

Balance exercises factsheet: general information

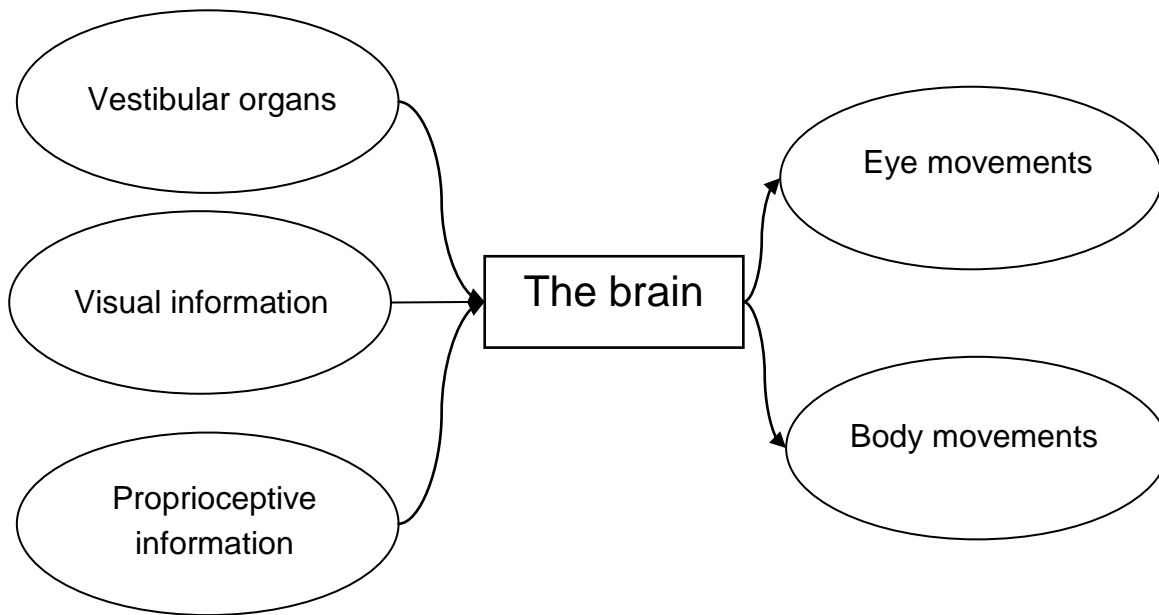
The balance system

Your balance system is very sophisticated. In order for you to balance, your brain needs information from three sources:

- Balance organs (**vestibular information**). A series of fluid-filled canals which are present in each ear and contain small hair cells. When you move, the fluid moves and the hair cells detect the movement. They then send signals to your brain so that it can move your eyes in the correct direction. The brain also receives information about where the head is positioned in relation to gravity. It is important that both of these are working, and working at the same level.
- Eyes (**visual information**) is the dominant input. The eyes give the brain information about where the head and body are in relation to your surroundings. If information from the balance organs and the eyes are not properly integrated, then you may have more problems with your balance in the dark, suffer from travel sickness or have difficulty following moving images.
- Sensors in our joints and muscles (**proprioceptive information**). This information tells the brain how the legs, arms and trunk are positioned in relation to each other and sensors in your skin tell your brain if you are touching something.

The brain combines all of this information so that it can work out where your head and body are in relation to your surroundings and to help you move around safely by controlling eye and body movements

It is important that all these inputs agree. If any of these inputs are disrupted or missing, for example if one of your balance organs is not working as well as the other one, then you may feel dizzy. This is because the information from one of the inputs has changed and the information no longer agrees (i.e. there is a mismatch between the information).



Many people suffer from feelings of imbalance and nausea in busy visual environments such as in supermarkets, or shopping centres, or after activities such as computer work. This is called **visual vertigo**. When the balance organ information is not as reliable as it used to be, the brain puts more emphasis on the visual information it receives, and also turns up its sensitivity to this information. This increased sensitivity combined with a mismatch between the balance and visual information leads to symptoms of visual vertigo.

The brain is very good at readjusting to balance problems and some people start to feel better after a few days or weeks. Often the symptoms are strong at first but then you start to feel better as the brain starts to make sense of the changed information.

