

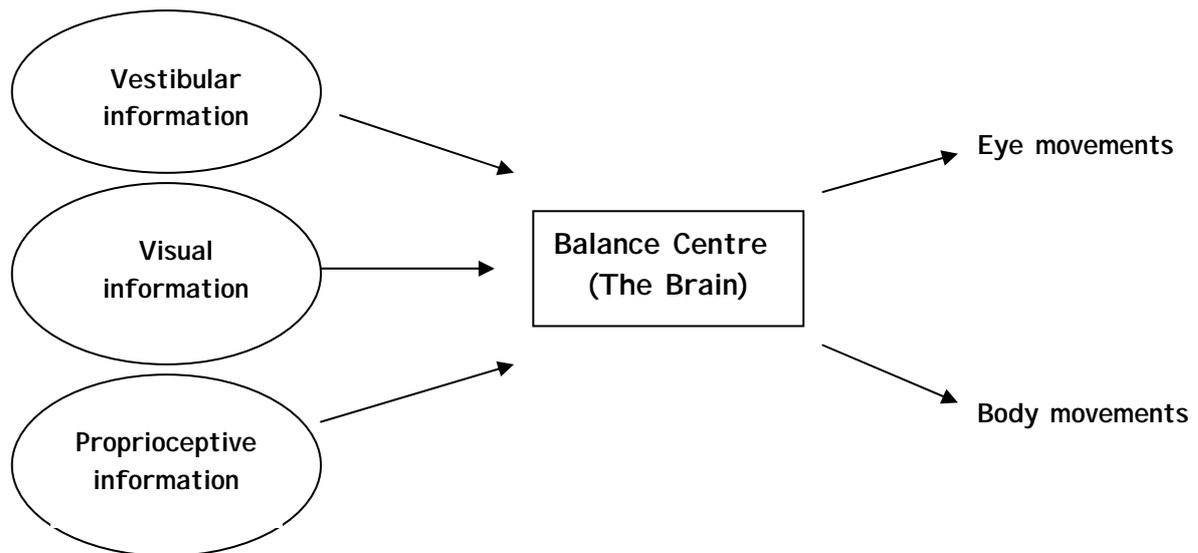
BALANCE EXERCISES FACTSHEET

If you need balance exercises (vestibular rehabilitation) your audiologist will devise a tailored package of exercises to meet your specific needs. This may include a number from the exercises on pages 4-7.

Please do not attempt these exercises unless your audiologist has told you to

The Balance System

Your balance system is very sophisticated. In order for you to balance, your brain needs information from 3 sources: the balance organs (**vestibular information**), eyes (**visual information**) and sensors in our joints and muscles (**proprioceptive information**). 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.



Vestibular information: a series of fluid-filled canals, which contain small hair cells, one in each ear. 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 right direction and also to give it information about where the head is positioned in relation to gravity.

Visual information: information from your eyes (the dominant input). The eyes give the brain information about where the head and body are in relation to its 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.

Proprioceptive information: information from sensors in your joints, muscles and feet. This information tells the brain how the legs, arms and trunk are positioned in relation to each other and sensors in your skin tell it if you are touching something.

If any of these inputs are disrupted or missing then you may feel dizzy. This is because the information from one of the inputs has changed and the information no longer agrees. This confuses the brain and it tries to substitute the changed information with the other inputs to help you keep your balance. This is not always very successful and you may then feel dizzy.

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. However, balance exercises can help speed up your recovery by deliberately exposing you to controlled movements that provoke your dizziness to give the brain practise at putting all of the information together.

What the exercises do

The two balance organs are designed to work together. If one balance organ is sending less information to the brain than the other, then this can lead to dizziness/imbalance. The exercises are designed to help the brain accept the changed signals or to 're-calibrate' itself, so that all the information agrees again.

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.

In the early stages of doing these exercises you may find that some days you feel better than others. The process of 're-calibrating' the brain is not always efficient and can be upset by things such as tiredness or stress. This is because the brain cannot control the inputs as well as it should, and is something which can happen more often in elderly patients.

Persevere with the exercises and things should improve. 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 usually takes a number of weeks or even months before your balance gets back to normal and you are able to move around as you did before.

Other ways to help your recovery

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 which 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 them.

The Exercises

It is very important that you carry out the exercises at a speed or level of difficulty that just starts to provoke a sensation of imbalance. If you do the exercises so slowly that you feel nothing then you will not benefit. Neither will you benefit if you do them so quickly, or at a level of difficulty that the sensations are too strong. You will overwhelm the system in this way.

As the exercises become easier you need to increase the level of their difficulty so as to continue to evoke to the 'imbalance sensations' necessary for the exercises to work. This can be done by increasing the speed of the head or body movement, closing your eyes and increasing the thickness of your piece of foam.

Aim to do the exercises in order for a total period of **10-15 minutes, twice a day**, or preferably more often if you feel able. Try and set aside time during your day to do the exercise programme. If you feel too unwell to do them don't worry. Just continue with them as soon as you feel better.

