

Benign Paroxysmal Positional Vertigo (BPPV)

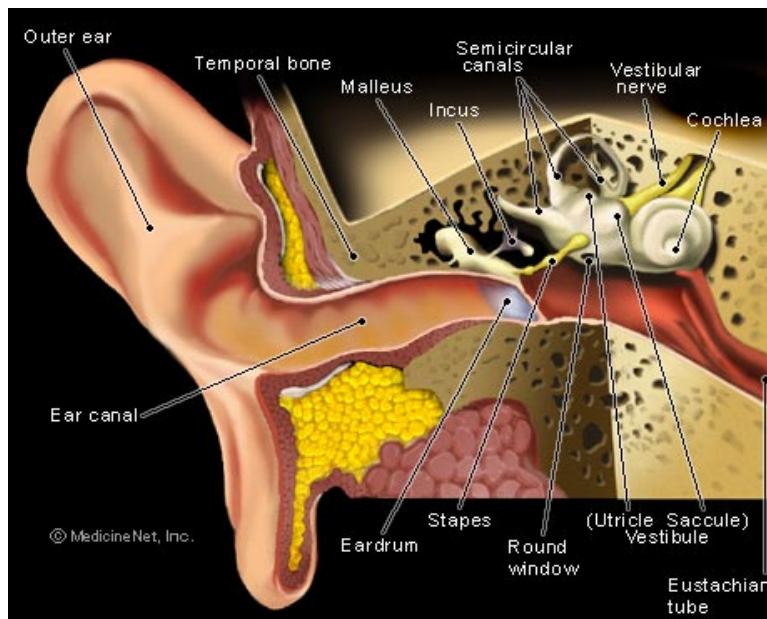
Benign Paroxysmal Positional Vertigo Overview

Benign paroxysmal positional vertigo (BPPV) is one of the most common causes of [vertigo](#), the symptom that describes the feeling of intense spinning of the head. BPPV describes the situation where the spinning sensation lasts only a few minutes and often stops by itself. There may be recurrent episodes without any specific reason or cause.

While there are many causes of vertigo, BPPV is the term that is used for vertigo that comes and goes (paroxysmal), without a specific associated illness (benign). It is often a frustrating situation for patients because the episodes are frightening and difficult to predict. However, it is related to the labyrinth system inside the inner ear.

The labyrinth system is located in the inner ear and is responsible for maintaining balance in the body. There are three semicircular canals that contain nerve endings and fluid that tell the body where it is in relation to gravity, acting almost like a gyroscope. Small crystals (cupuloliths) sit on top of nerve stalks and should they fall off, they can cause irritation to the fluid contained within the canals and this can lead to vertigo, the sensation that the head is spinning in relation to the rest of the world. Some researchers also suggest that in addition, some free-floating particles in the labyrinth system exert a force to additionally cause vertigo symptoms.

Many people have experienced the spinning sensation (vertigo) as a child. After spinning around for a period of time and then stopping quickly, there is a sensation that the spinning continues for a few seconds and sometimes the child falls down. This occurs because the fluid in the semicircular canals continues to spin after the head has stopped. This gives the person a sensation of vertigo. This may also happen during or after an amusement park ride and there can be associated nausea and vomiting if the vertigo is severe enough.



Benign Paroxysmal Positional Vertigo Causes

The cause of BPPV is often a mystery and in about half of the occurrences of BPPV, the cause is never found. It is unclear why small particles (crystals) become dislodged within the inner ear. It may be due to minor [head injury](#) or because of repetitive head movement (for example; the up and down head movement that occurs when working in front of a computer screen or when cleaning or dusting above head level).

Other causes may include the following:

- viral infections,

- nerve inflammation (neuritis),
- complication of ear surgery (more common in older people and women),
- medication side effects, and/or
- rapid head movements.

Benign Paroxysmal Positional Vertigo Symptoms

Symptoms are the same feelings people experience when they spin around in a revolving chair or on an amusement park ride and then suddenly stop.

- Vertigo is a sensation of spinning. Individuals may use the word "[dizziness](#)" though this is a difficult term for a health care practitioner to understand. There is a difference between vertigo (spinning) and lightheadedness or feeling of being unsteady that is NOT accompanied by spinning.
- Loss of balance and falling
- [Nausea or vomiting](#)
- Nystagmus (involuntary eye movements)

When to Seek Medical Care

Because BPPV is a benign disorder, one should seek medical care if there are symptoms that may be associated with [stroke](#) (CVA) or infection. Stroke symptoms usually last longer than a few minutes and resolve more slowly; however, if a person is not sure of their symptoms, they should seek medical care immediately.

Individuals should activate the emergency medical system (call 911) if there is weakness or numbness of one side of the body, any loss of vision, or difficulty with speech, especially slurring. These are potential signs of a stroke. If there is [fever](#) associated with vertigo, there may be an infection as a potential cause of symptoms. While this may be a viral infection, if fever, stiff neck or sensitivity to light is present, there may be a more serious infection (for example, [meningitis](#)) and medical care should be accessed.

