

ENG/VNG: Useful?

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Useful, but Limited

Videonystagmography (VNG), or Electronystagmography (ENG), is the most common method of vestibular evaluation and is available in many audiology and ENT offices. A VNG or ENG examination is not a comprehensive vestibular or balance assessment, but is often described as such on clinic websites. The VNG/ENG exam is one component of a comprehensive evaluation, but many vestibular disorders and balance disorders cannot be identified through this test alone.

ENG/VNG is very important and a logical starting point for most patients with undiagnosed vertigo or imbalance. The advantages of ENG/VNG over other vestibular tests include the ability to:

1. Document nystagmus for analysis: While it is possible to visualize some types of nystagmus with the naked eye, VNG/ENG systems allow the eye to be viewed while the patient is in total darkness. One of the most useful clinical signs of nystagmus associated with an inner ear disorder is the fact that the nystagmus increase in total darkness, and decrease when the patient has the ability to focus on anything in their visual field. Bottom line, without this equipment, many patients that present with clear nystagmus when using this equipment, will not display any nystagmus when they are examined in a primary care office or emergency room for dizziness.
2. Examine cerebellar modulated voluntary eye movements: By recording eye movements and converting them into tracings, the eye speed, reaction time, direction and amplitude of eye movements can be quantified. Sensitive software measures voluntary eye movements against age matched norms, and assists in determining whether a patient has abnormal eye tracking abilities, which are suggestive of possible cerebellar disorders. Cerebellar disorders are associated with poor balance and incoordination. Abnormalities on this portion of the VNG/ENG exam suggest the need for neurological consultation.
3. Test one labyrinth at a time, which helps to localize the side of the lesion: All other vestibular function tests that involve moving or positioning the patient stimulate both ears simultaneously. The caloric portion of the VNG/ENG exam tests only one ear at a time, so an assessment can be made of the individual function or contribution of one labyrinth at a time.
4. The Dix-Hallpike exam is part of the VNG/ENG battery: By far, the most useful portion of the battery is the Dix-Hallpike exam, because it is the best test for diagnosing Benign Paroxysmal Positional Vertigo (BPPV). BPPV is the most common and easily treated cause of dizziness, yet the vast majority of patients with this condition never get the appropriate test or effective treatment.