

Background Information for Vestibular Rehabilitation Exercises

Information and advice for patients

Audiology: Vestibular Rehabilitation

This leaflet gives you information about vestibular rehabilitation exercises which you have been recommended.

What is the vestibular system?

The vestibular system controls your balance. There are three main senses involved in this system:

- **Vision** (your eyes) – to see where you are
- **Proprioception** (the sensors in your muscles and joints) – to feel where you are
- **Vestibular organs** (the balance organs in your inner ear, you have one in each ear) – to sense when your head moves

Your brain uses signals from these 3 senses to control your eye and body movements to keep your balance. If any of these 3 senses are not working properly you may feel dizzy or unsteady.

When are vestibular rehabilitation exercises needed?

If there is a problem with either of your vestibular organs, your brain will receive faulty signals every time you move. Your brain has a natural recovery process which gradually helps you to cope with the faulty signals and recalibrate your balance system. This is called 'compensation'.

This recovery process can be accelerated and the degree of recovery increased by regularly practising special exercises for vestibular rehabilitation which include eye, head and body movements to stimulate your balance system. The exercises are simple and designed so you can do them at home.

What are vestibular rehabilitation exercises?

Vestibular rehabilitation exercises are the most effective treatment for dizziness which is due to a problem with the balance organs. They will also help you overcome fear and stop avoiding movements which previously caused you to feel dizzy.

Vestibular rehabilitation exercises will make you feel slightly dizzy while you are doing them, this is normal. The dizziness is a sign that your brain needs practice making these movements and the exercises should help you to recalibrate your balance system. If the balance exercises make you feel extremely dizzy/unwell, then they may need to be made slightly easier. If the exercises do not make you feel dizzy or off balance, even at top speed, practising them will not help you.

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How effective are the exercises?

The effectiveness of the exercises varies for different people. 70 – 90% of patients with problems affecting only one balance organ will experience an improvement in their symptoms. 34 – 75% of patients with problems affecting both of their balance organs will experience improvement.

The exercises are more effective if your dizziness is caused by your balance organ(s), they are less effective if your dizziness is caused by something else such as a migraine, or fluctuating balance problems, e.g. Meniere 's disease, or if both balance organs are affected.

Even after recovery, many patients need to continue to do exercises occasionally.

Patients who do recover may continue to have difficulties when making fast or unpredictable head movements.

What are the benefits of the exercises?

The benefit of vestibular rehabilitation is that it will gradually help to improve your dizziness in both the speed and amount of recovery. They also aim to increase confidence and quality of life.

What are the risks of the exercises?

The exercises should make you feel dizzy or off balance while you are doing them. We therefore advise that you do them in a safe environment and someone is nearby to support you if you need it.

The exercises are based on everyday movements so they will be safe to carry out unless you have been advised by a medical professional to avoid any movements, for example if you have any underlying neck, back or eye conditions. You should stop the exercises immediately and inform us if you experience:

- sharp, severe or prolonged pain in your neck
- fainting, loss of consciousness, blacking out or double vision.

Are there any alternatives to these exercises?

An alternative to the exercises is to increase your general activity. This will help the recovery of your vestibular system however vestibular rehabilitation exercises can speed up this process and further improve your recovery.

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Activities which stimulate the balance organs can also help your recovery. Examples include Tai Chi (a Chinese martial art consisting of slow movements and breathing techniques), games where you follow a target with head and body movements (e.g. tennis) or video games which involve head and body movements.

How do I choose the correct vestibular rehabilitation exercises?

You will have an initial appointment with an Audiological Scientist who specialises in the hearing and balance systems. He/she will help you to set realistic goals and explain and try different exercises to see which ones work better for you. You will then be given an exercise programme specially made for you which you should do at least twice a day.

What are the exercises?

There are several different vestibular rehabilitation exercises. The exercises types and examples are listed below; please note you may not be told to do all of them. We will choose from a range of these exercises as appropriate for your needs. We will give you a handout to further explain any exercises we think will be suitable for you.

Adaptation

Adaptation exercises improve your balance system by resetting how your brain controls your eye movements in response to your balance organs. This allows your brain to cope with any difference in the cues received from the balance organs.

Habituation

Habituation exercises involve repeating movements to reduce symptoms. They can reduce your symptoms because the brain can reorganise itself and make new connections in response to repeated stimulation.

Proprioception

Proprioception exercises focus on detection of movement and body position which are important cues for maintaining balance. These exercises can help you to better use these cues.

Substitution

Substitution is re-weighting the importance of different parts of the balance system, for example, if there is a problem with one or both balance organs you can regain function by relying more on vision and proprioception instead. This is an important part of recovery.

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Visual desensitisation

If you over-rely on your vision because of a problem with your balance organs, you may become more sensitive to difficult visual situations. For example, you may feel more sensitive to intense visual motion or busy backgrounds. Vestibular rehabilitation can help you become less visually sensitive.

What will stop the vestibular rehabilitation exercises from working?

The recovery process of your balance organs can be delayed by factors such as stress, tiredness and illness. Changes to the visual and proprioceptive senses can also affect how dizzy or unbalanced you feel.

If any of the above factors affect your recovery, you may have to rest from the exercises. You can start the exercises again as soon as you feel able to but you may have to make them easier or slower at first.

It is important that you continue the exercises at a level which gives you mild dizziness or imbalance as soon as possible so that the recovery process can start again.

How long do I need to do the exercises?

If you do your vestibular rehabilitation exercise programme at least twice a day, you should gradually feel less dizzy or imbalanced.

When an exercise no longer makes you feel dizzy or imbalanced you will not need to practise it any more. You should then choose another exercise which is harder so that you do feel slight dizziness or imbalance.

You should continue to make the exercises more difficult to further help your recovery.

How do I manage the exercises myself as I recover?

You should gradually make the vestibular rehabilitation exercises more difficult to help your recovery process. The ways below show you how to make the exercises more difficult:

- Faster movements
- Standing rather than sitting
- Keeping your feet closer together
- Having your eyes closed rather than open
- Having a busy background instead of a plain background

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- Doing head movements instead of eye movements
- Doing body movements or walking instead of head movements

The opposite of these instructions, such as slower movements, maybe required on days when your symptoms are stronger, e.g. if you are tired.

Contact details

If you have any questions about vestibular rehabilitation please speak to one of our Audiological Scientists on the number below.

Hearing Services Centre

0121 507 4875

Monday – Friday, 8.30am – 4.30pm.

You can also email your query to swb-tr.audiology@nhs.net

Useful websites

Menieres Society (2020) Available at: www.menieres.org.uk (Accessed 05 May 2020).

Further Information

For more information about our hospitals and services please see our website www.swbh.nhs.uk, follow us on Twitter @SWBHnhs and like us on Facebook www.facebook.com/SWBHnhs.

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Sources used for the information in this leaflet

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- McGibbon, C.A, Krebs, D.E, Et al. (2005) Tai Chi and vestibular rehabilitation improve vestibulopathic gait via different neuromuscular mechanisms: preliminary report. *BMC Neurology* 5, 3. Doi: <https://doi.org/10.1186/1471-2377-5-3>
- British Society of Audiology. (2019) Practice guidance: vestibular rehabilitation. Available at: <https://www.thebsa.org.uk/wp-content/uploads/2019/12/Practice-Guidance-VRT-November-2019.pdf> (Accessed: 10 August 2020).

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