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Why get vestibular tests ?

1. Vestibular tests are tests of function. Their purpose is to determine if there is something wrong with the vestibular portion of the inner ear. If dizziness is not caused by the inner ear, it might be caused by disorders of the brain, by medical disorders such as low_blood_pressure, or by psychological problems such as anxiety. Recent studies have suggested that vestibular tests are more accurate than clinical examination in identifying inner ear disorders (Gordon et al, 1996). Hearing pathway tests (audiometry, ABR, ECOG) can also be used for the same purpose, and are frequently combined with vestibular tests. In a cost-effectiveness analysis for evaluation for vertigo it was concluded that hearing testing followed by either posturography or ENG (electronystagmography) was the most effective method (Stewart et al, 1999).
2. To detect central disorders. Recent studies have suggested that internuclear ophthalmoplegia, a central eye movement disorder, is missed by 71% of physicians unaided by quantitative oculomotor testing (Frohman et al, 2003).
3. To decide if more expensive tests like MRI (Magnetic Resonance Imaging) are needed. Vestibular testing is more accurate than clinical symptoms in predicting whether neuroimaging tests will be abnormal.(Levy and Arts, 1996)
4. To document objectively vestibular conditions such as_BPPV and Perilymph_fistula, which commonly occur after head injury, vestibular_neuritis, and Gentamicin ototoxicity, which commonly is a side effect of medication.

The purpose of the ENG is to determine whether or not dizziness may be due to inner ear disease. There are four main parts to the ENG. The **calibration test** evaluates rapid eye movements. The **tracking test** evaluates movement of the eyes as they follow a visual target. The **positional test** measures dizziness associated with positions of the head. The **caloric test** measures responses to warm and cold water circulated through a small, soft tube in the ear canal.

The ENG test is the gold-standard for diagnosis of ear disorders affecting one ear at a time. For example, the ENG is excellent for diagnosis of vestibular neuritis. The ENG is also useful in diagnosis of BPPV and bilateral vestibular loss, although the rotatory chair test is better at the diagnosis of bilateral vestibular disorders than is the ENG. The calibration and tracking tests are intended to diagnose central nervous system disorders, such as cerebellar degenerations. These tests are generally insensitive compared to an examination by a neurologist or an MRI scan. ENG, however, is much less expensive than an MRI in most institutions.

Patients Scheduled For Vestibular Testing (ENG):

This is a test of balance function. As done at the University, several separate parts may be performed. All are very simple and not unpleasant. The balance systems of the ear and the brain are evaluated by recording eye movements in response to changes in head position, viewing moving objects, motion of the body, or thermal stimuli (warm or cold) applied to the ear canal. Recording electrodes, which are placed with tape on the face, are used to measure these movements. Recordings are made in the light and the dark with the eyes open. A more detailed explanation will be given during each portion of the test.