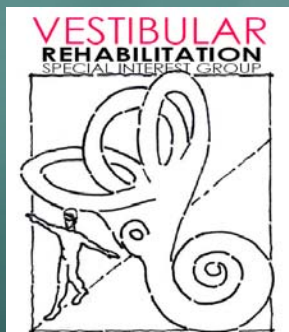


Physical Therapy Treatment for Patients with Dizziness and Postural Instability

FACT SHEET



Author: Shannon L Hoffman, PT, DPT



Individuals with vestibular disorders may experience varying levels of dizziness and postural instability. Following a thorough evaluation, physical therapists trained in vestibular rehabilitation will design individualized exercise programs to address these complaints. Studies have shown that customized and supervised exercises, such as those provided by a physical therapist, are more beneficial than unsupervised or general fitness exercises for people with vestibular disorders.¹⁻⁴

Goals of Physical Therapy Treatment Goals for vestibular rehabilitation include (1) improving complaints of visual disturbance with head movement, (2) improving static and dynamic balance, (3) decreasing fall risk, (4) reducing general complaints of dizziness, (5) resolving positional vertigo, (6) increasing participation in functional and social activities, and (7) improving overall fitness.

Physical Therapy Exercises Exercises for the treatment of dizziness and postural instability are based on the principles of adaptation, substitution, and habituation. Recovery of gaze and postural stability after vestibular insult is supported by the ability of the remaining vestibular system to *adapt* its response to relevant stimuli. In some cases, it is necessary to encourage the use of other systems or strategies to *substitute* for lost or decreased vestibular function. For individuals who experience position- and movement-induced dizziness, *habituation* exercises are indicated to decrease their response to provoking stimuli. Additional exercises may also be prescribed to address other impairments that may be affecting a person's stability, such as decreased lower extremity strength and flexibility.

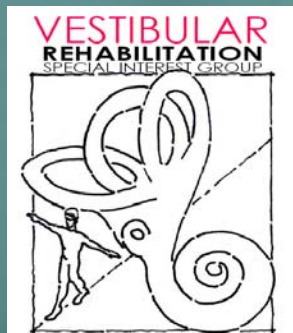
Treatment Frequency and Duration The frequency and duration of physical therapy treatment depends on the individual and his or her pathology. Typically, a physical therapist will design a home exercise program for the patient to perform daily. The patient will then return to the physical therapist periodically over several weeks. During these visits, the therapist will assess the patient's response to treatment and advance the home program.

Patients with BPPV Treatment of patients with benign paroxysmal positional vertigo (BPPV) by a trained physical therapist includes performing the appropriate canalith repositioning procedure or liberatory maneuvers. For those patients with additional complaints of postural instability, exercises to improve postural control



1111 North Fairfax Street
Alexandria, VA 22314-1488
Phone: 800-999-2782,
Ext 3237
Fax: 703-706-8578
Email: neuro@apta.org
www.neuropt.org

Physical Therapy Treatment for
Patients with Dizziness and Postural
Instability



may also be prescribed. Patients with BPPV typically recover in fewer treatments compared to patients with other vestibular disorders.

When to Begin Physical Therapy Treatment Although evidence suggests that early treatment is preferable in certain cases,⁵ studies have also shown that patients with chronic vestibular dysfunction can still benefit from vestibular rehabilitation.^{6,7} Furthermore, age does not seem to be a factor that affects recovery.⁸

Non-vestibular Causes of Dizziness and Postural Instability Patients with dizziness and imbalance related to non-vestibular disorders such as migraine,^{9,10} mal de debarquement,^{11,12} cervicogenic dizziness,^{13,14} and disuse disequilibrium¹⁵ may also benefit from physical therapy.

