

Computerized Dynamic Posturography



The Vestibular Physical Therapist will develop an effective program based on different assessments performed. A balance assessment will be administered focusing on how well the legs are sensing balance and how well the inner ear functions are maintaining balance. A person's center of gravity will also be evaluated to detect any abnormalities. The test used to help assess the individual's balance strategies is called the **computerized dynamic posturography (CDP)**. There's a broad variety of exercises the vestibular therapist can introduce to facilitate recovery. We have found integrating Wii and Wii fit challenges dynamic balance and visual stimulation, at the same time making exercises more enjoyable and competitive.

Wii and Wii Fit



Vestibular Physical Therapists

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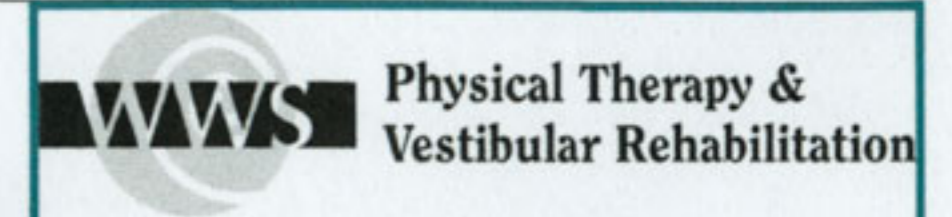


Our therapists are all specially trained to treat Vestibular and Balance issues whether related to inner ear disorder, neurological or multifactorial balance issue. We also provide care for musculoskeletal conditions.

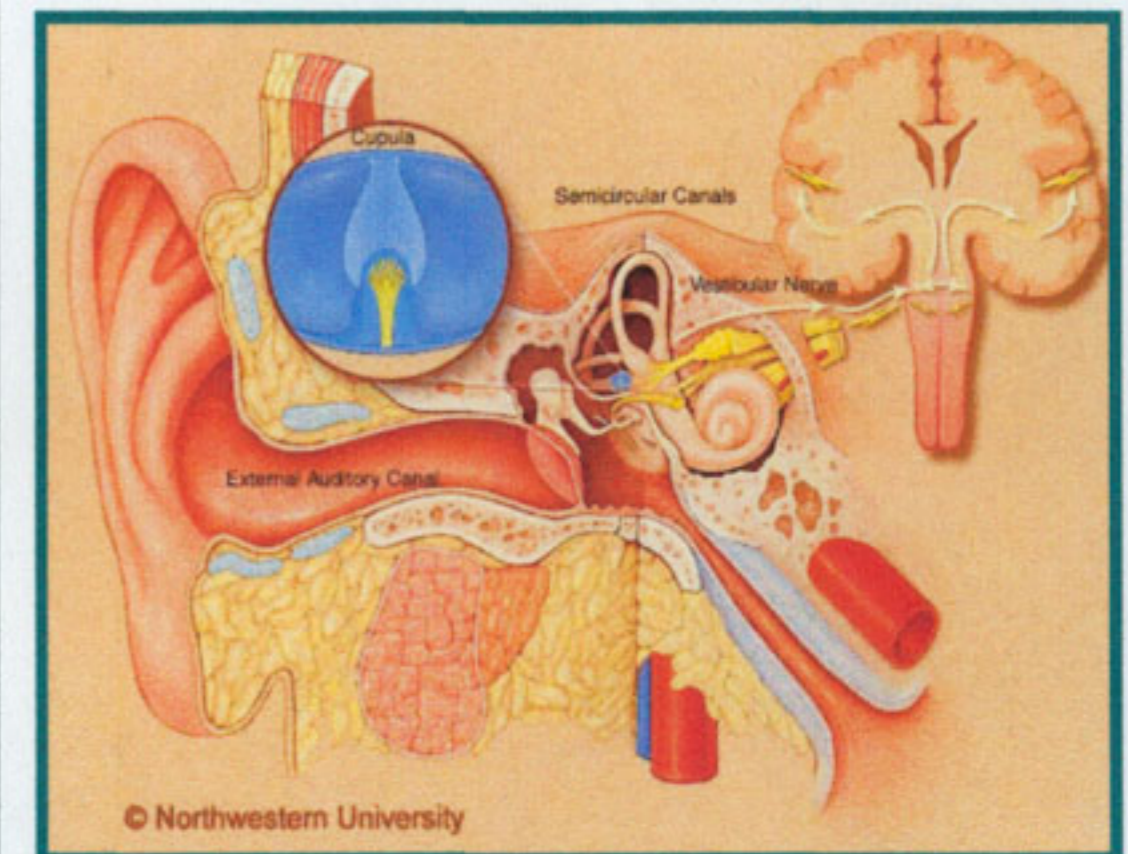
Additional Information:

