

What is the vestibular system?

The vestibular system is a sensory system assisting spatial awareness and balance for the purpose of co-ordinated movement. It provides information to the brain about head position and motion, allowing the brain to make rapid compensatory movements in response to both self-induced and externally generated forces. It is a key component in both postural reflexes and eye movements.





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The peripheral part of the vestibular system or vestibular organ is comprised 3 semicircular canals, which detect rotational movement in different planes, as well 2 otoliths, which detect vertical and horizontal acceleration. These are situated next to the cochlea, which is part of the auditory system and together they make up the labyrinth organ of the middle ear.

If the system is damaged, then balance, control of eye movements with head movement and sense of orientation in space are all adversely effected.

What is vertigo?

Vertigo is a specific type of dizziness, where the brain perceives movement which is not occurring. It is often triggered by sudden motion, such as turning in bed, and looking up or down. There are many systems in the body, which in conjunction with the vestibular system, provide the brain with information about movement. Vertigo often occurs when for some reason, the brain receives conflicting information from different systems about the type of motion occurring.





One of the most common forms of vertigo is BPPV (Benign Positional Paroxysmal Vertigo). This occurs when small calcium carbonate crystals from the otoliths in the vestibular system fall off and find their way into the semi-circular canals, which sense rotational movement. This results in the left and right ear telling the brain different things, leading to vertigo.

Other inner ear problems which may cause vertigo include:

What can Exercise Physiology help with?

- Meniere's disease
- Vestibular neuritis
- Labyrinthitis



Vertigo can occasionally result from more serious issues, which while rare may warrant investigation, such as:

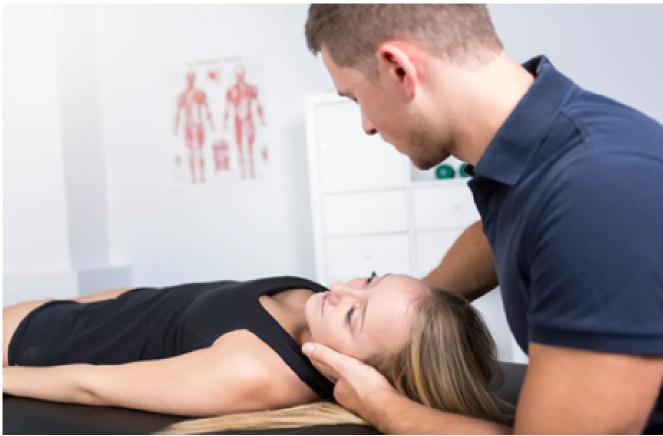
- Head injury
- Stroke
- Tumor
- Infection

Your physio will ask you a series of specific question in your assessment and perform a range of testing to look for red flags which may indicate more serious pathology. Where present, you will be referred to your GP for further investigation.

Physio treatment of vertigo

The treatment of your condition will depend on the underlying cause of your symptoms. In the case of BPPV, a specific sequence of movements of the head and body is undertaken to roll the crystals out of the effected canal and restore normal function. The exact sequence of movements will vary based of testing to identify the type of BPPV and canal involved.





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