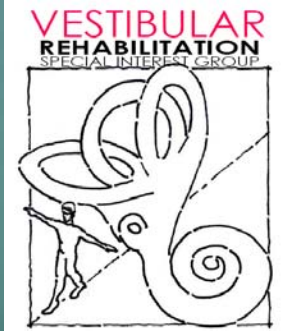
References:

1. Horak FB, Jones-Rycewicz C, Black FO, Shumway-Cook A. Effects of vestibular rehabilitation on dizziness and imbalance. *Otolaryngol Head Neck Surg.* 1992;106:175-180.
2. Krebs DE, Gill-Body KM, Riley PO, Parker SW. Double-blind, placebocontrolled trial of rehabilitation for bilateral vestibular hypofunction: preliminary report. *Otolaryngol Head Neck Surg.* 1993;109:735-741.
3. Shepard NT, Telian SA. Programmatic vestibular rehabilitation. *Otolaryngol Head Neck Surg.* 1995;112:173-182.
4. Szturm T, Ireland DJ, Lessing-Turner M. Comparison of different exercise programs in the rehabilitation of patients with chronic peripheral vestibular dysfunction. *J Vestib Res.* 1994;4:461-479.
5. Herdman SJ, Clendaniel RA, Mattox DE, Holliday MJ, Niparko JK. Vestibular adaptation exercises and recovery: acute stage after acoustic neuroma resection. *Otolaryngol Head Neck Surg.* 1995;113:77-87.
6. Giray M, Kirazli Y, Karapolat H, Celebisoy N, Bilgen C, Kirazli T. Short-term effects of vestibular rehabilitation in patients with chronic unilateral vestibular dysfunction: a randomized controlled study. *Arch Phys Med Rehabil.* 2009;90:1325-31.
7. Telian SA, Shepard NT, Smith-Wheelock MS, Kemink JL. Habituation therapy for chronic vestibular dysfunction: preliminary results. *Otolaryngol Head Neck Surg.* 1990;103:89-95.
8. Whitney SL, Wrisley DM, Marchetti GF, et al. The effect of age on vestibular rehabilitation outcomes. *Laryngoscope* 2002, 112:1785-1790.
9. Whitney SL, Wrisley DM, Brown KE, Furman JM. Physical therapy for migraine-related vestibulopathy and vestibular dysfunction with history of migraine. *Laryngoscope.* 2000;110:1528-1534.
10. Wrisley DM, Whitney SL, Furman JM. Vestibular rehabilitation outcomes in patients with history of migraine. *Otol Neurotol.* 2002;23:483-487.
11. Cha YH, Brodsky J, Ishiyama G, Sabatti C, Baloh RW. Clinical features and associated syndromes of mal de debarquement. *J Neurol.* 2008;255:1038-1044.
12. Hain TC, Hanna PA, Rheinberger MA. Mal de debarquement. *Arch Otolaryngol Head Neck Surg.* 1999;125:615-620.
13. Malmström EM, Karlberg M, Melander A, Magnusson M, Moritz U. Cervicogenic dizziness - musculoskeletal findings before and after treatment and long-term outcome. *Disabil Rehabil.* 2007;29:1193-205.



1111 North Fairfax Street
Alexandria, VA 22314-1488
Phone: 800-999-2782,
Ext 3237
Fax: 703-706-8578
Email: neuropt@apta.org
www.neuropt.org

Physical Therapy Treatment for
Patients with Dizziness and Postural
Instability



14. Wrisley DM, Sparto PJ, Whitney SL, Furman JM. Cervicogenic dizziness: a review of diagnosis and treatment. *J Orthop Sports Phys Ther.* 2000;30:755-66.
15. Campbell AJ, Robertson MC, Gardner MM, Norton RN, Tilyard MW, Buchner DM. Randomised controlled trial of a general practice program of home based exercise to prevent falls in elderly women. *BMJ.* 1997;315:1065-1069.

Additional Suggested Reading

Black FO, Pesznecker SC. Vestibular adaptation and rehabilitation. *Curr Opin Otolaryngol Head Neck Surg.* 2003;11:355-360.

Herdman SJ. *Vestibular Rehabilitation.* 3rd ed. Philadelphia: F.A. Davis Company; 2007.



1111 North Fairfax Street
Alexandria, VA 22314-1488
Phone: 800-999-2782,
Ext 3237
Fax: 703-706-8578
Email: neuropt@apta.org
www.neuropt.org