VESTIBULAR TESTS AND TREATMENTS OFFERED

TESTING FOR VESTIBULAR DISORDERS

Electronystagmography/Videonystagmography (ENG/VNG): ENG/VNG is the most commonly used test to evaluate the vestibular system (balance portions of the inner ear, nerve, and brain). When the head is in motion, the inner-ear balance (vestibular) organs send signals to the eye muscles to keep vision in focus. Therefore, eye movements can be used to evaluate the balance system. Patients are asked to follow a moving light with their eyes and sit and lie in different positions while their eye movements are monitored with infrared goggles. Each ear canal is also irrigated with small amounts of warm and cool water (caloric test) as the patient lies on an examination table. The water causes a temperature change that creates eye movements (nystagmus) that can be measured and compared for each ear. VNG takes approximately 1 – 2 hours.

Rotary Chair Test: Rotary Chair can be used to test patients of all ages, including infants. Patients sit in a chair in a small, dark booth. Small children and infants sit on a parent's lap. During rotary chair a computer-driven chair rotates gently back and forth. This motion stimulates the inner balance system and causes eye movements (nystagmus) that are recorded by infrared goggles or electrodes placed near the eyes. Rotary chair testing is appropriate for patients who cannot have caloric testing completed (due to ear drum perforation or ear canal malformation), children < 5 years of age or patients who have known (or suspected) bilateral vestibular loss. Rotary chair takes approximately 30 minutes.

Computerized Dynamic Posturography (CDP): Posturography evaluates the relationship between the three parts of the balance system; vestibular (inner ear and brainstem), vision, and proprioception (sensors in muscles and joints). This test may be used to evaluate functional balance in adults and older children. During posturography, the patient stands barefoot on a small platform surrounded on three sides by a padded wall. The platform and wall move slightly and the patient is asked to maintain balance while wearing a safety harness for support. A computer records the patient's shift in body weight and sway and these results are analyzed for patterns of imbalance. Posturography results should be interpreted in conjunction with the results of other clinical and vestibular tests. Posturography takes approximately 30 minutes.

Vestibular Evoked Myogenic Potential (VEMP): VEMP can be used to test patients of all ages. The VEMP test is a muscle response test where sound stimulates the balance part of the ear and muscle responses are then measured. There are two types of VEMP responses: cervical and ocular. Cervical VEMP are measured on the neck while ocular VEMP are measured under the eyes. During VEMP testing, patients lie on a table and either lift their head up or look up while listening to loud clicking sounds. VEMP takes approximately 30 minutes.

Video Head Impulse Testing (vHIT): vHIT is a measure of how the semicircular canals in the inner balance system work. During vHIT, patients wear tight fitting goggles. The examiner stands behind the patient and moves their head quickly back and forth.
TREATMENT AND REHABILITATION

**Vestibular Rehabilitation:** This includes an assessment of balance; available range of motion, strength, sensation, walking tests, motion sensitivity, and balance strategies patients use to catch themselves. Computerized balance/ head and eye movement assessments may be used depending on patient need and tolerance. The integration of systems responsible for balance is assessed and optimized with specific exercises for each patient. Specific exercises are tailored to the patient depending on their responses. Home exercise programs are instructed, demonstrated and patients are given written and picture home program sheets to take home and utilize daily in a safe place or with supervision. Return appointments are recommended per individual patient need for monitoring and treatment progression. Typical follow-up is every 2 – 3 weeks.

**Canalith Repositioning Maneuvers:** This procedure is used to treat benign paroxysmal positional vertigo (BPPV), the most common cause of dizziness. BPPV is an intense, but brief, spinning sensation that is caused when particles in one part of the inner ear balance system (the utricle) break away and float into the adjacent balance canals. BPPV is suspected when head tilt or specific changes in body position trigger an intense spinning sensation that lasts only seconds. BPPV can be diagnosed from the VNG test battery. Treatment involves a series of specialized head maneuvers that direct the particles back into their correct position in the inner ear. In the majority of cases, only one clinical visit is needed to stop all symptoms. In rare instances, the patient needs to return for further CRP treatment.

**ENT Physician Evaluation:** Comprehensive evaluation specific to balance and dizziness consisting of review of symptoms, previous testing, and recommendations for treatment and additional evaluations.