Western Washington
Medical Group
Ear, Nose & Throat, Allergy & Audiology

BENIGN PAROXYSMAL POSITIONAL VERTIGO

In Benign Paroxysmal Positional Vertigo (BPPV) dizziness is generally thought to be due to debris which has collected within a part of the inner ear. This debris can be thought of as "ear rocks", although the formal name is "otoconia". Ear rocks are small crystals of calcium carbonate.

BPPV is a common cause of dizziness. About 20% of all dizziness is due to BPPV. While BPPV can occur in children, the older you are, the more likely it is that your dizziness is due to BPPV. About 50% of all dizziness in older people is due to BPPV.

The symptoms of BPPV include dizziness or vertigo, lightheadedness, imbalance, and nausea. Activities which bring on symptoms will vary among persons, but symptoms are almost always precipitated by a change of position of the head with respect to gravity. Getting out of bed or rolling over in bed are common "problem" motions. Because people with BPPV often feel dizzy and unsteady when they tip their heads back to look up, sometimes BPPV is called "top shelf vertigo."

WHAT CAUSES BPPV?

The most common cause of BPPV in people under age 50 is head injury. There is also a strong association with migraine. In older people, the most common cause is degeneration of the vestibular system of the inner ear. BPPV becomes much more common with advancing age. Viruses affecting the ear such as those causing vestibular neuritis and Meniere's disease are significant causes. Occasionally BPPV follows surgery, including dental work, where the cause is felt to be a combination of a prolonged period of supine positioning, or ear trauma when the surgery is to the inner ear. While rarely encountered, BPPV is common in persons who have been treated with ototoxic medications such as gentamicin. In half of all cases, BPPV is called "idiopathic," which means it occurs for no known reason.

HOW IS BPPV TREATED?

BPPV has often been described as "self-limiting" because symptoms often subside or disappear within 2 months of onset. BPPV is not life-threatening. One can certainly opt to just wait it out.

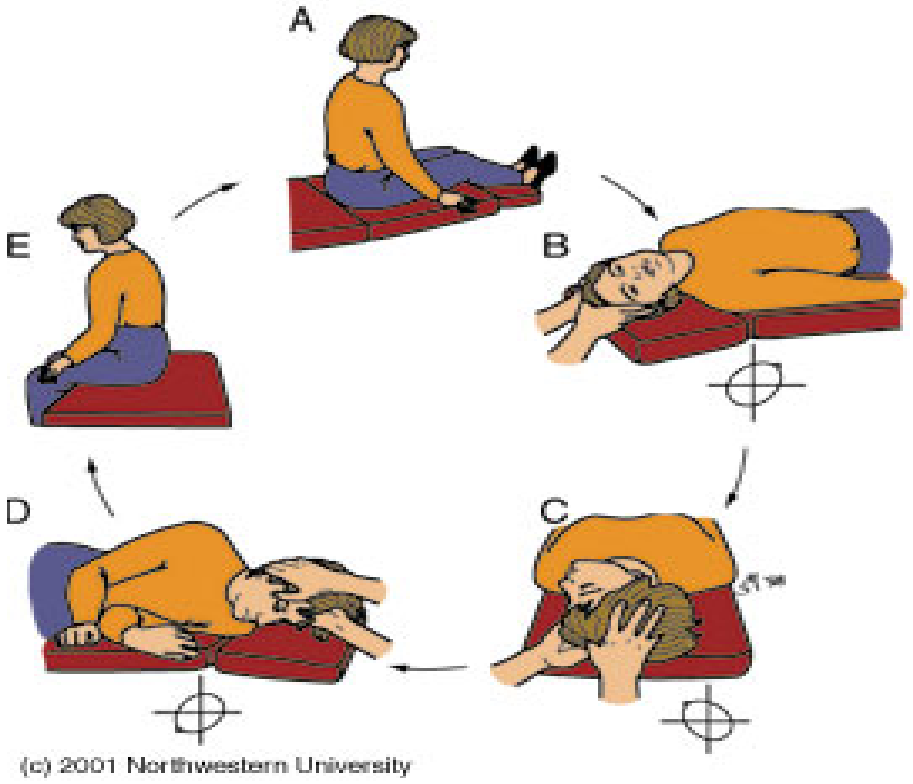
No active treatment (wait/see):