It is sensible to do them with someone else watching you, if possible. If this is difficult then try and ensure your own safety by doing them in an area where you may be supported if you became unsteady, for example in the corner of a room. Try and find a space that is free from hazards such as sharp objects, to avoid injury should you fall.

Stop and rest if you feel you have had enough of an exercise. Take things a little slower if you find it too much to start with, for example just concentrate on one of the exercises or do them for a shorter amount of time. **You must STOP if any of the exercises cause you neck or back pain, severe dizziness, chest pain, fainting or a change in your hearing or tinnitus.**

If you have any concerns about your exercises or your balance then please phone the balance team leader Debbie Cane in the Audiology Department on 0118 322 7232.

EXERCISE PROGRAMME

Name:

Date:

HEAD AND EYE MOVEMENTS

The following should be performed whilst sitting in a chair. Use your finger held at arms length as the target. **Do the exercises at a speed which just brings on a sensation of imbalance**

1. Keep your head still and move your finger slowly from left to right at eye level. Follow the target with your eyes (keeping your head still). Move your finger right and left 10 times keeping the target in focus, then relax and repeat twice more.
2. Repeat above moving your head up and down.
3. Move a target left and right, move your head to follow it keeping your eyes on the target. Move your finger and head right and left 10 times keeping the target in focus, then relax and repeat twice more.
4. Repeat above moving the target up and down.
5. Move your head right and left and focus on your finger which needs to move in the direction opposite to your head movement eg head right finger left. Do this 10 times then relax and repeat twice more.
6. Move your head from left to right (as if saying 'no') 10 times with eyes open, then relax and repeat twice more
7. Repeat no. 6 with eyes closed
8. Nod your head (up and down) 10 times with eyes open, then relax and repeat twice more
9. Repeat no. 8 with eyes closed
10. With your eyes open, roll your head in a circle. Repeat 5 times in each direction.
11. Repeat above with your eyes closed.

STANDING AND WALKING MOVEMENTS

1. Turn around in circle with your eyes open. Stand still to regain your balance at the end of the turn. Repeat the circle 5 times in each direction.
2. Repeat above, with your eyes closed.
3. In a corner with your back to the wall, stand still with your eyes open and feet apart. Then move your feet together. Stand as still as you can for 30 seconds trying not to touch the walls. Repeat 5 times. Repeat with eyes closed.
4. In a corner practice standing heel to toe with your eyes open for 30 seconds. Switch feet and repeat. Repeat with eyes closed
5. In a corner with your back to the wall, stand on a thick piece of foam (or a large cushion) with your eyes open and feet apart. Then move your feet together. Stand as still as you can for 30 seconds trying not to touch the walls. Repeat 5 times. Repeat with eyes closed.
6. Walk forward with your eyes open and then closed.
7. Walk forward moving your head up and down. Perform with your eyes open and then closed.
8. Walk forward turning your head to the left and right (i.e. window shopping). Perform with your eyes open and then closed.

OTHER EXERCISES:

HEAD AND EYE MOVEMENTS

1. Hold two targets, one to the left and one to the right, move your head and your eyes to go from one to the other. Slowly increase the speed of the movement as you perform this task 10 times then relax and repeat again.
2. Repeat above for a target moving up and down.
3. Hold the target at arms length and slowly sweep your arm to the left and right whilst moving your head to follow the target. Now begin to turn your head in the opposite direction as your arm is moving. Repeat 10 times then relax and repeat again.
4. Repeat above for a target moving up and down

HEAD AND BODY MOVEMENTS

1. Move from sitting to lying down on your back and back to sitting again. Perform with your eyes open and then closed.
2. Sitting, turn your head to the left/right then lay down rapidly on your back wait for your symptoms to calm down then quickly sit back upright, keeping your head turned. Repeat _____ times.
3. Sitting upright on the edge of the bed with your feet on the floor, quickly lay down to your left side, swinging your feet onto the bed as you do. wait for 30 seconds the swing your feet back over the edge and quickly sit back upright. Wait for 30 seconds more and repeat 3 times.
4. Sitting with your head straight lay down rapidly letting your head hang over the edge of the bed; eyes open, wait 10 seconds and repeat _____ times.
5. Lying down, roll your head from side to side. Perform with your eyes open and then closed.
6. Lying down, roll your whole body from side to side. Perform with your eyes open and then closed.
7. Sitting, rapidly bend down with nose to left/right knee, wait 10 seconds then repeat _____ times.
8. Sitting, rapidly bend down with head between the knees, wait 10 seconds and then repeat _____ times.

9. Move from sitting to standing and back again. Perform with your eyes open and then closed.
10. Move from sitting to bending to pick something up from the floor and back again.
11. From standing bend forward to pick up an object from the floor and back to standing.
12. From standing bend forward to pick up an object from the floor, turn to the left to place the object behind you, leave object, turn to the right to pick up the object, now place it in front.
13. From standing, pick an object from the floor and reach high into the air.