www.wwspt.com/index.html

www.vestibular.org/



Vestibular Neuritis & Labyrinthitis



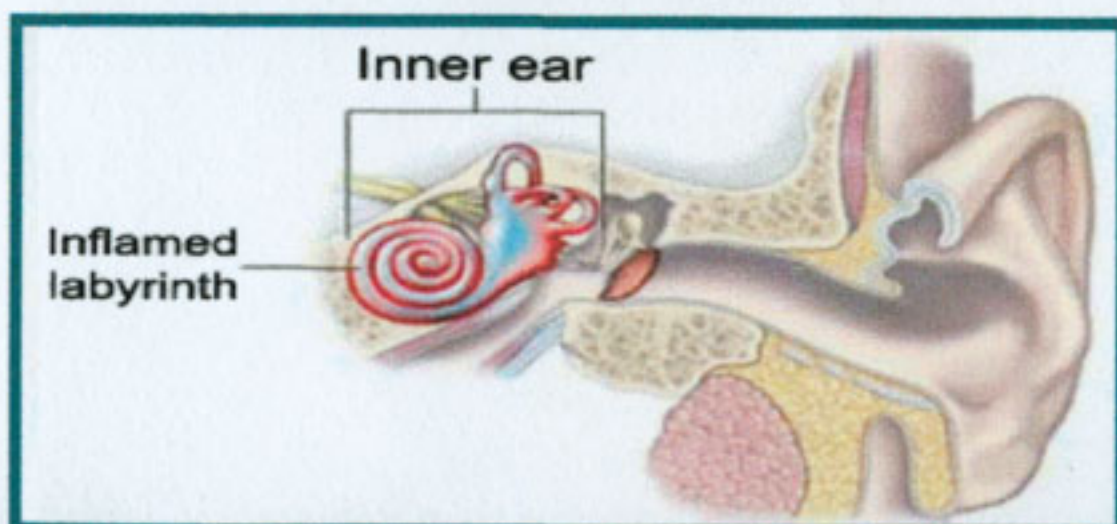
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Vestibular Neuritis & Labyrinthitis

Deep in each inner ear is a very small sense organ the size of your thumb nail. These organs control your ability to balance with daily activities. When this system is working properly there is input from the right and left ear to the brain, to the spine and through the legs to the feet. This system helps us to do all the amazing things your body can do in a normal day. When one of these sense organs is impaired the impulses sent to the brain cause a disruption of the sensory information sent to the brain, causing vertigo or an inability to balance. Anyone who has experienced this knows how disabling it can be.

Vestibular Neuritis also called **neuritis**, is dizziness that is caused by an infection that results in inflammation of one branch of the vestibular nerve, which carries information from the inner ear to the brain. There is a disruption of sensory information being transmitted due to this inflammation in the inner ear. Signs of vertigo, such as dizziness and difficulties with balance, vision or hearing, appear when one of the two nerves is infected and an imbalance between the two sides occurs. Localizing the lesion is difficult and can either occur at the nerve (**neuritis**) or at the sensory neuron of the vestibular neuron (**neuritis**) or viral damage to the brainstem vestibular nucleus.

Labyrinthitis combines all the symptoms of vestibular neuritis with hearing symptoms as well. The cause of Labyrinthitis is also contributed to an infection causing inflammation of both branches of the vestibular nerve.



Symptoms

Both Vestibular Neuritis and Labyrinthitis have similar symptoms. Symptoms can range from nausea, vomiting, and true vertigo to difficulty standing upright and walking awkwardly. In the acute stage, the vertigo can be constant and often people are unable to get out of bed. Within a few days these symptoms subside but can be triggered again by sudden movements such as turning your head. Additionally, many people have trouble walking straight, being in a crowd or food shopping. Lack of concentration develops because your system is working overtime to function, causing exhaustion. Anxiety and depression often result if not treated early. It is a frustrating disorder because patients look healthy but do not feel well. Labyrinthitis can also cause **tinnitus**, ringing or noises in the ear. Activities of daily living are fatiguing or uncomfortable and may cause a feeling of disorientation, "haziness" or "fogginess".

A secondary result of neuritis is BPPV. This is a condition where crystals held in one section of the vestibular organ get displaced into the semicircular canals causing brief episodes of true spinning or vertigo. In some cases disruption of the neural input to the brain can also be caused by migraine or an interruption of blood flow to the ear. In most cases, this condition is caused by a viral infection, rather than loss of blood flow.



Wobble board with foam

Treatment

Vestibular rehabilitation exercises are used to help retrain the brain's ability to adjust to the vestibular imbalance that results from neuritis. The brain is able to alter the faulty signals caused from Vestibular Neuritis or Labyrinthitis through a process called compensation.

There are two groups of exercises. **VOR adaptation exercises** help to coordinate the eyes, ears, and feet. **Habituation exercises** are more associated with patterns of body movements to desensitize the semicircular canals with other portions of the vestibular program.

Acute forms of vestibular neuritis can be treated with medications for symptoms such as nausea and dizziness. These medications can range from anti-nausea, vestibular suppressants or steroids.

The exercises provided by the physical therapist may provide relief immediately, although with some a noticeable difference may not occur for several weeks. Many people generally will continue to do their exercises for several months to maintain their optimum inner ear function, while some people can stop doing their exercises without experiencing any further complications.



The Fitter



Pilates Balance Trainer