

Vestibular Dysfunctions Make You Dizzy



BODY AWARENESS PHYSICAL THERAPY, INC

The Body Beat

Have you ever experienced dizziness, vertigo or the room spinning when you rolled over in bed, nauseated or too off balance to stand or get out of bed? Have you ever been stopped at an intersection and noticed out of the corner of your eye, the car next to you was moving so you stomped on your brakes because you thought your car was moving only to realize you were not? These are misperceptions of motion, symptoms possibly of a dysfunctional vestibular system.

Dizziness and dysequilibrium (balance deficits) are the primary symptoms of vestibular dysfunction, but other symptoms can include muscle tension, headache, decreased range of motion and/or weakness.

What is the Vestibular System?

It is divided into 3 parts:

1. Your inner ears which house the sensory organs that detect motion (see diagram A) is the peripheral vestibular system,
2. Your brainstem and cerebellum, the central processing system that transmits the information,
3. To your eyes, trunk and limbs (somatosensory) to generate compensatory movement for posture and locomotion.

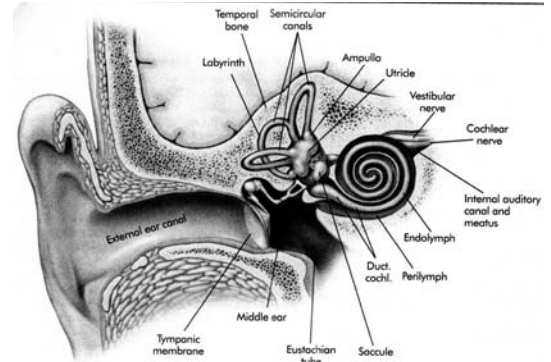


Diagram A

Integration of all three parts is necessary for normal function.

What causes Vestibular Dysfunction?

Benign Paroxysmal Positional Vertigo (BPPV) is the most common cause of dizziness originating in the peripheral vestibular system. One theory is that loose particles, “otoconia” are displaced into the semicircular canals from the utricle. The receptors in the canals, which normally are sensitive to changes in rotational movement, become sensitive to gravity causing the sensation of dizziness/vertigo.

BPPV can result following post surgical procedures, head trauma, whiplash, vestibular neuritis, or the cause can be idiopathic (unknown). It can be unilateral or bilateral. *Continued on page 2*

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Women tend to be affected by BPPV 2.3 times more often than men if idiopathic. It is more common over the age of 40 and is rare in people under 20, peak incidence of onset is in the 5-6th decades of life.

Central vestibular disorders can be caused by vascular disorders such as stroke, brain trauma, tumors of the brainstem or cerebellum, or multiple sclerosis. Longer rehabilitation/slower progress should be expected.

Cervicogenic dizziness due to altered proprioceptive input from the upper 3 cervical vertebral segments in the neck can also cause dizziness.

Meniere's disease is a vestibular system "plumbing problem" causing abnormal inner ear fluid dynamics. Symptoms include recurrent spontaneous spells of intense vertigo lasting usually minutes to hours accompanied by roaring tinnitus (ringing in the ears), ear fullness and hearing loss. It occurs most commonly in 30-60 year olds, women greater than men. The fluctuating nature of this type of vestibular dysfunction makes it less amenable to vestibular rehabilitation.

Perilymphatic fistulas are characterized by pressure changes within the inner ear resulting in hearing loss and dizziness. This condition is not amenable to vestibular rehabilitation.

Reduced peripheral vestibular function can occur from labyrinthitis, vestibular neuritis possibly linked to a viral or bacterial infection, neuromas, or drug toxicity that causes direct damage to the vestibular nerve, labyrinth or hair cells within the inner ear. This may be a unilateral or bilateral, partial or complete loss of function. If there is no asymmetry between sides there may be disequilibrium and gait disturbances, but no vertigo. Vestibular neuritis is the second most common cause of vertigo, targeting adults between the ages of 20 and 60.

There are a multitude of neurological, cardiovascular, metabolic or psychological conditions that can affect the vestibular system so it is important to see your physician if you are experiencing symptoms of dizziness or disequilibrium.