What the exercises do

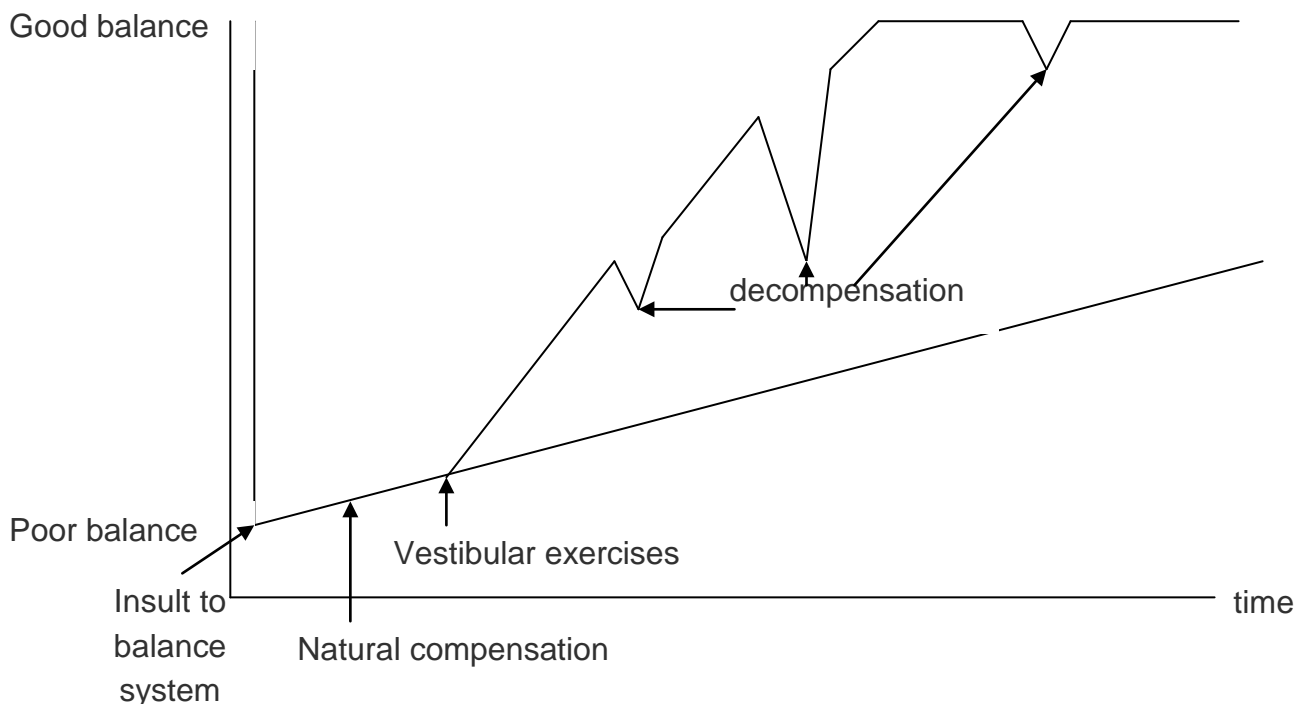
Vestibular rehabilitation exercises are designed to speed up the process of recovery. The exercises are designed to gently provoke the dizzy signals which help the brain accept the changed signals or to '**re-calibrate**' itself, so that all the information agrees again. This is called **Central Compensation**. With respect to visual symptoms, these usually disappear within a few weeks. However, if they persist, with controlled exposure to the provocative visual situation the brain can decrease its sensitivity, thus reducing symptoms.

The exercises are likely to make you feel a little worse for the first few days or weeks of the exercise programme. This is normal and is a good indicator that you are challenging your balance system in the way that we want and that exercises are useful for you to do. Once an exercise no longer provokes any symptoms then you need to concentrate on another which does.

Decompensation - this is where symptoms of imbalance/dizziness on moving recur (normally at a lower level than your first episode of dizziness) occurs. This is not a new balance organ upset, but rather caused by the compensation process being knocked out of kilter in times where the brain has other things to deal with. It is more likely to occur at times of:

- Illness
- Tiredness
- Stress
- Emotional upset

Decompensation may manifest itself as mild momentary imbalance or stronger sensation of spinning that lasts a few hours. It can occur at any time during the “recalibration” process but may also occur once the “recalibration” process is complete and your dizziness has gone.



If this happens

- If you feel able to continue with the exercises, do them at a less difficult level until you feel better.
- If you don't, stop them for a while until you begin to feel better, but resume the exercises as soon as you feel able to, so the recalibration process can get started again.
- By persevering with the exercises, things should improve.

How long will I need to do the exercises for?

The brain is quicker to adjust to slow or simple head movements and it usually takes longer to be able to do quick movements without provoking any symptoms. It will take a few weeks for you to see an improvement in your symptoms and after this you will need to make the exercises more challenging. Most people with an uncomplicated balance organ difficulty who commit to doing the exercises 2-3 times per day will do them for at least 6-8 weeks. After this time your balance should be pretty good although in some cases there may always be some very quick and random movements which may make you feel mildly dizzy.

How many appointments should I expect?

You will have an initial appointment at which the mechanisms of recovery will be explained to you and a plan of exercises tailored to your individual needs designed and shown to you. You will then have a first follow up appointment 4-6 weeks after your first appointment and then normally at least one more appointment (or further appointments until you and your clinician feel that you can continue with you plan independently).

Other pointers:

Look at your lifestyle

- The process of compensation requires a lot of brain capacity. If you life style is very busy/stressful and you have long days this will mean the brain is concentrating on this and there may not be sufficient capacity to recover as quickly as you might. Trying to reduce some of the stress from your lifestyle will help the process of compensation occur as quickly as it can. Relaxation techniques and good sleep are also important.
- **Keeping as active as possible** will help your recovery and increase your confidence. Activities such as walking (particularly on softer surfaces such as sand, gravel or grass) and sports that make use of all the sensory cues for balance, such as badminton, are also good.
- Gentler activities, such as **yoga** or **Tai Chi** are also helpful as they require you to make slow, controlled movements and encourage relaxation. Deliberately avoiding movements that make you feel dizzy will not help your recovery. Remember that the brain needs to be exposed to these movements if it is to adjust to the new signals it gets when you make the movements.

If you have any questions or concerns you can contact the Audiology Department on 0118 322 7238.

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