Why Refer a Patient with an Acute Vestibular Disorder to a Physical Therapist

Author: Susan L. Whitney, PT, PhD, DPT, NCS, FAPTA

Fact Sheet

A review of the literature suggests that physical therapy intervention for patients with vestibular disorders is beneficial.

- A meta-analysis of 39 studies suggested that there was moderate to strong evidence that vestibular rehabilitation is a safe and effective intervention for persons with peripheral vestibular disorders.¹
- For persons with unilateral vestibular loss, significant differences in postural control were found in participants in a vestibular rehabilitation program compared to a control group.²⁻⁴
- Repositioning maneuvers are effective, improve quality of life, reduce falls, and improve gait speed in people, especially older adults, who experience Benign Paroxysmal Positional Vertigo (BPPV).⁵⁻¹⁰
- Persons over the age of 70 with dizziness complaints who received vestibular exercises demonstrated significant improvements in dizziness and balance confidence at 3 weeks and 3 months compared to a no-intervention group.¹¹
- A recent clinical practice guideline about acute vestibular syndromes suggests
 that there is strong evidence of substantial benefit of vestibular rehabilitation in
 persons with unilateral and bilateral peripheral vestibular loss (hypofunction).¹²

Early physical therapy intervention has demonstrated additional benefit.

- People who started early physical therapy (within the first 2 weeks of symptom onset) had better functional outcomes (less dizziness) plus higher VOR gains than those referred between 2-4 weeks or after 4 weeks^{13,14}
- Dizziness severity and quality of life measures were predicted by when the balance exercises were initiated, with earlier treatment relating to less dizziness and better quality of life outcomes.¹⁵
- People with late intervention for BPPV were more likely to experience residual dizziness.¹⁶⁻¹⁸
- Animal studies have suggested that there may be a critical period whereby immobilization has a negative impact on recovery from a vestibular deficit.^{19,20}
- Early vestibular exercises in persons with an acute vestibular disorder resulted in better Dizziness Handicap Inventory scores (less dizziness), less anxiety, less reliance on visual cues, and better gait.²¹
- Quality of life improve after vestibular rehabilitation in persons with vestibular disorders.^{5,12,22}

Produced by



A Special Interest Group of



Contact us:

ANPT
1935 County Rd. B2 W.
Ste 165
Roseville, MN 55113
Phone: 952.646.2038
info@neuropt.org
www.neuropt.org

a component of



This is for informational and educational purposes only. It should not be used as a substitute for clinical decision making. The Academy of Neurologic Physical Therapy and its collaborators disclaim any liability to any party for any loss or damage by errors or omissions in this publication. The views or opinions expressed are those of the individual creators and do not necessarily represent the position of the Academy of Neurologic Physical Therapy.

© 2023 Academy of Neurologic Physical Therapy

In summary, early exercise appears to decrease dizziness, prevent long term complications such as anxiety, improve quality of life, decrease your patient's chance of falling, and improve balance confidence. Acute physical therapy intervention appears to be a safe and efficacious treatment for persons with vestibular disorders.

References:

