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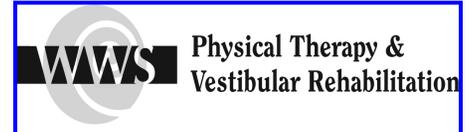
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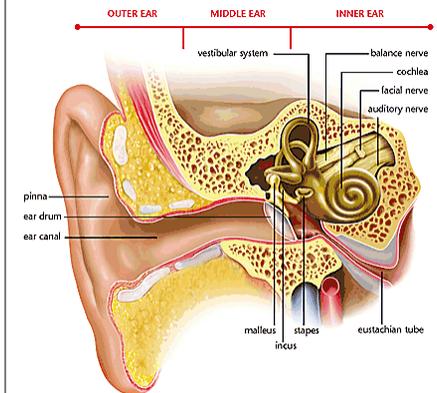
Our therapists are all specially trained to treat Vestibular and Balance issues whether an inner ear disorder or balance issue. As well as other musculoskeletal disorders.

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Benign Paroxysmal Positional Vertigo



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BPPV

Benign Paroxysmal Positional Vertigo or BPPV is a peripheral vestibular disorder involving the inner ear that causes spells of vertigo typically lasting less than one minute, when the head is in certain head positions. Vertigo is defined as an illusion of movement or sense of spinning. In BPPV, vertigo is brief, lasting only a few seconds. The vertigo goes away in a few seconds to a minute if you don't move your head. Vertigo occurs most commonly in the morning when you sit up or turn over in bed. BPPV can lead to chronic imbalance if not treated, but balance improves following a successful treatment using positioning maneuvers.

BPPV can be attributed to a number of causes however in approximately 58% of cases, the exact cause is unknown. Head trauma accounts for 6-18% with infection, inflammation or ischemia accounting for 3-9%. The likelihood that you will have BPPV increases as you get older.

In the healthy inner ear, three structures, the semicircular canals, detect angular head movements e.g. as looking up and down. Two other structures, the utricle and the saccule, detect movement of the head in straight lines and detect the pull of gravity. It is the presence of calcium carbonate crystals in the utricle and saccule that enable them to do this. BPPV occurs when the calcium particles break loose from the utricle and travel to one of the three semicircular canals located in the inner ear. The posterior semicircular canal is the most common of the three canals to be affected. There are two symptoms of BPPV: cupulolithiasis and canalithiasis.

Cupulolithiasis: This theory suggests that the fragments of calcium carbonate crystals that break loose attach to the surface of a piece of the inner ear (cupula) located in the affected semicircular canal. With certain head positions the weighted cupula is deflected by gravity leading to vertigo and nystagmus.

Canalithiasis: The second theory is "canalithiasis", suggests that the loose fragments do not adhere to the cupula, but rather are free floating in the fluid inside the semicircular canal. When the head is moved into certain positions, the fragments are pulled by gravity into the most dependent portion of the canal. This causes the fluid in the inner ear to move resulting in inappropriate stimulation of the nerve located inside the semicircular canal. Because only one side of the vestibular system is excited, you experience vertigo.

Exam

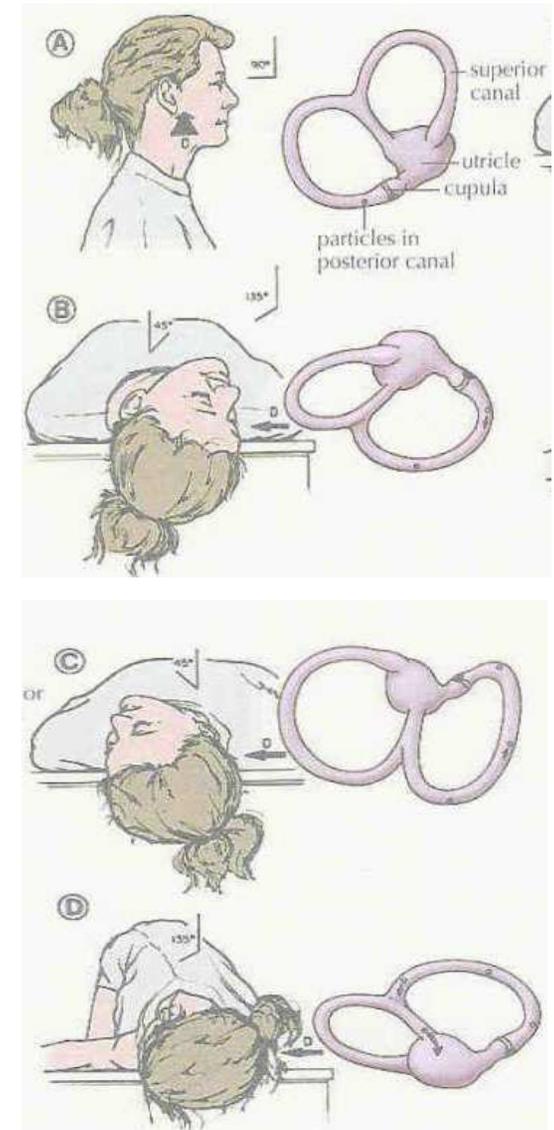
Diagnosing BPPV is confirmed by the Dix-Hallpike test where you turn your head 45 degrees to one side, and you quickly laid down with your head hanging over the edge of a table. While this test is being performed, you wear infrared goggles to observe eye movements. If BPPV is truly present, a rapid eye movement termed nystagmus will be observed, and you will experience dizziness.

Treatment

BPPV may correct itself spontaneously because the crystals may be absorbed in the fluid that is in the inner ear. If it does not resolve spontaneously, there are easy exercise treatments that relocate the crystals and stop the spells of vertigo. The **Canalith Repositioning Maneuver** (Figure 1) which is the most commonly used treatment, was first introduced in 1992 and is based on the theory that BPPV is due to the crystals floating in a canal. During this treatment, you sit on an exam table and turn your head horizontally 45 degrees to the affected side. You quickly lay back with your head hanging off the edge of the table. You then turn your head to the opposite direction with your nose toward the floor. You slowly sit up on the exam table while keeping your head turned to the side. A study showed that people had abnormal balance before being treated with the canalith repositioning maneuver. Following treatment with the maneuver, there was a significant improvement in most people, although not all people returned to normal immediately.

Several studies showed that the positioning maneuver results in a better 80% remission after one treatment when used to treat the canalithiasis form of BPPV. There are other treatments for BPPV affecting the other semicircular canals and for the cupulolithiasis form of BPPV. All controlled studies indicate approximately 80% remission of symptoms in one treatment.

Figure 1. Canalith Repositioning Maneuver



Recurrence

Studies have shown that recurrent rates can be as high as 45-47% if the underlying cause was head trauma and less if from other causes. Over half of these recurrences occurred within the first 12 months. Patients are taught the treatment so that they are able to perform it themselves if BPPV should occur.