

BPPV (Benign Paroxysmal Positional Vertigo)



What is BPPV?

BPPV is short for Benign Paroxysmal Positional Vertigo. That is quite a mouthful, but knowing the meaning of each word helps in understanding this condition:

- Benign – not a life-threatening health problem
- Paroxysmal – comes and goes in short attacks
- Positional – occurs with certain head positions
- Vertigo – a spinning sensation

BPPV is the most common inner ear balance problem. It is defined as sudden attacks of vertigo (spinning sensation) that last for less than a minute and are always triggered by certain head movements. Triggering movements include: lying flat, sitting up from lying flat; looking up or bending down, especially if also looking to the side; or rolling from one side to the other in bed. Symptoms range from mildly annoying to severe enough to cause vomiting and difficulty standing or walking without losing balance. BPPV affects about 2.5% of people at some point in their lives and becomes progressively more common with age, accounting for 50% of older patients presenting with dizziness.

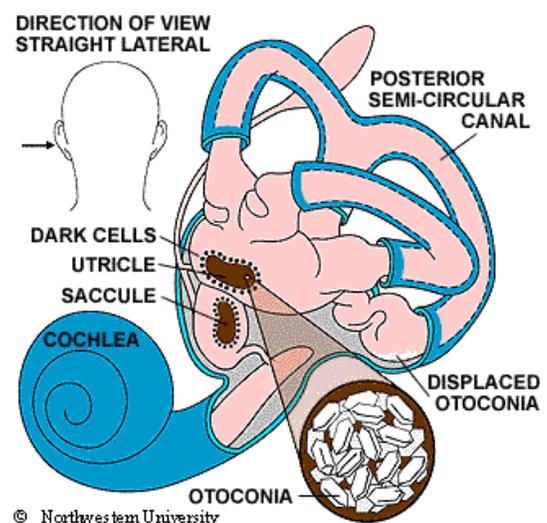
What causes BPPV?

BPPV is caused by a problem in the balance organs of the inner ear (see diagram in next column). Tiny calcium carbonate crystals (otoconia) detach from the utricle (gravity receptor organ) where they normally belong and float into one or more of the fluid-filled canals. It most commonly affects one of the posterior (rear) semi-circular canals. When enough of these crystals clump together, normal fluid motion in the canal is disrupted. This causes a false message to be sent to the brain when the head is moved in a certain way. The result is brief spells of vertigo each time that specific head movement is repeated.

There are two types of BPPV: in the first and more common variant, canalithiasis, the crystals become free-floating particles; in the second, cupulolithiasis, the crystals get stuck on a little hinged area of a

canal. Symptoms can be more intense and treatment can be more challenging when BPPV is the cupulolithiasis type.

BPPV may follow after trauma to the head or viral infections of the inner ear, but it most commonly occurs without any apparent cause. If you get BPPV once, you are likely to get it again, but when is not known.



What are the risk factors?

The following make you prone to having BPPV:

- Head injuries
- Aging
- Jarring activities such as heading a soccer ball
- Ear infections
- Ear surgery
- Other ear disorders such as Ménière's disease
- Medications that damage the ear
- Unusual head positions, for example leaning your head back for a long time at the dentist or hairdresser.

How is BPPV diagnosed?

Most family doctors or a physiotherapist with advanced training in vestibular disorders can diagnose a problem with crystals in the posterior semi-circular canal, the most common type of BPPV.

Following a series of questions about your vertigo, your head will be moved in a series of motions called the Dix-Hallpike manoeuvre. The examiner will closely observe your eye movements as the manoeuvre is done and ask how you are feeling. The direction of your eye movements is used as a clue to diagnosing which canal contains the crystals. As the eye movement is sometimes very rapid, you may be asked to put on special goggles; these connect to a monitor that clearly graphs the movement. Imaging tests (X-Rays, CT Scans, MRIs) and other special balance tests are not recommended for diagnosing BPPV. Otolaryngologists (ENTs) or highly specialized neuro-otolaryngologists may need to be consulted to diagnose and/or treat BPPV affecting a lateral or anterior semi-circular canal, several canals at once, cupulolithiasis, or BPPV that is resistant to treatment or recurring.

How is BPPV treated?

Most cases of BPPV affect the posterior (rear) canal and can be successfully treated by the Epley manoeuvre, a procedure done in the doctor or physiotherapist's office. The head is moved through a series of motions to return the crystals to where they belong. Symptoms usually subside immediately after the manoeuvre and the crystals reabsorb over the coming days.

Repositioning manoeuvres for BPPV are about 80 to 90% successful and one treatment is often enough. Sometimes, however, more than one manoeuvre or treatment is needed. If the Epley manoeuvre is not done perfectly or if the head is lifted up, for example, some of the particles may fall backwards or into another canal. Sometimes the examiner sees a different and unexpected eye movement; this indicates that the particles have moved into another canal requiring a different manoeuvre to fix the problem. And sometimes the Epley manoeuvre moves some of the particles but not all, requiring another treatment. Very rarely, surgery may be considered if several treatments with repositioning manoeuvres are unsuccessful or if the BPPV continues to recur.

Can medication help?

BPPV is essentially a mechanical disorder and there are no medications that will cure it. Some medications, such as antihistamines and sedatives, act as vestibular suppressants and reduce the spinning sensation of vertigo – using them for a

short period of time can help control severe nausea and vomiting. However, because vestibular suppressants slow down the brain's ability to adjust to the abnormal signals triggered by the particles in the inner ear, they should not be taken for an extended period of time.

What about less common types?

A minority of patients have less common variants of BPPV. They may have crystals stuck on a little hinged area of a canal (cupulolithiasis), in a different canal other than the posterior (rear) one, in more than one canal, or on both sides of their head. These patients are difficult to diagnose and treat. Their eye movements are complicated and it takes a specialist much more time, expertise and patience to figure out and solve the problem.

What if the manoeuvres don't help?

Some people with BPPV, no matter how many times they are treated, continue to have vertigo. Surgery is very occasionally done to plug a semi-circular canal; however, particles may fall into the other two canals and start causing vertigo again. Blocking a canal is not a common procedure and is only done after every other treatment has been tried several times as patients are at risk of losing hearing and balance in that ear.

Do you have questions?

This information sheet is intended as a general introduction to BPPV. As each person is affected differently, speak with your health care professional for individual advice. Take a few minutes to write your questions in preparation for your next appointment.

My questions:

This is one in a series of information sheets reviewed by vestibular specialists for the **BC Balance and Dizziness Disorders Society (BADD)**.

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