

Benign Paroxysmal Positional Vertigo (BPPV) Benign paroxysmal positional vertigo (BPPV) is dizziness is related to a collection of calcium carbonate crystals, called “ear rocks,” that form inside the inner ear. The medical name for these crystals is otoconia. Otoconia typically involves a head injury, an infection, or similar disorders. Symptoms of BPPV include dizziness, poor balance, lightheadedness, and nausea.

They may worsen with changes in head position. BPPV can resolve itself, but there are treatment options available including head exercises designed to move the crystals out of the inner ear structures. Drug therapy is also sometimes used and, occasionally, surgery.

Labyrinthitis Labyrinthitis is a swelling of the inner ear and hearing nerves usually due to a viral, or less commonly, a bacterial, infection. This swelling interrupts the transmission of sensory information to the brain, causing difficulties with balance, hearing, and even vision. Treatment options will include antiviral or antibacterial drugs and therapies used to control the symptoms of dizziness or nausea. If quickly diagnosed and treated, labyrinthitis usually causes no permanent damage. However, if left alone, permanent hearing loss can result.

Ménière’s disease Ménière’s disease is an inner ear disorder that may cause vertigo, progressive hearing loss, ringing in the ears, and a feeling of fullness or pressure in the ear. The cause of Ménière’s disease is not well understood but it may be a combination of several factors, including poor fluid drainage of the inner ear, unusual immune response, viral infection, genetic predisposition, and head injury. Treatment options include medications for vertigo, hearing aids for hearing loss and tinnitus relief, antibiotics to treat infections, and surgery for severe cases.

Acoustic neuroma The acoustic neuroma is a rare tumor of the hearing and balance nerves that disrupts the transmission of hearing and balance data to the brain. Although this benign tumor does not spread to other organs, it can become large enough to cause hearing loss and balance problems. There are over 5,000 cases of acoustic neuroma annually in the US. Treatment generally includes surgical removal of the tumor or radiation. Without treatment, the acoustic neuroma can push into the brain, threatening neurological function and even life.

Autoimmune inner ear disease (AIED) AIED is a rare, progressive condition directly related to immune cells attacking the inner ear. Like most autoimmune disorders, the cause is not well understood.

Symptoms can include hearing loss, balance problems, and tinnitus. Diagnosis includes hearing tests and also blood tests to check for general autoimmune disease. Treatment options are limited but

growing, currently, they include some combination of steroids, other medications, plasmapheresis, and hearing aids or cochlear implants for hearing loss.

Otosclerosis Otosclerosis is a condition that involves the hardening of bones in the inner ear bones. These bones are critical elements in the transmission of sound vibrations to the inner ear and then to the brain. The hardening of these bones interferes and will eventually lead to slowly progressing hearing loss. Otosclerosis tends to run in families. If one parent has the disorder, there is a 25 percent chance of the child developing it, as well; two parents have the condition, that likelihood increases to 50 percent.