

Diagnosis of Inner Ear Using Videonystagmography (VNG) Technology

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DESCRIPTION

Videonystagmography (VNG) is a technology for testing inner ear and central motor functions. It is a process which is also known as vestibular assessment. Individuals who have balance and stability issues should have a diagnostic test called a Videonystagmography. In order to track eye movements during visual stimulation and location changes, infrared goggles are used. By using VNG, it is possible to distinguish between inner ear diseases, such as Benign Paroxysmal Positional Vertigo (BPPV), and other causes of dizziness, such as low blood pressure or anxiety. When performing vestibular testing which depends on eye movements, defects in the ocular motor system may result in false positive results. Spontaneous nystagmus that reduces or disappears with fixation suggests a peripheral vestibular disease.

This VNG test is the latest advancement in the technology of optics that takes the help of the camera to track the eye movement to identify the positional changes. Neural pathways connect the balance mechanism of the inner ear and the muscles of eye. Disorder in the balance mechanism can lead to quick eye movements. VNG test is the best solution to detect such issue. During this test, mainly for vertigo, a patient is required to wear a pair of glasses in which the camera is attached. Eye movements of patients are recorded with the help of inbuilt video sensitive camera. The camera even traces the moving lights. Cool and warm airs are inserted into the ear during the VNG test for dizziness. This helps in determining whether the balance is responding to temperature stimulation or not.

Another portion of the test requires the patient to sit in several different positions, such as lying flat staring up, head to the right and left, body rolled to the right and left, etc. The final part of the VNG testing requires caloric response testing. Patients should undergo a hearing test before and the results obtained from the VNG test like hearing, balance function of the inner ear are correlated. The hearing test is must to assess the condition before going for a VNG test for vertigo. Some kind of dizziness is caused during the process of VNG testing, which generally settles in a few minutes. It makes critical for an optician to measure the physiological response to the symptom. Some patients may even face prolonged dizziness. VNG test will take 60-90 minutes approximately for a patient to set free.

Some of the instructions are to be followed before going for a VNG test for the dizziness, to ensure the most accurate results of the VNG test. Some of them are as follows,

- Certain medicines should be avoided 48 hours before the VNG test. It includes sleeping pills, diuretics, tranquilizers, sedatives, antihistamines, muscle relaxants, anti-dizziness medications, barbiturates, anti-depressants, anti-anxiety medications and pain medications. Consult doctor before stopping the medications and going for test.
- Alcohol should be completely avoided 48 hours prior going for test.
- Intake of food and beverages should be completely avoided 4 hours before undergoing for VNG test.
- Smoking is completely prohibited before 3 hours of test.

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