

As Your World Turns
by Jodi Harrity, PT, DPT

Many people experience occasional episodes of dizziness, without realizing there may be a serious underlying reason. In the elderly population it is estimated that 50% of dizziness complaints are from Benign Paroxysmal Positional Vertigo (BPPV). BPPV is the result of debris (otoconia) that has collected in the endolymph (fluid in semicircular canals).

It is important to have the patient describe their symptoms without using the word “dizzy” to get a full appreciation for their symptoms. In the under 50 y/o population, head trauma is the most common cause of BPPV; however, trauma is not necessarily the cause with advancing age.

Differential Diagnosis can begin at patient history of symptom onset, position of exacerbation and duration. For instance, a person with BPPV may complain of symptoms with rolling over in bed, getting out of bed or tipping their head back to look up. While medications can be used to help reduce the nausea associated with BPPV, there is physical treatment required to address the cause of the vertigo.

If these symptoms are present a Dix-Hallpike maneuver may be performed in the physician’s office. A referral to physical therapy is appropriate for patients with BPPV. Your physical therapist will perform an oculomotor exam, test cervical range of motion, sensory testing, balance tests, as well as the Dix-Hallpike maneuver. This test is performed last so that all other pertinent information can be collected, as it will elicit symptoms. If nystagmus is observed in the test, the exam may be transitioned immediately into treatment.

Diagnosis of the canal involvement is based on the type and duration of nystagmus observed. Symptoms lasting <60 seconds is indicative of *canalithiasis* (otoconia is floating in the end lymph of the semicircular canal). This is the most common form of BPPV. *Cupulolithiasis* (otoconia of the semicircular canal which has been displaced and attached to the cupula- a gelatinous mass) occurs if symptoms last > 60 seconds. Torsion (twisting/rotation) of the eye will occur toward the involved side. It is usually coupled with upbeating or downbeating of the eye and is named by the fast phase of the eye’s movement. Upbeating is associated with the posterior canal, while down beating occurs in an involved anterior canal. *Geotropic and Ageotropic nystagmus* occurs independently of torsion and only when the horizontal canal is involved. Geotropic nystagmus (eye movement toward the earth) occurs with canalithiasis, while Ageotropic nystagmus (eye movement away from the earth) occurs with Cupulolithiasis.

Once the involved canal and side are determined treatment will be based on what type of BPPV is present. Canalithiasis can be treated with Canalith Repositioning Techniques (CRT). CRT involves a series of sustained positions to move the otolith out of the semicircular canal. Cupulolithiasis requires a Liberatory Maneuver, a quick and rapid movement to free the otolith from the cupula. After treatment, your therapist will ask you to stay for an additional 10-20 minutes before proceeding to drive your car. It is recommended that you avoid sleeping on the “bad” side, bending over or looking up for the first 2 days after treatment. Sleeping with additional pillows to keep upright is also helpful. Brant-Daroff exercises may later be used for those who don’t respond to these treatments. These exercises are based on habituation, a technique used to retrain the vestibular to adjust to a repeated stimulus.

Positional vertigo can be treated, however, underlying balance issues may remain. In this case your therapist will apply treatment including milder forms of vestibular rehabilitation. This may include gaze stability exercises and object permanence tasks both in seated and standing positions. Tasks found in the Berg and Tinetti’s balance exams will also be incorporated into treatment.

BPPV is not something that needs to overrun your patient’s life. Seeking a physical exam is the first step. Special testing may also be performed by an EENT. Finding a physical therapist that has undergone training in vestibular disorders can be a successful and conservative management of BPPV.

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