

Improving Patient Outcomes: **Dizziness & Vertigo**

This is a very complex area with many causes of dizziness and vertigo. Below we discuss the 2 of the most common causes of dizziness and vertigo, how to screen for these and how to know when physiotherapy can help.

What is dizziness/vertigo?

Dizziness = a false sensation of motion in the body.

Vertigo = an abnormal sensation of movement or spinning (typically a rotatory movement).

The 2 main types of dizziness/vertigo that physiotherapy can very effectively treat are Cervicogenic Dizziness and BPPV.

1. Cervicogenic dizziness – is typically associated with cervical dysfunction or a cervical injury such as whiplash. Its pathophysiology is thought to be due to disruption of afferent input from multiple sources.

These include the vestibular system, visual system and somatosensory nerve fibres, where damaged or disturbed mechanoreceptors in the cervical spine provide inappropriate information leading to a sense of dizziness, when there is pain or movement in the cervical spine.

Obviously, as you are aware, this is easily and effectively treated by usual manual therapy physiotherapy treatment techniques.¹

2. Benign paroxysmal positional vertigo

(BPPV) - is usually associated with intense, brief episodes of dizziness or vertigo which occur when the position of the head is altered. A common example of this is rolling over in bed or getting up in the morning.

Some people also feel nauseated between episodes of vertigo. Dizziness often lasts for seconds to minutes and the symptoms are typically very intermittent. There is an increased incidence of this with age.

BPPV is thought to be caused by small calcium carbonate crystals (otoconia) that come loose within the canals in the inner ear. Usually, these crystals are held in special reservoirs within other structures of the inner ear (saccul and utricle).

It is thought that injury or degeneration of these reservoirs allow the crystals to escape into the balance organ and interfere with the fluid flow.





When the crystals break loose and fall into the wrong part of the vestibular system in the inner ear, the nerves that detect head rotation are stimulated.

This causes the brain to receive the message that the head is spinning, although the head has only moved position slightly.²

BPPV is diagnosed by performing the Dix-Hallpike Manoeuvre. A positive test reproduces the patient's symptoms with a nystagmus of the eyes.³

BPPV is very effectively treated by physiotherapy using a variety of specialised techniques to carefully guide the errant crystals out of the semicircular canal of the inner ear and into an alternative region where they no longer cause dizziness.

The most common technique used for this is the Epley's Manoeuvre.³

Other than performing a detailed history to establish possible causes of dizziness in our clinics, we also routinely test for **Vertebrobasilar insufficiency (VBI)** if a patient complains of any of the below symptoms – the **5 D's** and the **3 N's**.

5 D'S

Dizziness, Diplopia, Drop Attacks,
Dysarthria, Dysphagia

3 N'S

Nausea, Numbness, Nystagmus

VBI symptoms occur when there is a kink or a stretching force is applied to the vertebral artery when the cervical spine rotates which leads to decreased blood flow to the posterior cerebellum, which controls balance and movement. If a patient is positive for VBI testing, further investigation or referral should follow.⁴

Summary

Dizziness and vertigo symptoms can be very debilitating to a patient causing them significant discomfort and stress. When appropriate screening tests are used to establish whether the cause of dizziness is related to the cervical spine or BPPV physiotherapy is very effective in treating the problem.^{1,3}

Contact us to find out more about how we
can help your patients reach their potential.

call 1300 381 207

References

1. Reid SA, Rivett DA. Manual therapy treatment of cervicogenic dizziness: a systematic review. *Man Ther*. 2005 Feb;10(1):4-13. doi: 10.1016/j.math.2004.03.006. PMID: 15681263.
2. Hornibrook J: Benign paroxysmal positional vertigo (BPPV): history, pathophysiology, office treatment and future directions. *Int J Otolaryngol* 2011;2011:835671.
3. Bhattacharyya N, Baugh RF, Orvidas L, et al: Clinical practice guideline: benign paroxysmal positional vertigo. *Otolaryngol Head Neck Surg* 2008;139(5 suppl):S47-S81.
4. Pirau L, Lui F. Vertebrobasilar Insufficiency. 2021 Sep 25. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan–. PMID: 29489229