PACIFIC HEAD & NECK℠

PACIFIC NEUROSCIENCE INSTITUTE®

Providence

DIZZINESS & BALANCE

Dizziness & Balance

A **vestibular and balance function** evaluation consists of a variety of tests performed to examine and diagnose the vestibular portion of the inner ear, which is responsible for balance. These tests can help determine the cause of dizziness, and then allow your doctor to develop the most appropriate treatment plan.

DIAGNOSIS

A vestibular balance disorder is diagnosed after reviewing your medical history and examinations.

- **Examinations:**
  - **Blood tests**
  - **Imaging tests of the head and brain**
  - **Clinical tests of balance**
- **Examination of posture and balance:**
  - **Posturography:** Posturography evaluates postural control while standing upright using static or dynamic conditions in order to diagnose dizziness and other vestibular conditions. This test examines the sensory, motor and central processes involved with posture and balance in order to diagnose certain vestibular and neuromuscular disorders. In static posturography, the patient remains in standing posture on a fixed platform, while dynamic posturography involves movable platforms that require changing positions.
  - **Electronystagmogram (ENG):** An electronystagmogram (ENG) is a diagnostic procedure that measures normal eye movements, as well as involuntary ones known as nystagmus. This test is most often performed to evaluate the function of the inner ear and the parts of the brain that control eye movement, as well as to see how well these structures work together to maintain the balance and position of the body. During the ENG exam, electrodes are attached to the face to take readings while the eyes perform several different activities, such as following the movement of objects, looking back and forth between designated points and lying in different positions. For some patients, this test may also include placing a small amount of cool water and then warm water into the ear canal. Abnormal results may indicate damage to the inner ear, the nerve of the inner ear, or other parts of the brain that control eye movements.
  - **Videonystagmography (VNG):** Like ENG, videonystagmography (VNG) is also used to evaluate inner ear function and determine whether or not it is the cause of dizziness and balance disorders, but does so using infrared goggles instead of electrodes. The goggles measure the involuntary movements of the eyes, known as nystagmus, in response to a series of stimuli. VNG produces more accurate and consistent results, and is considered more comfortable for patients. It is also one of the only tests that can determine if the problem is unilateral (one ear) or bilateral (both ears).

SYMPTOMS

- Dizziness
- Feeling off-balance
- Blurred vision
- Disorientation
- Falling or stumbling

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TREATMENT

Treatment for balance and dizziness can one of the following:

- **Medication:**
  - **Antibiotics**
  - **Anti-fungal treatment**
  - **Steroid Injection**
- **Physical Therapy**
- **Surgery Options:**
  - **Labyrinthectomy:** This is procedure is primarily used for Ménière's disease. The balance end organs are removed so the brain no longer receives signals from the inner ear that sense gravity and motion changes.
  - **Vestibular Nerve Section:** This is procedure is primarily used for Ménière's disease. The vestibular branch is cut in one ear to stop the flow of balance information from that ear to the brain. The brain can compensate for the loss of one ear by using one ear to maintain balance.