

PICO Question: In patients with vertigo due to peripheral vestibular impairments, does the addition of vestibular-specific exercises to standard medical care result in reduced symptoms of imbalance and increased functional mobility?

Vestibular disorders can cause dizziness, imbalance and gait problems leading to increased risk of falls.¹⁻³ Peripheral vestibular impairments are most commonly seen in physical therapy environment and tend to have better prognosis than central lesions.² Vestibular rehabilitation (VR) aims to maximize the central nervous system compensation at vestibular nuclei and other CNS levels.² This is accomplished through exercises to promote habituation of stimuli that trigger vertigo, gaze adaptation exercises to increase vestibular-ocular reflex gain through retinal stabilization during head movements, repositioning techniques and substitution exercises that utilize other intact sensory systems to offset vestibular loss to improve static and dynamic balance.²

Eight studies were reviewed to determine the efficacy of VR and to investigate whether vestibular therapy in patients with peripheral vestibular impairments results in reduced imbalance and improved functional mobility as compared to patients who receive standard medical care. The studies analyzed included a case study, two quasi-experimental studies, a cross-sectional study and four randomized control trials.

The majority of studies concluded that vestibular rehabilitation is effective in reducing symptoms of vertigo and improving balance and functional mobility in patients with acute and chronic peripheral vestibular dysfunction.^{1,3-9} Additionally, subjects demonstrated greater reductions in vertigo symptoms and imbalance and improved functional mobility and ADL performance compared to patients who received standard medical care.^{4,6,7,9} Further, improvement in gait stability is more rapid and vertigo reoccurrence rate more greatly reduced after VR compared to patients receiving standard medical care.^{4,8} Clinically, the results of these studies suggest that provided the patients do not have contraindications, VR should be provided over standard medical care to patients with peripheral vestibular dysfunction.

There is some disagreement about the most appropriate form of VR for patients with peripheral vestibular dysfunction. VR has demonstrated efficacy using both individualized and therapist directed and supervised sessions as well as in home exercise plan (HEP) only VR sessions. Clinically, the type of VR provided to the patient will depend on the severity of their symptoms, imbalance and functional mobility. Those patients with more involved vestibular dysfunction will most likely require weekly or biweekly clinic visits directed by physical therapist as well as self-directed HEP.⁷ Patients with less severe dysfunction and better functional mobility and balance may benefit from use of HEP alone with occasional clinic sessions to correct errors and progress therapy.³ Regardless of the type of VR, follow-up phone calls from physical therapists to encourage better compliance and lower drop out rate is recommended.⁷

Further research into comparisons of VR provided in the clinic versus self-directed VR by patient via HEP are needed to better assert an optimal type, frequency and duration of VR treatment program. Additionally, grounded on the limitations of the eight reviewed studies a more homogenous subject population in future investigations may be better able to provide stronger support for VR efficacy and give better clinical guidelines of efficacy among specific patient groups.

References

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