If you decide to wait it out, certain modifications in your daily activities may be necessary to cope with your dizziness. Use two or more pillows at night. Avoid sleeping on the "bad" side. In the morning, get up slowly and sit on the edge of the bed for a minute. Avoid bending down to pick up things, and extending the head, such as to get something out of a cabinet. Be careful when at the dentist's office, the beauty parlor when lying back having ones hair washed, when participating in sports activities and when you are lying flat on your back.

Symptoms tend to wax and wane. Motion sickness medications are sometimes helpful in controlling the nausea associated with BPPV but are otherwise rarely beneficial.

As BPPV can last for much longer than 2 months, it is better to treat it actively and be done with it rather than taking the wait/see approach.

Office treatment of BPPV: The Epley Maneuvers



The Epley maneuver is also called the particle repositioning or canalith repositioning procedure. It was invented by Dr. John Epley, and is illustrated above. It involves sequential movement of the head into four positions, staying in each position for roughly 30 seconds. The recurrence rate for BPPV after these maneuvers is about 30 percent at one year, and in some instances a second treatment may be necessary.

When performing the Epley maneuver, caution is advised should neurological symptoms (for example, weakness, numbness, visual changes other than vertigo) occur. Occasionally such symptoms are caused by compression of the vertebral arteries, and if one persists for a long time, a stroke could occur. If the exercises are being performed without medical supervision, we advise stopping the exercises and consulting a physician. If the exercises are being supervised, given that the diagnosis of BPPV is well established, in most cases we modify the maneuver so that the positions are attained with body movements rather than head movements.

After either of these maneuvers, you should be prepared to follow the instructions below, which are aimed at reducing the chance that debris might fall back into the sensitive back part of the ear.

INSTRUCTIONS FOR PATIENTS AFTER OFFICE TREATMENTS

1. *Wait for 10 minutes after the maneuver is performed before going home*. This is to avoid "quick spins," or brief bursts of vertigo as debris repositions itself immediately after the maneuver. Don't drive yourself home.

2. *Sleep semi-recumbent for the next night*. This means sleep with your head halfway between being flat and upright (a 45 degree angle). This is most easily done by using a recliner chair or by using pillows arranged on a couch (see figure at right). During the day, try to keep your head vertical. You must not go to the hairdresser or dentist. No exercise which requires head movement. When men shave under their chins, they should bend their bodies forward in order to keep their head vertical. If eye drops are required, try to put them in without tilting the head back. Shampoo only under the shower.

