Health Medicine

Finding the Balance *in Your Balance System*



By Jenna McLane PT DPT

Is it uncomfortable for you to stand still while having an unexpected conversation? Do you find yourself looking for something sturdy just to rest your

hand on? Perhaps you are second-guessing invitations to picnics or sporting events because walking on the grass is a challenge. Maybe you just find yourself parking closer and closer to the shopping cart corral so that you have something to lean on in order to get into the store.

These are all common behaviors reported in our physical therapy clinic. Not all of our patients come to us because they have vertigo or spinning. Many people who arrive at our clinic report limiting their social activities and the hobbies they enjoy due to feeling less confident on their feet. Not all have fallen; some just experience stumbling and tripping at times.

Balance, your body's ability to keep your center of mass over your base of support, is something we often take for granted until we struggle with it. Physical therapy can be very useful in restoring your balance when it is compromised.

Our bodies rely on peripheral feedback systems to give the brain the information it needs to stay upright and avoid falling down. The three sensory systems include our vision, proprioception, and vestibular systems.

First let's discuss the role your vision plays in balance. Your brain relies on this to get information about how your body fits in the surrounding environment. For example, you see people coming toward you or you see that the ground is uneven up ahead and make adjustments accordingly.

Next, you rely on information from your

Lastly, the vestibular system also provides your brain with information about your movement in space. This is found in your ear, beyond the eardrum. Within the system are five end organs including the utricle, saccule, and three semicircular canals. The utricle and saccule have small hair cells that detect horizontal and vertical acceleration such as riding in a car or going up an elevator.

The fluid-filled semicircular canals detect rotational movement in different planes. When your head turns, both the left and right vestibular systems generate an impulse based on the fluid shift that occurs. This impulse travels to the brainstem and then directs the appropriate muscular and visual responses that keep you moving smoothly. When both the left and right vestibular systems are healthy and work together, these adjustments are typically not noticed. But, people who have damage or weakness in one or both vestibular systems may feel unsteady on their feet, dizzy, or disoriented (as if their eyes are bouncing).

When patients arrive at WWSPT with complaints of unsteadiness, we look at their whole medical picture. We complete a thorough review of their history to identify variables that may be influencing their balance. Do

they have chronic back pain or diabetes that may impair their sensation? Have they been on medications that may impact the function of their vestibular system? Are they smokers, have they experienced migraines, and/or do they have trouble multitasking? These are just a few of the questions we may ask that are extremely helpful in identifying possible contributing causes to patients' imbalance.

After reviewing their history, we evaluate how they move. Is one hip weaker than vestibular system a known as the vestib VOR is working. We paroxysmal position evaluate their balar and dynamically.

First-time patients a the "strange" exercise doing in the gym. O training allows us to individual goals into who struggle with ta on a walk may be as head, and simultanitems for the week. walking in the wood stepping across our weighted vest. We lit

If you have noticed feel right in your me accept imbalance as left untreated, this are the leading cause injuries in adults of balance system three can help you maint and the quality of li advocate. Please conyour balance assess



If you get dizzy when you get out of bed or quickly turn your head...If you feel off balance when you are walking...

Vestibular Rehabilitation may help you