Vestibular rehabilitation exercises

Brain & Spine Foundation

This fact sheet provides information on vestibular rehabilitation exercises for people with dizziness and balance problems. Our fact sheets are designed as general introductions to each subject and are intended to be concise. Each person is affected differently by dizziness and balance problems and you should speak with your GP or specialist for individual advice.

You might be interested in reading our **Dizziness and balance problems** booklet for further information on the different causes of dizziness and the conditions that can be treated with vestibular rehabilitation exercises.

Vestibular compensation

Vestibular compensation is a process that allows the brain to regain balance control and minimise dizziness symptoms when there is damage to, or an imbalance between, the right and left vestibular organs (balance organs) in the inner ear. Essentially, the brain copes with the disorientating signals coming from the inner ears by learning to rely more on alternative signals coming from the eyes, ankles, legs and neck to maintain balance.

Please note that you should not attempt any of these exercises without first seeing a specialist or physiotherapist for a comprehensive assessment, advice and guidance. Your GP can refer you.

Some of these exercises will not be suitable for everyone, and some are only suitable for certain conditions.

Cawthorne-Cooksey Exercises

The aims of the Cawthorne-Cooksey exercises include relaxing the neck and shoulder muscles, training the eyes to move independently of the head, practising good balance in everyday situations, practising the head movements that cause dizziness (to help the development of vestibular compensation), improving general co-ordination, and encouraging natural unprompted movement.

You should be assessed for an individual exercise programme to ensure you are doing the appropriate exercises. You could ask if it is possible for a friend or relative to accompany you at the assessment. It can be helpful if someone else learns the exercises and helps you with them.

You will be given guidance on how many repetitions of each exercise to do and when to progress to the next set of exercises. As a general rule, you should build up gradually from one set of exercises to the next, spending **one to two minutes** on each exercise. You might find that your dizziness problems get worse for a few days after you start the exercises, but you should persevere with them.

In order to pace your exercises, so you do not move on to exercises that are too difficult before you are ready, you may also like to try using a 'number rating scale'. For example, 0 through to 5 for the severity of your symptoms (0 being no symptoms and 5 being severe symptoms). It would be advisable to start each exercise at a level that you would rate as a 2 or 3 on the rating scale (i.e. it provokes mild to moderate symptoms that disappear quickly after stopping the exercise). You would then only move on to the next exercise once the current exercise evoked a 0 on the scale, for **three days in a row**. Please be aware that it may take a few days for you to get used to the exercises. It may be advised not to undertake exercises that you would rate a 4 or 5 on the scale.

A diary such as the one below might help you to keep track of the exercises and help with knowing when to make each one harder.

Date	Exercise	Length of time (if appropriate)	Number of repetitions	Rate the severity of your symptoms after performing the exercise 0 = no symptoms 5 = severe symptoms
e.g. 20/04/2017	Bend forward to pick up object from sitting	n/a	2	2

Make sure that you are in a safe environment before you start any of the exercises to reduce the risk of injury. Do not complete any exercises if you feel that you are risk of falling without safety measures in place to stop this. It is also important to note that you may experience mild dizziness whilst doing these exercises. This is completely normal.

It is advised not to complete more than 10 of each of the exercises below. They should be completed slowly at first. As the exercise becomes easier over time you can start to do them more quickly.

The exercises might include the following:

1. **In bed or sitting:**
   A. Eye movements
      - Up and down
      - From side to side
      - Focusing on finger moving from three feet to one foot away from face

   B. Head movements
      - Bending forwards and backwards
      - Turning from side to side

2. **Sitting:**
   A. Eye and head movements, as 1)
   B. Shrug and circle shoulders
   C. Bend forward and pick up objects from the ground
   D. Bend side to side and pick up objects from the ground

3. **Standing:**
   A. Eye, head and shoulder movements, as 1) and 2)
   B. Change from a sitting to a standing position with eyes open, then closed (please note this is not advised for the elderly with postural hypertension)
   C. Throw a ball from hand to hand above eye level
   D. Throw a ball from hand to hand under the knee
   E. Change from a sitting to a standing position, turning around in between

4. **Moving about:**
    A. Walk up and down a slope
    B. Walk up and down steps
    C. Throw and catch a ball
    D. Any game involving stooping, stretching and aiming (for example, bowling)

Gaze stabilization exercises

The aim of gaze stabilization exercises is to improve vision and the ability to focus on a stationary object while the head is moving.

Your therapist should assess you and say which exercises are suitable for you.

1. Look straight ahead and focus on a letter (for example, an 'E') held at eye level in front of you.
2. Turn your head from side to side, keeping your eyes focused on the target letter. Build up the speed of your head movement. It is crucial that the letter stays in focus. If you get too dizzy, slow down.
3. Start doing the exercise for a length of time that brings on mild to moderate symptoms (you could use the number rating scale). This might only be for 10 seconds. Over time, you can build up to one minute (the brain needs this time in order to adapt). Build up gradually to repeat **three to five times a day**.

You can also do this exercise with an up and down (nodding) movement.

Progressions with this exercise can include placing the target letter on a busy background. You should start the exercise whilst seated and then move on to standing.

Canalith repositioning procedures (CRPs)

The aim of canalith repositioning procedures (CRPs) is to treat people with **benign paroxysmal positional vertigo (BPPV)**. It is thought that BPPV may be caused by crystals (also known as otoconia) becoming dislodged from their normal place inside the inner ear, and moving into another area within the ear that is responsible for sensing rotation (the semicircular canals). When the crystals move around in this part of the ear it causes dizziness. Canalith repositioning procedures involve a sequence of specific head and upper body movements that may be able to move the crystals back to their correct place in the ear.

The two main CRP treatments are the **Epley manoeuvre** and the **Semont (Semont-Liberatory) manoeuvre**. It is important that these manoeuvres are only performed by a trained specialist to prevent the risk of neck and back injuries. The manoeuvres are not appropriate for everyone. In particular, the manoeuvres will not be suitable if you have pain or stiffness in your neck or if you have had a neck injury.

You may feel dizzy for the first 48 hours after the treatment. If the treatment has worked successfully for you, your symptoms should improve within a couple of weeks. If your dizziness persists or comes back, it might be possible to have the treatment again.

Brandt-Daroff exercises

Some cases of BPPV do not respond well to CRPs and are better managed by Brandt-Daroff exercises. These exercises may also be advised if CRPs are not suitable.

Brandt-Daroff exercises are a treatment for BPPV that can be performed at home without the supervision of a specialist. It is unclear exactly how these exercises work. The repeated head movements may work by moving the crystals back to their correct position inside the inner ear (as with CRPs). Alternatively, it may be that repeated exposure to movements that provoke dizziness symptoms teaches your brain not to listen to the signals it is receiving from the ears as much (vestibular compensation).

1. Sit on the edge of the bed and turn your head 45 degrees to one side.
2. Quickly lie down on your opposite side (to the left if you turned your head to the right, and vice versa) so that the back of your head behind your ear touches the bed.
3. Hold this position for about 30 seconds or until the dizziness symptoms stop.
4. Return to the sitting position.
5. Repeat steps 1-4 on the other side.

You should repeat these steps **three times** or until you have completed six repetitions on each side. Unless your specialist or physiotherapist has recommended otherwise, you should do the exercises **two to three times a day for two weeks**.

These exercises are likely to make you feel dizzy whilst you perform them, but it is important to persevere in order to feel any benefit.

Brain & Spine Foundation
LG01 Lincoln House, Kennington Park, 1-3 Brixton Road, London, SW9 6DE
Helpline: 0808 808 1000
www.brainandspine.org.uk

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