Balance Testing
Information for patients

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You have been referred for an assessment of your balance, which will last up to 90 minutes and you will be seen by two audiologists specialising in hearing and balance. The aim of the assessment will be to investigate the possible source of your imbalance.

The information below will give you:
1. A brief overview of the how your balance works.
2. An outline of what will happen during your assessment.
3. Some important information you need to know.

How is balance controlled?
The ‘Dizziness and balance problems’ fact sheet written by the Royal National Institute for the Deaf (RNID) explains that:

‘You use your balance every time you move from one position to another and when you walk, stand, sit or lie down, but it is something you are usually hardly aware of. You only realise how much you rely on your balance if it stops working properly.

You get your sense of balance from three sources:
• vision – your eyes give you a picture of the world and where you are in relation to everything in it
• sensors in your joints, muscles and feet
• balance organs within your inner ears

We will mainly look at the information coming from the balance organs within your inner ears.

The information from your balance organs, vision and sensors in your joints passes to your brain, where the information is put together. This allows you to control your eye movements so that your vision is steady and you move naturally without having to
think about it. Normally, the information coming from your ears perfectly matches the information coming from your eyes and the sensors in your joints. The result is that you feel steady and don’t have any balance problems’.

(‘Dizziness and balance problems’ RNID Information, August 2009)

If however there is a problem in the balance organ, vision, or joints then the information sent to your brain is incorrect. This confuses the brain and it is unable to put the information together correctly and you may then feel dizzy or imbalanced.

What to expect at your balance assessment

We will start by asking some questions about your balance problems. Although you will have given your history to a doctor before it is important to go over it again so the audiologists get a first hand account of your balance problems. This will help them decide which tests are necessary.

Tests

All tests will be fully explained before starting and will only be carried out with your consent.

You may receive some or all of the tests depending on which ones the audiologists feel appropriate to aid diagnosis.

1. Hearing test – will be required if you have not taken one in clinic or if you feel your hearing has changed since your last test. This involves you pressing a button every time you hear a tone. A wide range of tones are presented through headphones. The quietest tones you can hear are recorded and from this any hearing loss, its type and nature are determined.

2. Tympanometry – a soft tip is placed in your ear canal. You will feel a slight pressure for a few seconds and hear a low pitched
tone. A chart is recorded showing the audiologist how well your eardrum moves and whether you have any congestion behind the eardrum.

3. **Tests of standing balance** – the audiologists will observe you standing on the floor first with eyes open then closed. Then standing on a cushion eyes open then closed.

4. **Bedside testing** – involves you carrying out some different head movements whilst we carefully watch how your eyes are moving. The tests give us information about the reflex that exists between the balance system and the eye. In certain problems that can occur in the balance organs this reflex does not work properly.

5. **Dix-Hallpike manoeuvre** – this involves moving quickly from sitting to lying down and back to sitting again. The audiologists will support you while you are moving and will look at your eyes when you have laid down and when you return to sitting. This manoeuvre is used to investigate a type of dizziness called Benign Paroxysmal Positional Vertigo (BPPV).

6. **The roll test** – this involves turning your head rapidly from one side to the other whilst laid reclined on a bed. The audiologists will look at your eyes when you have turned your head. This manoeuvre is also used to investigate Benign Paroxysmal Positional Vertigo (BPPV).

7. **Videonystagmography/Electronystagmography** – It is not possible to record directly from the balance organs because they are situated deep inside the head. It is possible though to find out how well the balance organs are working by observing eye movements because there is a link between them.

   Firstly the audiologist will look at your eye movements directly. Then more detailed recordings will be made as you watch a red light as it moves on a light bar. Recordings are taken using either:
• **Videonystagmography.** Wearing goggles containing cameras that allow the audiologist to watch and record your eyes. This is the preferred method.

• **Nystagmography.** Sticky pads are placed, one at the outer corner of each eye and sometimes also one above and below one eye. Also one on the forehead.

8. **Caloric test** – This allows us to test the balance organ of each ear separately and compare them to see if one is not working properly. During the test you will normally be wearing the goggles so that we can record your eye movements. The test involves gently running warm water into each ear in turn with a 5 minute rest between. The water hits the eardrum and runs back out of the ear. The warmth from the water makes the balance organ work resulting in a sensation of the room spinning for a short time. This sensation is something we control and will not cause you to have an attack of dizziness. Sometimes the tests need to be done with cool water after the warm ones. In that case there will be a total of 4 tests (2 on each ear).

9. **Vestibular evoked myogenic potential (VEMP)** – this is a test of the saccule, which is part of the balance organ. The saccule is responsible for detecting up and down movements of the head. The test can give us valuable information about part of the nerve of balance. Firstly we need to apply some small electrodes on the large muscle in your neck and at the base of your throat. You will need to lie on a couch. We will place small earphones in your ears and you will hear loud sound for about 45 seconds. We will ask you to raise your head a little way off the bed and hold it there whilst the sound is on. This can be hard work for some people so occasionally we carry out the test sitting up and ask them to turn their head to the side.

**Results**

The audiologists will look at all the results and discuss them with you. In many cases it is not possible to identify the cause of
your balance problem on the day as further testing or analysis of the results may be needed. Wherever possible though the audiologist will discuss the possible cause of your balance difficulties and discuss possible treatments.

**Important information**

**Before your appointment date:**

- Please have your ears checked by your GP/nurse to ensure they are free of wax.
- For your safety we do not recommend that you drive for at least 2 hours after the assessment. If possible, please arrange for someone to accompany you home.
- You are welcome to bring a friend or relative to this appointment.

**48 hours before your appointment:**

- Stop taking any medication prescribed to control your dizziness. Continue to take as normal any other medication prescribed for other medical conditions.
- Do not consume any alcohol or recreational drugs.

**On the appointment day:**

- Do not apply any make-up this includes eye-liner, mascara and eye-shadow.
- Contact lenses will need to be taken out before the balance assessment. Please bring cleaning fluid/new lenses/glasses.

**After the appointment:**

- You may now take your medication prescribed to control your balance symptoms.
- For a couple of hours after the assessment you may feel unsteady, but after this period you should be able to continue with your normal routine.
Please use the space below to write down any questions you may have and bring this with you to your next appointment.
The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit www.uhb.nhs.uk/health-talks.htm or call 0121 371 4323.