- McDonnell MN, Hillier SL. Vestibular rehabilitation for unilateral peripheral vestibular dysfunction. *Cochrane Database Syst Rev.* 2015;1:Cd005397.
- David EA, Shahnaz N. Dynamic posturography after computerized vestibular retraining for stable unilateral vestibular deficits. Acta Otolaryngol. 2023;143(5):396-401.
- David EA, Shahnaz N. Durable improvement in participant-reported measures of disability and objective posturography after computerized vestibular retraining. *NeuroRehabilitation*. 2023;52(2):279-287.
- Strupp M, Arbusow V, Maag KP, Gall C, Brandt T. Vestibular exercises improve central vestibulospinal compensation after vestibular neuritis. *Neurology*. 1998;51(3):838-844.
- 5. Bhattacharyya N, Gubbels SP, Schwartz SR, et al. Clinical Practice Guideline: Benign Paroxysmal Positional Vertigo (Update). *Otolaryngol Head Neck Surg*. 2017;156(3_suppl):S1-s47.
- Celebisoy N, Bayam E, Güleç F, Köse T, Akyürekli O. Balance in posterior and horizontal canal type benign paroxysmal positional vertigo before and after canalith repositioning maneuvers. *Gait Posture*. 2009;29(3):520-523.
- 7. Pauwels S, Casters L, Lemkens N, et al. Gait and Falls in Benign Paroxysmal Positional Vertigo: A Systematic Review and Meta-analysis. *J Neurol Phys Ther.* 2023;47(3):127-138.
- Donovan J, De Silva L, Cox H, Palmer G, Semciw AI. Vestibular dysfunction in people who fall: A systematic review and meta-analysis of prevalence and associated factors. *Clin Rehabil*. 2023:2692155231162423.
- 9. Ganança FF, Gazzola JM, Ganança CF, Caovilla HH, Ganança MM, Cruz OL. Elderly falls associated with benign paroxysmal positional vertigo. *Braz J Otorhinolaryngol.* 2010;76(1):113-120.
- Pauwels S, Casters L, Lemkens N, et al. Gait and Falls in Benign Paroxysmal Positional Vertigo: A Systematic Review and Meta-analysis. J Neurol Phys Ther. 2023.
- 11. Jung JY, Kim JS, Chung PS, Woo SH, Rhee CK. Effect of vestibular rehabilitation on dizziness in the elderly. *Am J Otolaryngol.* 2009;30(5):295-299.
- 12. Hall CD, Herdman SJ, Whitney SL, et al. Vestibular Rehabilitation for Peripheral Vestibular Hypofunction: An Updated Clinical Practice Guideline From the Academy of Neurologic Physical Therapy of the American Physical Therapy Association. *J Neurol Phys Ther.* 2022;46(2):118-177.
- Lacour M, Tardivet L, Thiry A. Posture Deficits and Recovery After Unilateral Vestibular Loss: Early Rehabilitation and Degree of Hypofunction Matter. Front Hum Neurosci. 2021;15:776970.
- 14. Lacour M, Thiry A, Tardivet L. Two conditions to fully recover dynamic canal function in unilateral peripheral vestibular hypofunction patients. *J Vestib Res.* 2022;31(5):407-421.
- 15. Bamiou DE, Davies RA, McKee M, Luxon LM. Symptoms, disability and handicap in unilateral peripheral vestibular disorders. Effects of early presentation and initiation of balance exercises. *Scand Audiol.* 2000;29(4):238-244.
- 16. Faralli M, Lapenna R, Giommetti G, Pellegrino C, Ricci G. Residual dizziness after the first BPPV episode: role of otolithic function and of a delayed diagnosis. *Eur Arch Otorhinolaryngol*. 2016;273(10):3157-3165.
- 17. Ke Y, Ma X, Jing Y, Diao T, Yu L. Risk factors for residual dizziness in patients with benign paroxysmal positional vertigo after successful repositioning: a systematic review and meta-analysis. *Eur Arch Otorhinolaryngol.* 2022;279(7):3237-3256.
- 18. Seok JI, Lee HM, Yoo JH, Lee DK. Residual dizziness after successful repositioning treatment in patients with benign paroxysmal positional vertigo. *J Clin Neurol*. 2008;4(3):107-110.
- Igarashi M, Levy JK, T OU, Reschke MF. Further study of physical exercise and locomotor balance compensation after unilateral labyrinthectomy in squirrel monkeys. *Acta Otolaryngol.* 1981;92(1-2):101-105.
- 20. Lacour M. [Relearning and critical postoperative period in the restoration of nerve function. Example of vestibular compensation and clinical implications]. *Ann Otolaryngol Chir Cervicofac.* 1984;101(3):177-187.
- 21. Teggi R, Caldirola D, Fabiano B, Recanati P, Bussi M. Rehabilitation after acute vestibular disorders. *J Laryngol Otol.* 2009;123(4):397-402.

Produced by



a Special Interest Group of



a component of



This is for informational and educational purposes only. It should not be used as a substitute for clinical decision making. The Academy of Neurologic Physical Therapy and its collaborators disclaim any liability to any party for any loss or damage by errors or omissions in this publication. The views or opinions expressed are those of the individual creators and do not necessarily represent the position of the Academy of Neurologic Physical Therapy.

© 2023 Academy of Neurologic Physical Therapy