Make sure you start at the lowest level and choose the simplest games first, then build up gradually. Ask your physiotherapist for advice.

Studies have also shown that you can improve your general balance with Tai Chi exercises, which typically involve slow and graceful movements. It has not been proven that Tai Chi is helpful after stroke, although it is unlikely to be harmful.

Equipment to help with balance problems

A simple walking stick or four-point cane can improve your stability and improve your confidence, especially when walking outside. Even if you do not need to lean on the stick for support, people will often given you a little more time and space. It is important that any equipment is the correct size for you as inappropriate walking aids can be harmful.

If you have drop foot – difficulty lifting your foot to stop your toes catching – you may also need an ankle-foot orthosis. This splint lifts your toes and supports your ankle so you can put your weight on your leg when you stand without catching your toes when you step forward. Your physiotherapist can prescribe a splint or may refer to the local orthotics department. Your GP or other health care professional can also refer you to them. See our factsheet F33, Physical effects of stroke for more information on drop foot and the treatments available.

If you have weakness on one side of your body, a small lift or wedge under the shoe of your stronger leg may improve your balance.
I’m worried about falling – is any help available?

Impaired balance increases your risk of having a fall. This is a very common cause of accidents that can lead to serious injury, particularly if you are an older adult.

Most health trusts will have a service especially for people at risk of a fall – called a falls service. The way services run varies but they all offer rehabilitation for people who have been injured in a fall and treatments to prevent falls and injuries in the first place. They will check and treat:

• any other conditions you have which may increase your risk of a fall

• your medication to make sure they are not causing side effects that increase your risk of a fall

• your eyesight

• your feet and footwear, and

• your home environment to see if there is anything that increases your risk of a fall or whether simple adaptations (like a hand rail for steps or a seat to help you get in and out of the bath) could help.

They may also offer exercises (possibly in a group setting) to strengthen your legs and improve your balance.

If you have fallen or you feel unsteady and at risk of falling and hurting yourself, any health care professional can refer you to your local falls service. Tell the professional that you see most frequently such as your GP and ask them to refer you.

Tips to avoid a fall

The following tips may help to prevent you from having a fall.

• Keep all floors clear of trailing wires, frayed carpet or anything else you might trip on.

• Mop up any spills straightaway.

• Organise your home so that you are less likely to bump into things. Remove clutter and arrange your furniture so that you do not have to walk around it.

• Most falls happen when people are not paying attention, are thinking of other things or doing several things at once. Try to avoid doing two things at once such as walking and carrying something. Use a trolley to move things around (for example to take your plate or a cup from the kitchen to dining table) rather than carrying it.

• Try to avoid walking and talking. Stop if you want to talk to someone.

• Focus on your movements when you are doing something that is tricky – such as turning, going up and down stairs, or getting in and out of the bath or bed. These are all common times when falls happen. Step around carefully when you are turning (rather than twisting), hold on to whatever solid objects are around and take your time. Use aids if you have them and ask someone to help you if they are available.

• Move at a pace that is comfortable for you. Do not be persuaded by the pressures of everyday life to do things more quickly.
Balance problems after stroke

• Talk to an occupational therapist about getting handrails for the stairs and/or bathroom. Your doctor can refer you to see one.

• Use high wattage light bulbs so you can see clearly, particularly around stairs. If you get up in the night, make sure you turn the light on.

• Keep your home warm – cold muscles work less well and this can lead to accidents.

• Remember to use any walking aids, such as sticks or frames that your therapist has recommended.

• In case you do have a fall, you may want to consider getting a personal alarm. Personal alarms are available via the shop section of our website, or see our resource sheet R3, Aids and equipment for independent living.

• Wear well fitting shoes with thin soles, high sides and a good grip. Never walk on slippery floors in socks or tights.

• Talk to a podiatrist (also called a chiropodist) about any foot problems – these can increase the risk of falls if left untreated. Your GP may be able to refer you to one, or details will be in your local phone book.

• Have regular eye tests. Wear any glasses that have been prescribed for you.

• Ask for help with tasks that you cannot carry out safely, or leave them if they are unimportant.

Useful organisations

All organisations listed are UK wide unless otherwise stated.

Age UK
England tel: 0800 169 6565
Northern Ireland tel: 02890 245729
Scotland tel: 0845 125 9732
Wales tel: 029 2043 1555
Website: www.ageuk.org.uk
Provides information on health and well-being and has a booklet with exercises to help build strength and balance.

Ataxia UK
Tel: 0845 644 0606
Website: www.ataxia.org.uk
Provides a range of services, including advocacy and local groups, to support people with ataxia.

Chartered Society of Physiotherapy (CSP)
Tel: 020 7306 6666
Website: www.csp.org.uk
Offers a search facility for finding a qualified, private physiotherapist.

Disclaimer: The Stroke Association provides details of other organisations for information only. Inclusion in this factsheet does not constitute a recommendation or endorsement.
Balance problems after stroke

Glossary of terms

**Ankle-foot orthosis** = a splint to help you walk if you have drop foot.

**Brainstem** = the stem-like part of the brain that connects to the spinal cord.

**Cerebellum** = part of the brain responsible for the co-ordination of voluntary movements and for maintaining posture and balance.

**Clopidogrel** = an antiplatelet (blood-thinning) drug that is used to prevent blood clots from forming.

**Drop foot** = a condition where you cannot lift your toes properly when walking so they catch on the ground.

**Neglect** = inattention to, or lack of perception of one side of the body.

**Podiatrist** = formerly known as chiropodist, meaning a health professional who specialises in the care and treatment of feet.

**Pusher syndrome** = problem where patients push towards the affected side, especially when standing, which can lead to falls.
Balance problems after stroke

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