



Vestibular Rehabilitation

Summary

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Vestibular System

The vestibular system is a complex system that contributes to balance. It is located in the inner ear and brain, which helps to interpret motion. It functions to allow the body to comprehend motion, spatial awareness, and equilibrium. The anatomy includes the saccule, utricle, and semicircular canals. These structures interpret gravity, linear and rotational movement.

Vestibular Dysfunction

Issues with the Vestibular system include but are not limited to:

- Benign Paroxysmal Positional Vertigo (BPPV)
- Vestibular hypofunction
- Vestibular neuritis
- Labrynthitis
- Concussion
- Meniere's disease
- Cervicogenic Dizziness
- Mlgraine associated dizziness
- Persistent Postural Perceptual dizziness

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Symptoms

Symptoms include but are not limited to:

- Vertigo
- Dizziness
- Imbalance
- Falls
- Nausea
- Dizziness induced vomiting
- Lightheadedness
- Difficulty walking in the dark and on uneven ground
- Spinning sensation
- Sensitivity to light and sound
- Difficulty maintaining posture
- Fogginess
- Clumsiness
- Poor spatial awareness
- Motion sickness

Rehabilitation

Vestibular rehabilitation includes evaluation and testing to determine the cause of symptoms. During the evaluation, a certified therapist will conduct a balance and vestibular assessment. In order to complete the assessment, special equipment should be used, including goggles that allows the therapist to see the patient's eyes magnified. The vestibular system is connected to the eye with a reflex that allows the PT to diagnose the dysfunction by assessing eye movements with special tests. Once the vestibular dysfunction is diagnosed, a therapist will use one of the following to rehabilitate the patient affected by vertigo.

- Canalith repositioning
 - There are three canals in both inner ears where crystals (otoconia) can become dislodged. With special testing, a PT will be able to determine if the probability of BPPV. Specific maneuvers to relocate the crystals back to the otoconia can be performed. Once the crystals have returned to the utricle, symptoms should subside.

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- Habituation
 - This technique is used to help dull the effect of dizziness on everyday living. A PT instructs a patient on the proper technique or motion that induces dizziness. By repeating a motion or activity that causes dizziness, the body will be able to control the response it has to the motion in daily living.
- Adaptation
 - During acute phases of a vestibulopathy, adaptation is used to decrease the sensation of vertigo by addressing gaze stabilization, balance, and to lessen dizziness symptoms.
- Balance training
 - A skilled therapist will conduct a patient through challenging activities that retrain the vestibular, visual, and proprioceptive systems of the body. This may include activities that have the patient on uneven surfaces, or with eyes closed to help increase the work of the vestibular system.