Diagram A: Anatomy of the peripheral vestibular system (Adapted with permission from Hain TC. Hillman MA. Anatomy and physiology of the normal vestibular system. In: Herdman SJ, ed. Vestibular Rehabilitation. Philadelphia, PA: FA Davis Co: 1994:4).

Dizzy? Get the Facts!

- Dizziness/imbalance is the #1 reason for someone over 65 to consult a physician.
- 42% of the population will complain of dizziness/imbalance at least once in their lifetime.
- Dizziness/imbalance is secondary only to headache in prevalence of the complaint.
- Dizziness is a common adverse effect of most medications.
- Vestibular pathology as the cause of dizziness in those less than 65 years of age is 38%.
- Incidence of vestibular dysfunction increases with age to 50-60%.

Any Questions about what you've read? Give us a call directly at (714) 546-7575 in Costa Mesa, (949) 366-3362 in San Clemente or visit our website at www.BodyAwarenessPT.com

Body Awareness Balance Reduces Risk for Falls

Body Awareness Balance is a new program designed to help those at risk for falls. Treatments may include a combination of vestibular rehabilitation, exercise based balance training and group fitness classes, depending on each individual's fall risk factors and causes for dizziness.

Fall Risk Screening is performed on our new state of the art computerized **Biodex Biosway** balance testing system. A quick 3-minute test can determine an individual's risk for falling. A detailed assessment including data from the Biosway differentiates whether dizziness is caused by medication, musculoskeletal, central nervous, vascular, and/or vestibular dysfunction.

Vestibular rehabilitation is a comprehensive assessment and exercise-based approach to manage dizziness and balance disorders. The goal of vestibular rehabilitation is to "retrain" the brain to more effectively process sensory information, integrating visual, vestibular and somatosensory feedback to improve balance and postural stability.

For those at a higher risk for falling without vestibular concerns, one-on-one physical therapy may be beneficial to improve balance. Body Awareness Balance includes a 4 week program ending with a follow up test on the Biosway to determine balance improvements.

Individuals with a lower risk for falling and minimal other health concerns may be interested in our group fitness classes designed specially for active seniors and anyone hoping to improve their overall balance. Balance training includes yoga, Pilates, tai chi and other postural and endurance exercises. Classes are affordable, fun and effective.

Visit our website www.BodyAwarenessPT.com to learn more.

Welcome Jane Galusha to Body Awareness

We are proud to welcome Jane Galusha to the Body Awareness Team in San Clemente. Jane has been practicing as a physical therapist for the past 32 years graduating from the University of Nebraska Medical Center with a B.S. in Physical Therapy. She practiced for the first eight years of her career in southern California, providing rehabilitation for patients with strokes and other neurological disorders. In 1986, Jane relocated to the Seattle area and began practicing in outpatient orthopedics. While in the Northwest, she attended numerous continuing education courses and completed Level III training with the North American Institute of Orthopedic Manual Therapy (NAIOMT). The NAIOMT program offers advanced training in orthopedic manual ther-



apy with a strong emphasis on biomechanics, mobilization/manipulation and the interaction of the extremity with the spine.

Jane's special interest is in musculoskeletal conditions of the spine and extremities, especially the cervical spine and shoulders. She also has expertise in treating vestibular dysfunction, movement impairment strategies, gait analysis and orthotic intervention.

Jane lives in Dana Point since returning to southern California in 2009. She

loves catching up on all the sun, sandy beaches and wonderful weather she has missed, hopes to continue learning to golf, and raise her new Lab pup. Jane has two young adult children that reside in Washington State.



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Fall Risk Screening at Body Awareness

Find out your fall risk level by trying out our new state of the art computerized Biodex Biosway balance testing system.

A quick 3-minute test and short questionnaire determines if you are at a high risk for falling.

Come in to our office for a **FREE** fall risk screening during the month of August (\$35 value)

Would your recreation center, book club or other groups be interested in learning more about fall risks and balance? We can bring Body Awareness Balance to you! Contact Rebecca at info@BodyAwarenessPT.com or (949) 366-3362 to schedule your **FREE** fall risk screening and educational lecture for your group.