



Feeling Dizzy or Off Balance?? Evaluation of the Balance Systems

Are you feeling dizzy and off balance??? You are not alone. It is estimated that at least half of the population will be affected by dizziness or balance problems during their lifetime. Balance disorders that cause dizziness may create a variety of symptoms such as lightheadedness upon standing, imbalance, disorientation, disequilibrium, blurred vision, falling, spinning, nausea, rocking or swaying. All of these interfere with quality of life and may lead to serious falls. Balance problems may occur suddenly or develop slowly over time. Dizziness affects people in all age groups—children, young adults and the elderly. Many dizzy patients may be helped through nonmedical and nonsurgical techniques, vestibular rehabilitation therapy as well as with medication and dietary changes. Often dizziness is caused by a variety of medical conditions, like hypertension or diabetes. Many prescription and over-the-counter drugs can also have dizziness as a side effect. However, these problems require a thorough assessment of the balance system.

Audiologists are professionals trained and dedicated to helping people with hearing and balance problems. As part of their scope of practice, audiologists are trained to understand vestibular function and participate in the nonmedical evaluation and treatment of patients who are experiencing dizziness. Since the balance system is a complex system involving the inner ear and its nerve pathways, these evaluations provide a complete picture of your balance system. These highly technical tests and procedures are utilized to identify the source of the problem. These tests are listed below.

- Audiogram, tympanograms, acoustic reflexes and reflex decay
- Distortion Product Otoacoustic Emissions (DPOAEs)
- Auditory Brainstem Response (ABR)
- Electrocochleography (ECoG)
- Videonystagmography (VNG)
- Vestibular Myogenic Evoked Potential (VEMP)
- Active Head Rotation testing, Dynamic Visual acuity and Rotary Chair testing (assesses the VOR and VVOR)
- Computerized Dynamic Posturography (CDP)

The audiogram assesses your hearing sensitivity to soft sounds as well as your ability to understand speech. Tympanograms and acoustic reflexes assess any blockage or abnormal pressure in the middle ear as well as assessing the facial nerve.

DPOAEs assess the inner ear's response to sound. It looks at the tiny hair cells inside the inner ear. It is a test of inner ear function. This is an automatic test requiring you to be quiet.

ABR assesses the hearing nerve and the pathway through the brainstem up to the brain.

ECoG assesses the pressure inside the inner ear. This is used to diagnose abnormal pressure in the inner ear, which may be causing the balance disorder.

VNG assesses your balance system. It is comprised of a number of tests. One test measures dizziness that may be associated with different positions and head movement. One test evaluates how well the inner ear is working to keep you balanced. There are a number of tests that assess how your visual system is working to help keep you balanced. Combined, these tests assess one of the branches of the balance nerve, the inner ear mechanism for balance, as well as the many nerve pathways to the brain.

VEMP assesses one of the otolith organs (one of the sensory organs for balance) and part of the balance nerve. When VNG is combined with VEMP, you test both branches of the balance nerve.

VOR and VVOR testing assesses the nerve pathway from the ear to the brain.

CDP assesses the postural stability and how well the eyes, ears and proprioceptive system (your feet and ankles) are working together. This also assesses the VSR (Vestibulo Spinal reflex).

You don't have to live with it! There is help out there and about 85% of all balance problems can be accurately diagnosed and treated following a thorough evaluation of the vestibular system.