

VESTIBULAR

The role of the vestibular system is orient you to gravity and informs your brain of head position and head movements. They also control movements of the eyes that make it possible to see clearly while moving.

AGE-RELATED VESTIBULAR CHANGES INCLUDE:

Overall, there is an age-related decline of peripheral vestibular sensing and the central combination of different sensory signals for balance

- Anatomical studies have shown that the number of nerve cells in the vestibular system decreases after about age 55.**
- Neuronal and hair cell loss are the two biggest effects that aging has on the peripheral vestibular system; affecting both the otolith organs and the semicircular canals.**
- Blood flow to the inner ear also decreases with age.**

A decline in inner ear function may be caused by a number of conditions, including normal aging, benign paroxysmal positional vertigo (BPPV), infection, Meniere's disease, or diminished blood flow to specialized nerve cells.

Additionally, certain medications such as some antibiotics for severe infections and chemotherapy may damage the inner ear, resulting in temporary or permanent hearing loss, impaired balance, and trouble seeing clearly while in motion.

Feelings of dizziness, vertigo, imbalance, and disequilibrium may indicate that the inner ear is not functioning correctly. The gradual, age related loss of vestibular nerve endings can result in balance problems without any associated dizziness. This type of slow loss of vestibular function may be first noticed as difficulty walking or standing, especially in the dark while on soft or uneven surfaces (such as thick carpet or a forest).

TRAINING

A full vestibular assessment should be administered prior to training.

Components of vestibular rehab include:

- 1. Habituation exercises- goal is to reduce symptoms through repeated exposure to specific movements or visual stimuli that provokes dizziness.**
- 2. Gaze stabilization exercises: goal is to improve control of eye movements so vision can be clear with head movements.**
- 3. Balance training: goal is to improve ability to walk on uneven surfaces, turn, walk in the dark or with head turns, bend and reach safely.**