

## A Physician's Guide to BPPV

Primary care physicians see at least one-half of the patients who present with dizziness.<sup>1</sup>

Eighty percent of individuals over the age of 65 will experience dizziness, with approximately 50 percent of those cases attributable to Benign Paroxysmal Positional Vertigo (BPPV).<sup>2</sup>

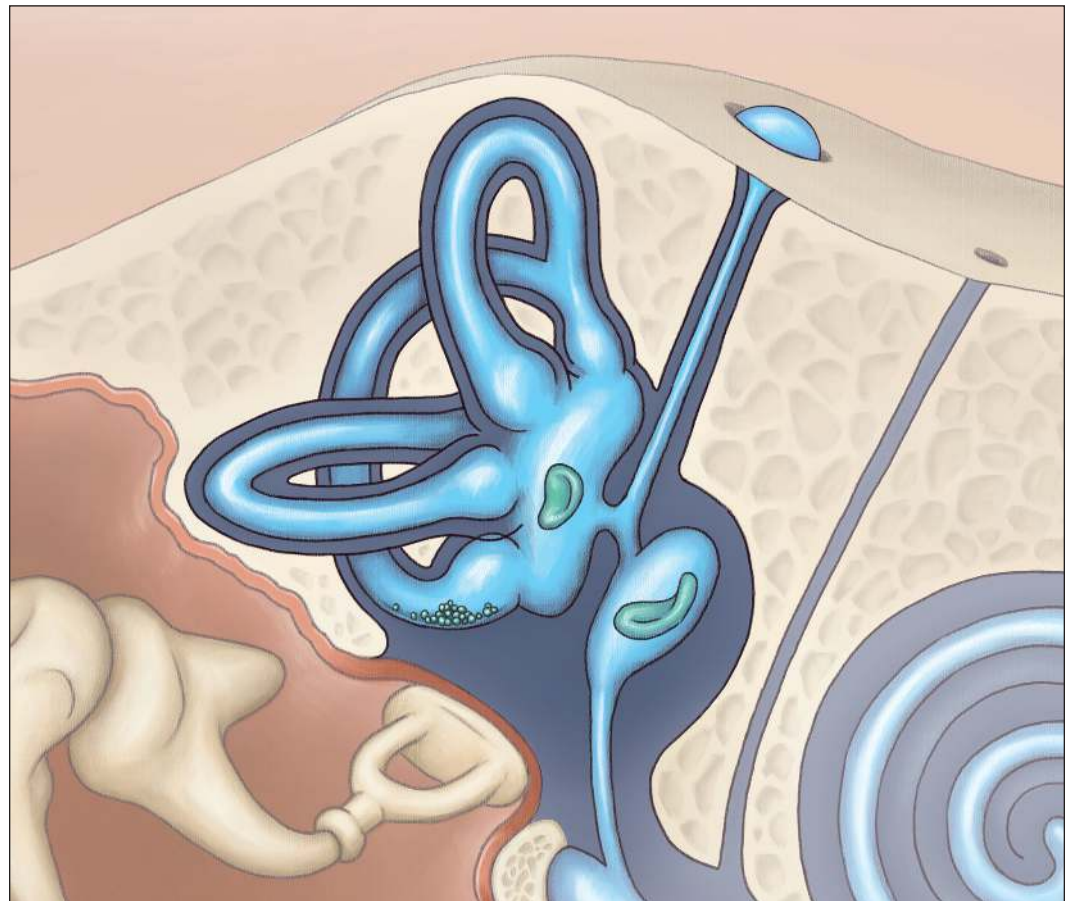


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### Cause:

BPPV occurs when loose otoconia, known as canaliths, become dislodged and enter the semicircular canals.<sup>3</sup> BPPV can occur at any age, but is most common between 50 and 70 years.<sup>4</sup> No obvious cause is found in 50 to 70 percent of older patients, but head trauma is a possibility in younger persons.<sup>5</sup>

### Symptoms:

The symptoms of BPPV are characterized by brief (less than 60 seconds) attacks of true vertigo with a change in the orientation of the ear to gravity.

Physicians should try to determine whether the vertigo is triggered by a specific position or change in position. BPPV often is triggered by a quick turn of the head on awakening, rolling over in bed, rising from bed, bending at the waist, or tipping the head back in the shower.