[Meniere's disease](#) describes the triad of vertigo, decreased hearing, and ringing in the ears ([tinnitus](#)). Meniere's disease symptoms are similar to BPPV but may be associated with acoustic neuroma, a benign tumor of the inner ear. Individuals with these symptoms should seek medical care.

Vertigo may cause significant nausea and vomiting. Individuals may be unable to take their routine medications or may become dehydrated. Medical care may be needed for these people.

Individuals with vertigo that do not resolve are at higher risk of falling than the normal population and medical care should be accessed if symptoms persist longer than a few minutes.

Because driving is unsafe for people experiencing vertigo, the person should have a friend or family member take a symptomatic person to obtain medical help.

Benign Paroxysmal Positional Vertigo Diagnosis

Diagnosis of BPPV begins with the health care practitioner taking a detailed history and performing a physical examination. History may include questions in regard to when the vertigo began, how long it lasted and whether certain positions make it better or worse. Information about past medical history, medications, and recent surgeries may be helpful. Other potential complaints need to be assessed including presence of fever or chills, weakness, recent falls, loss of power or sensation on one side of the body, loss of vision or hearing, ringing in the ears, [headache](#), neck stiffness, or slurred speech.

Physical examination will focus on the neurologic exam. The health care practitioner will want to assure there is normal movement and sensation in the patient's body. Moreover, it is important to make certain that the cause of the vertigo does not arise in the cerebellum, the part of the brain that is responsible for balance and coordination, so the health care practitioner may perform a few physical tests of the person's balance.

During the eye exam, the health care practitioner may try to demonstrate nystagmus (involuntary eye movements that occur as the brain tries to compensate for the abnormal signals it is receiving from the inner ear). Sometimes the health care practitioner will need to have the patient change positions to get nystagmus to occur; the position change often reproduces the vertigo complaint. This reproduction of symptoms is called the Dix-Hallpike test.

The diagnosis of benign paroxysmal positional vertigo frequently is made by history and physical examination so no further tests are needed. However, if there is concern that another less benign cause of vertigo may be present, other tests may be required.

- Blood tests may look for infection or [electrolyte abnormalities](#).
- Imaging tests of the head and neck may include [CT](#) or [MRI scans](#).
- Audiology tests may assess hearing.

Specialists that can help with the diagnosis and treatment include otolaryngologists (ear, nose, and throat physicians), neurologists and physical therapists specializing in vestibular rehabilitation.

Benign Paroxysmal Positional Vertigo Treatment

Self-Care at Home

Prevention begins by maintaining good hydration and avoiding rapid movements of the head. Should symptoms of vertigo begin, the following suggestions may be helpful:

- Lie down with the head elevated slightly. Take precautions to prevent falls.
- Drink plenty of fluids.
- In the midst of a vertigo attack, do not drive, work at heights, or operate dangerous machinery since loss of balance may cause significant injury.
- Avoid sudden head movements and body position changes.

A technique termed Brandt/Daroff consists of a series of movements to decrease the severity and duration of BPPV; however, the technique needs to be taught by trained medical health care practitioners and is not always successful.

Medical Treatment

The definitive treatment for BPPV requires that crystals causing inflammation in the semicircular canals be moved out of those canals. This can be done by the Epley maneuvers, where the head is taken through a series of position changes that allow the crystals to be emptied out of the canals.

Epley maneuvers require a special skill set, first to know which canal the crystals are in, and second, how to "shake" the head to get them removed. Some physicians, as well as specially trained physical therapists are skilled in this procedure, which can take a patient from being immobile with intense nausea and vomiting, to become functioning normally with no symptoms during the treatment session.

If a person without these skills is not available, medication may be helpful in decreasing or resolving symptoms. In an emergency situation when a patient presents with intractable vertigo and vomiting, intravenous [diazepam](#) (Valium) may be useful in decreasing inflammation in the labyrinths.

In less severe cases, over the counter medications like [meclizine](#) (Antivert, Bonine, Dramamine II, D-Vert) may be helpful.

Medications

Several medications, including common [motion sickness](#) remedies, may relieve symptoms of BPPV and may be used for less severe episodes of vertigo or in addition to the Epley maneuvers described above.

- [meclizine](#) (Antivert, Bonine, Dramamine II, D-Vert)
- [diazepam](#) (Valium)
- [dimenhydrinate](#) (Dramamine)
- [promethazine](#) (Phenergan)
- [scopolamine](#) (Isopto, Scopace)

If the cause of vertigo is thought to be due to a viral infection, antiviral medications like [acyclovir](#) (Zovirax) may be prescribed. [Steroids](#) like [prednisone](#) may be useful if nerve inflammation is a potential reason for vertigo.

Benign Paroxysmal Positional Vertigo Outlook

BPPV usually resolves on its own quickly or within a few weeks or months, even without any specific treatment.

- The Epley maneuver may cure the problem immediately.
- Medications may help control the severity of symptoms
- Vertigo may recur months or years later after an initial incidence.
- BPPV is rarely a problem that cannot be resolved. Neurologists, otolaryngologist, and vestibular rehabilitation physical therapists may be of help in confirming the diagnosis and resolving BPPV or controlling its symptoms.