

Physical Therapy Evaluation for Dizziness and Postural Instability

Author: Mike Studer, PT, MHS, NCS, CEEAA

Fact Sheet

When information from one or both inner ears is reduced or absent, the brain becomes increasingly dependent on other forms of sensory information, such as visual and somatosensory input. Damage or loss of inner ear input can result in a wide range of symptoms including imbalance, dizziness, vertigo, nausea, motion sensitivity, and blurred vision.

A physical therapist specializing in vestibular treatment can best help with the differential diagnosis and evidence-based treatment of individuals with dizziness, vertigo, and unsteadiness. Components of a specialized examination, with some specific examples, are listed below:

- **Oculomotor and vestibulo-ocular testing**
 - Dynamic Visual Acuity – investigating the nervous system organization of head and eye motion, through the vestibulo-ocular reflex.^{1,2}
- **Positional and movement testing**
 - Dix-Hallpike – test for benign paroxysmal positional vertigo (BPPV).³
 - Motion Sensitivity Quotient – objectively documenting the relative sensitivity of various movements and positions on the patient's symptoms of dizziness.⁴
- **Balance assessment**
 - Clinical test of Sensory Integration in Balance (CTSIB) that helps to determine what role each of the three sensory systems (vestibular, visual and somatosensory) are playing in the patient's balance responses.^{5,6}
 - Computerized Dynamic Posturography (CDP) – using a force plate, visual target and moving surround to objectify the patients capabilities to resolve sensory conflict in efforts to balance in standing.⁷
- **Gait evaluation**
 - Dynamic Gait Index (DGI) – used to objectively rate balance in walking and the responsiveness or sensitivity of the vestibular system to everyday activities.⁸
- **Proprioception, kinesthesia, touch, and pressure assessment**
- **Coordination**
- **Range of motion and strength**
- **Postural assessment**

Produced by



A Special Interest
Group of



Contact us:

ANPT

5841 Cedar Lake Rd S.

Ste 204

Minneapolis, MN 55416

Phone: 952.646.2038

Fax: 952.545.6073

info@neuropt.org

www.neuropt.org

a component of



Many pathologies cause vertigo, dizziness, or imbalance – some are listed below. Rely on a trained Vestibular Physical Therapist for the best rehabilitative care of these conditions.

Acoustic neuroma	Bilateral vestibular loss	BPPV
Cervicogenic dizziness	Chronic subjective dizziness	Concussion
Labyrinthitis	Meniere's disease	Meningitis
Migraine	Multisensory disequilibrium	Neuritis
Syphilis		

References:

1. Longridge NS, Mallinson AI. The dynamic illegible E (DIE) test: a simple technique for assessing the ability of the vestibulo-ocular reflex to overcome vestibular pathology. J Otolaryngol. 1987; 16: 97-103.
2. Longridge NS, Mallinson AI. The dynamic illegible E-test. A technique for assessing the vestibulo-ocular reflex. Acta Otolaryngol. 1987; 103: 273-279.
3. Dix R, Hallpike CS. The pathology, symptomatology and diagnosis of certain common disorders of the vestibular system. Ann Otol Rhinol Laryngol. 1952; 6: 987-1016.
4. Shepard NT, Telian SA. Programmatic vestibular rehabilitation. Otolaryngol Head Neck Surg. 1995; 112: 173-182.
5. Shumway-Cook A, Horak FB. Assessing the influence of sensory interaction of balance: suggestion from the field. Phys Ther. 1986; 66: 1548-1550.
6. Horak FB. Clinical measurement of postural control in adults. Phys Ther. 1987; 67: 1881-1885.
7. Black FO. Clinical status of computerized dynamic posturography. Curr Opin Otolaryngol Head Neck Surg. 2001;9:314-318.
8. Shumway-Cook A, Woollacott M. Motor Control: Theory and Practical Applications. 1st ed. Baltimore, MD: Williams and Wilkins; 1995.

Produced by



a Special Interest
Group of



a component of