There also may be a short delay in symptom onset after the patient is placed in an offending position. When not vertiginous, a patient may also describe a more general sensation of disequilibrium or non-vertiginous lightheadedness.

## References:

- 1 Post RE, Dickerson LM. Dizziness: a diagnostic approach. *Am Fam Physician*. 2010; 82(4): 361-368, 369.
- 2 Fife TD, Iverson DJ, Lempert T, et al. Practice parameter: therapies for benign paroxysmal positional vertigo (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurol*. 2008; 70:2067-2074.
- 3 Hornibrook J. Benign paroxysmal positional vertigo (BPPV): history, pathophysiology, office treatment and future directions. *Int J Otolaryngol*. 2011; 2011: 835671.
- 4 Parnes LS, Agrawal SK, Atlas J. Diagnosis and management of benign paroxysmal positional vertigo (BPPV). *CMAJ*. 2003; 169(7): 681-693.
- 5 Hilton MP, Pinder DK. The Epley (canalith repositioning) manoeuvre for benign paroxysmal positional vertigo. *Cochrane Database Syst Rev*. 2014; (12): CD003162.
- 6 Hoffman RM, Einstadter D, Kroenke K. Evaluating dizziness. *Am J Med*. 1999; 107(5): 468-478.
- 7 Wipperman J. Dizziness and vertigo. *Prim Care*. 2014; 41(1): 115-131.

## Diagnosis:

According to the Vestibular Disorders Association, there are two types of BPPV: canalithiasis, where the loose otoconia can move freely in the fluid of the canal; and, more rarely, cupulolithiasis, where the otoconia are stuck on the cupula of the canal.

With canalithiasis, it takes less than a minute for the otoconia to stop moving after a particular change in head position has triggered a spin. Once the crystals stop moving, the fluid movement settles and the nystagmus and vertigo stop.

With cupulolithiasis, the otoconia stuck on the cupula of the canal will make the nystagmus and vertigo last longer, until the head is moved out of the offending position. It is important to make this distinction, as the treatment is different for each variant.

The diagnostic technique for BPPV is the Dix-Hallpike maneuver, which is comprised of placing the patient supine with the head hyper-extended over the exam table in either a 45-degree rightward or leftward orientation.

Most patients presenting with dizziness do not require laboratory testing or diagnostic imaging.<sup>6</sup>

## Treatment:

Pharmacologic treatment has no role in the treatment of BPPV. Vestibular suppressant medications should be avoided because they interfere with central compensation and may increase the risk of falls.<sup>7</sup>

Instead, the most commonly accepted treatment for BPPV involves moving the displaced otoconia out of the involved semicircular canal and back into the vestibule, better known as canalith repositioning. Once repositioned into the vestibule, the otoconia will dissolve. This is accomplished by a sequence of repositioning maneuvers of the patient, which systematically move the otoconia to their desired location. There are

several types of repositioning maneuvers for each canal. Treatment is canal specific and is chosen based on a patient's biomechanics.

Many studies have been done regarding the effectiveness of treatment maneuvers for BPPV, with results showing rates of resolution well into the 90 percent range by one to three treatments.<sup>4</sup>

## The Audiologist's Role in Treating BPPV:

Vestibular audiologists are well versed not only in repositioning maneuvers, but in the identification of specific nystagmus patterns. They also have a vast understanding of the vestibular anatomy and physiology.



**Danielle Dorner, Au.D.,** vestibular audiologist with Associated Audiologists, is a specialist in treating patients with dizziness and balance disorders. She has successfully diagnosed and treated hundreds of patients with BPPV.

She joined the practice after performing her clinical externship with Associated Audiologists. She earned her doctorate of audiology degree from Northern Illinois University and her bachelor's degree from Augustana College, Rock Island, Illinois.

She is a member of the Academy of Doctors of Audiology (ADA), holds a certificate of clinical competence from the American Speech-Language-Hearing Association (ASHA), and is a member of the Kansas Speech-Language-Hearing Association (KSHA).

**Dr. Dorner practices at our Northland and Overland Park clinics. To refer a patient to her, call 816-442-7831.**

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