POLYCLINIC
FAMILY AND SPECIALTY MEDICINE
2 Champagne Drive, Unit B17, Toronto, ON M3J 2C5
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INNER EAR TESTING INFORMATION SHEET

What is the Vestibular System?

The vestibular system provides a function of balance, coordination and orientation in space.

What is Dizziness?

Dizziness is a symptom caused by vestibular system disorders. Dizziness or imbalance can be related to:

impaired vision
ear diseases
abnormal blood pressure
abnormal blood sugar levels,
hormonal disorders
pain in muscles and joints
neurological diseases

Because of these multiple causes, dizziness can present as unsteadiness when walking or turning quickly, sensation of falling or imbalance with fast head movements, spinning when turning in bed, bending down or looking up, or recurrent falls and stumbling. Successful treatment of dizziness requires an accurate diagnosis of its origins. Polyclinic provides comprehensive evaluation of balance disorders.

What Tests can be done to Diagnose Vestibular Diseases?

Video-Nystagmography (VNG)

The Gold standard test allows objective, computerized evaluation of balance function. In VNG testing we use special googles with infra-red video cameras for recording eyes movements in different conditions, which designed to reproduce the symptoms of dizziness and therefore to clarify their cause. Monitoring of eye movements allows performance of specific treatment maneuvers for different variants of positional vertigo – the most common cause of dizziness caused by ear disorder.

Auditory Brainstem Response (ABR)

This test is non-invasive and evaluates the integrity of the hearing system up to the brainstem.

Electrocochleography (ECochG)

This test measures the electrical potentials in the inner ear. It is primarily used to diagnose Ménière's disease particularly, cochlear hydrops.

Vestibular Evoked Myogenic Potential (oVEMP) or (cVEMP)

This test measures the electrical potentials of the utricle in the inner ear. It can provide additional diagnostic information; especially diagnose Ménière's disease and superior canal dehiscence.

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How to Prepare Yourself Before the Test?

- Please arrive 15 min your scheduled time, you will be required filling dizziness evaluation forms.
- Please call at least 48 hours before you appointment if you need to cancel it.
- Do not stop any important medications as for Blood Pressure, Heart or Diabetes.
- Do not use any face cream, foundations or make up before the tests.
- The duration of the inner ear (3) tests is one hour and for VNG is about 45 minutes.
- Inner ear testing does not cause dizziness. VNG testing may reproduce dizziness sensation, which will subside by the end of your evaluation and will not make your condition any worse. You can arrive with accompanying person for your support in driving home.
- Results will be discussed with an ENT Specialist.

What You Should Expect on the Day of Your Tests?

Auditory Brainstem Response (ABR)
The electrodes are placed on the forehead and ears, and the click stimulus is delivered by earphones. The test records the electrical activity from the auditory pathway. You do not need to respond to sounds and are required to sit relaxed with your eyes closed.

Electrocochleography (ECochG)
The electrodes are placed on the forehead, behind both ears, and a flexible non invasive TM electrode should be inserted deep in your ear canals. Then the click stimulus is presented through the earphones. The test records the electrical activity from the inner ear. You do not need to respond to sounds and are required to sit relaxed with your eyes closed.

Vestibular Evoked Myogenic Potential (oVEMP)
The electrodes are placed under the eyes, the forehead, and the chin. The click stimulus is presented through the earphones. Then you are asked to look slightly upward and the machine will record the electrical potentials.

Vestibular Evoked Myogenic Potential (cVEMP)
The electrodes are placed on the forehead, behind both ears and on the contracted neck muscle with the patient turning his head sharply in the opposite direction of the stimulated ear. The click stimulus is presented through ear phones.