BAAP

Medical Specialists in Hearing and Balance

BRITISH ASSOCIATION OF AUDIOVESTBULAR PHYSICIANS

Information Leaflet for Patients

BENIGN PAROXYSMAL POSITIONAL VERTIGO (BPPV)

What is BPPV?

Vertigo is described as an illusion of movement such as one experiences after being on a fairground ride. BPPV is one of the commonest causes of vertigo, especially in the elderly and can usually be treated quickly and effectively.

BPPV stands for:

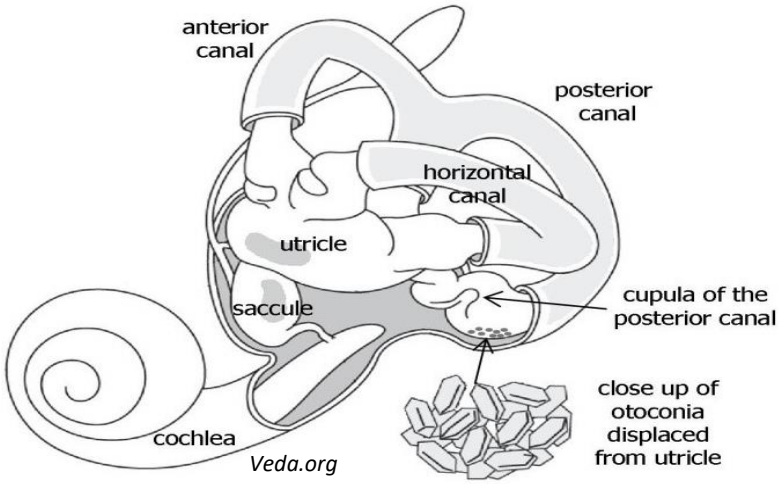
- **B**enign
- **P**aroxysmal
- **P**ositional
- **V**ertigo

It is *benign* because it is often not a serious condition; *paroxysmal* because it is sudden and brief and *positional* because the vertigo is often brought on by changes in head position such as looking or reaching up, bending over, lying flat or turning to the side in bed.

What are the causes of BPPV?

An understanding of how the inner ear balance organ works is necessary to appreciate how BPPV develops.

The inner ear balance organs interact with the eyes, feet and legs to provide information to the brain to enable us to orientate ourselves in space and keep balance. Each inner ear has 5 balance organs: *3 semicircular canals* and *2 otolith organs* (called the *saccule* and *utricle)* containing *chalk crystals* (otoconia) as shown in the figure below:



The semicircular canals (anterior, horizontal and posterior) are filled with fluid and provide information to the brain to detect angular movements, that is, when the head is tilted up and down, turned from side to side or tilted sideways. The otolith organs detect linear movements, providing information to the brain which way is up or down as well as detecting forward and backward movements.

BPPV develops when *chalk crystals,* attached to a lump of jelly, dislodge from the utricle into one of the semicircular canals, most commonly the posterior. Rarely BPPV can affect both ears and/or more than one canal at the same time.

In most the cause is unknown, but there are some conditions that could predispose the crystals to dislodge e.g. head trauma, severe whiplash, inner ear infections (labyrinthitis or vestibular neuritis), certain inner ear operations and prolonged bed rest. BPPV is more common in people who have migraine and Ménière's disease.

How do I know I have BPPV?

The vertigo in BPPV often has a clear trigger. The triggers *do not* cause BPPV. They only induce the vertigo when the crystals have dislodged and already entered into the semi-circular canals. Examples of the common triggers are lying flat and turning over in bed, sitting up from the lying position, looking up and bending down, lying down in a dentist's chair or reaching up for example for things on a top shelf, hanging clothes or changing a light bulb.

Occasionally BPPV may cause a sensation of sinking into the bed. The vertigo does not last longer than one minute in most people although it may seem like longer. However, if there is associated nausea or disorientation, these may persist for a while

sometimes several hours, after the vertigo settles down. Some people are adept at avoiding the triggers because the vertigo is unpleasant.

BPPV can be intermittent but can also cluster over a few weeks at a time. In between attacks, you may be free of symptoms although some people experience a sensation of imbalance.

What age groups are affected by BPPV?

BPPV can occur at any age although it is progressively more common with age. About 30% of the population would have experienced BPPV by the age of 70 years. The peak age is the 6th and 7th decades in life. BPPV is **very rare** in children and younger adults. In this group, the commonest cause is head trauma.

How is BPPV diagnosed?

The diagnosis is made on the basis of the characteristic symptoms and examination findings of specific 'positional tests'. The most common positional test tests is the Dix-Hallpike test which involves being laid down quickly from the sitting position with your head turned to the side. By so doing, the loose crystals trigger the vertigo and the clinician will look carefully for characteristic eye movements called 'nystagmus'. The examiner can determine which of the semicircular canals is causing the BPPV by the direction and duration of the nystagmus. There are other diagnostic positional tests, for example the side-lying, roll and straight head hanging tests.

What should I do if I develop BPPV?

In the majority of people, BPPV settles down after a few days without treatment as the chalk crystals dissolve or come out of the canals. However, some may require specific treatment called particle re-positioning manoeuvres, the commonest being the Epley manoeuvre (for BPPV of the posterior canal). Before treatment, it is important BPPV is correctly diagnosed, as the type of re-positioning manoeuvre depends on which semicircular canal is affected. Your GP will know who to refer you to if they cannot perform the manoeuvres themselves.

Medications are ineffective and should generally not be used to treat BPPV. Very rarely, some people may develop severe nausea and vomiting which may require a short course of anti-sickness medication.

What should I expect after treatment for BPPV?

In the majority of situations (about 70% of cases), the first appropriate particle-repositioning manoeuvre successfully resolves BPPV. However sometimes the manoeuvre has to be repeated and in about 90% of cases, BPPV resolves after the second treatment. The remainder may require multiple treatments.

Some people may feel nauseated after treatment but this usually settles down fairly quickly. Others may feel dizzy as if on a boat, or experience a 'floaty' sensation. This usually settles down within a day but can sometimes persist for a few days. If this sensation persists, discuss with your doctor as you may benefit from other balance exercises.
A different canal may be affected altogether in which case a different re-positioning manoeuvre will have to be performed. Moreover, BPPV can co-exist with other balance disorders which may only come to light only after a successful treatment of the BPPV requiring specific treatment, for example balance physiotherapy. Your doctor will refer you if needed.

After the manoeuvre has been performed, avoid:

- Vigorous head movements, bending or extending your neck for about 24-48 hours
- Driving immediately after treatment until any residual dizziness settles down

How likely is BPPV to recur?

BPPV can recur even after a successful treatment. In some cases there could be several recurrences of BPPV episodes. The reasons for this are not clear. Very rarely BPPV fails to respond to several re-positioning manoeuvres in which case surgical treatment can be considered.

Where can I get further information?

Brain and Spine Foundation:
www.brainandspine.org.uk/our-publications/booklets/dizziness-and-balance-problems

Meniere's Society UK
www.menieres.org.uk/information-and-support/symptoms-and-conditions/bppv

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