3. For at least one week, *avoid provoking head positions* that might bring BPPV on again.

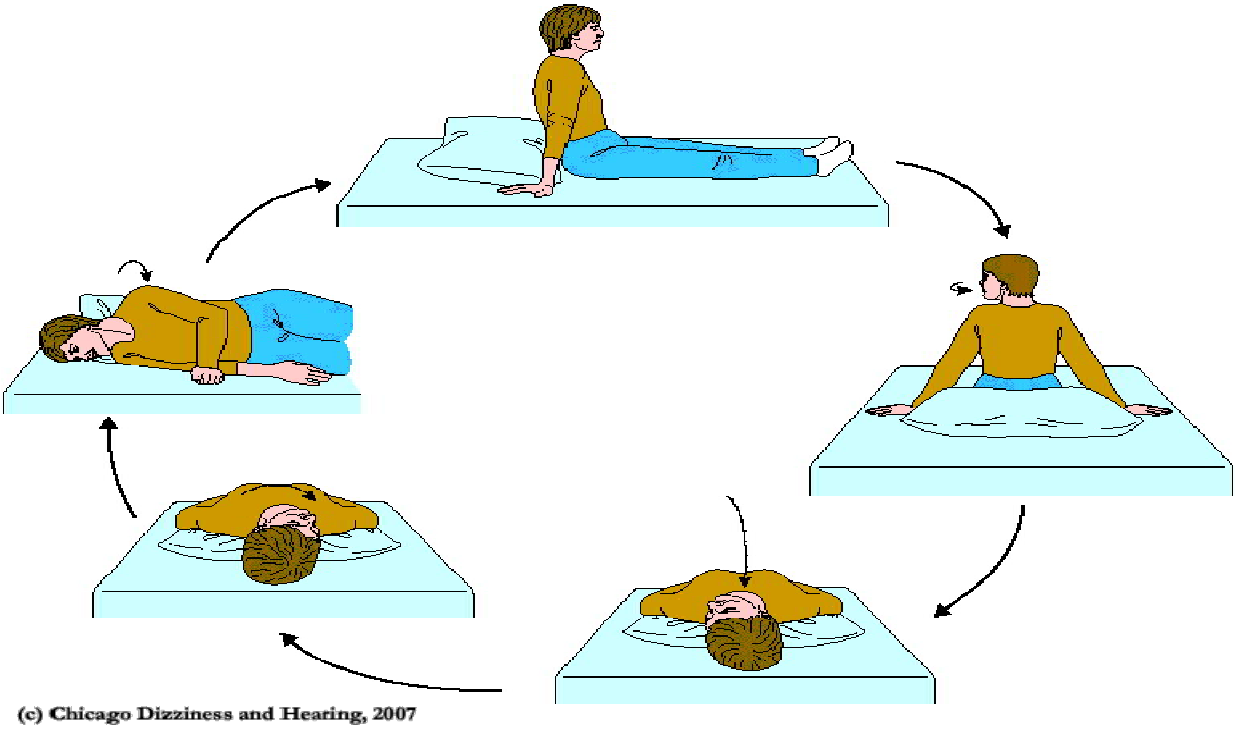
- Use two pillows when you sleep.
- Avoid sleeping on the "bad" side.
- Don't turn your head far up or far down.

Be careful to avoid head-extended position, in which you are lying on your back, especially with your head turned towards the affected side. This means be cautious at the beauty parlor, dentist's office, and while undergoing minor surgery. Try to stay as upright as possible. Exercises for low-back pain should be stopped for a week. No "sit-ups" should be done for at least one week and no "crawl" swimming. (Breast stroke is OK.) Also avoid far head-forward positions such as might occur in certain exercises (i.e. touching the toes).

4. *At one week after treatment, put yourself in the position that usually makes you dizzy*. Position yourself cautiously and under conditions in which you can't fall or hurt yourself. Let your doctor know how you did.

The office maneuvers are effective in about 80% of patients with BPPV. If you are among the other 20%, your doctor may wish you to proceed with the home Epley exercises, as described below. If a maneuver works but symptoms recur or the response is only partial, another trial of the maneuver might be advised.

Home Epley maneuver



The Epley maneuver can be done at home. We often recommend the home-Epley to our patients who have a clear diagnosis. This procedure seems to be even more effective than the in-office procedure, perhaps because it is repeated every night for a week.

The method (for the left side) is performed as shown on the figure above. One stays in each of the supine (lying down) positions for 30 seconds, and in the sitting upright position (top) for 1 minute. Thus, one cycle takes 2 1/2 minutes. Typically 3 cycles are performed just prior to going to sleep. It is best to do them at night rather than in the morning or midday, as if one becomes dizzy following the exercises, then it can resolve while one is sleeping. The mirror image of this procedure is used for the right ear.

There are several problems with the "do it yourself" method. If the diagnosis of BPPV has not been confirmed, one may be attempting to treat another condition (such as a brain tumor or stroke) with positional exercises -- this is unlikely to be successful and may delay proper treatment. A second problem is that the most home maneuvers requires knowledge of the "bad" side. Sometimes this can be tricky to establish. Complications such as conversion to another canal, or severe vomiting can occur during the Epley maneuver, which are better handled in a doctor's office than at home. Finally, occasionally during the Epley maneuver neurological symptoms are provoked due to compression of the vertebral arteries. In our opinion, it is safer to have the first Epley performed in a doctor’s office where appropriate action can be taken in this eventuality.