

Center Helps People Get Lives Back in Balance

Most of us have felt dizzy or queasy on a boat or an amusement ride. Imagine experiencing that feeling of seasickness just by going about daily activities? For people with dizziness and balance disorders, this is exactly what happens.

Complaints of dizziness result in an estimated 5 to 8 million physician visits each year in the United States.

Most of us take for granted the elaborate system that keeps us in balance while we go about our day. This system includes the inner ear balance sensors – or vestibular system – and the senses of vision and touch, as well as the parts of the brain that interpret balance information. The balance system helps us stand up straight and allows us to see clearly as we move. When the balance system goes awry, the effects can be devastating.

There is help for people who suffer from dizziness and balance disorders. Specialty centers such as the UVa Vestibular and Balance Center, or VBC, emphasize a team approach to comprehensive, state-of-the-art diagnosis and management of people with balance problems. For many, the VBC has had a dramatic impact on their lives.

“We can take someone from being disabled or at risk of a serious injury from a fall and get them back into the workforce and enjoying their lives,” says A. Tucker Gleason, Ph.D., the center’s director and an audiologist. Tucker, together with audiologists Liz Rabin, M.S., CCC-A, and Jorge E. Gonzalez, M.S., CCC-A, make up the staff at the VBC, which sees an average of 350 patients referred by physicians each year. Ranging in age from 7 to 90, these patients experience varying degrees of lightheadedness or dizziness, and vertigo.

“The typical VBC patient has seen, on average, four or five physicians and has had the problem two to three years before they come to us,” Gleason says. “Many of them are afraid to drive or go to social functions because it’s too disorienting. They don’t pick up their grandchildren. Grocery shopping presents a major challenge because the patient has to walk straight down the aisle and look side to side while scanning shelves.”

“A lot of people stop living,” Gonzalez adds. “They just sit there and don’t do anything.”

Dizziness can be a side effect of medications, including common drugs prescribed for high blood pressure, depression and heart problems. It also can be caused by viral illnesses,



VBC director A. Tucker Gleason, Ph.D., with a model of an inner ear.

head trauma or disorders that affect inner ear structures, including benign paroxysmal positional vertigo (BPPV), Meniere’s disease and labyrinthitis.

While health complications such as heart disease, arthritis, diabetes, cataracts and high cholesterol don’t directly affect the balance system, they can produce symptoms similar to an inner ear disorder. In addition, vascular problems such as stroke and degenerative diseases such as multiple sclerosis can affect parts of the brain that coordinate balance information. Although the balance system changes with age, dizziness is not normal at any age and can most often be treated through exercises designed to stimulate and “retrain” the balance system, audiologists say.

“Even though dizziness is more common as a person ages, it’s not normal,” Rabin says. “Many people think, ‘Well, I’m older so I should have to hold on to things.’ No, that shouldn’t be the case.”

Founded in 1995, UVa’s balance center is part of the Department of Otolaryngology - Head & Neck Surgery. The

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Balance



Audiologists Jorge Gonzalez and Liz Rabin demonstrate the rotary chair, which turns inside a chamber, using a camera and special glasses to test eye-movement reflexes.

VBC audiologists are among a small number in the profession who specialize in diagnosing and managing balance disorders. Most audiologists focus on hearing. This is surprising given the fact that in the United States dizziness is a major risk factor for falls and is the number one reason people over age 75 see their doctor, Gleason notes.

The system that keeps us in balance is controlled by elaborate interactions between the inner ear balance sensors, vision, touch and parts of the brain that interpret and coordinate the information coming from these areas. As a result, the diagnosis and management of balance and vestibular disorders can be challenging. Oftentimes, patients are given medications, which simply mask the symptoms and may worsen the underlying condition, Gonzalez notes.

The VBC utilizes state-of-the-art technology to assess the nature and degree of the person's disorder, including a dynamic posturography machine. Common tests of balance function in-

clude rotary chair testing and electronystagmography (ENG), which determine balance function through eye-movement reflexes.

"We are one of few clinics in the country that has the diagnostic testing capabilities and expertise to do a thorough evaluation of balance function," Gonzalez says. "Many clinics across the country can do an ENG test, but the VBC offers comprehensive assessment. Because of this, we're able to see how the system functions in more ways than most clinics."

Each evaluation typically lasts three to four hours. During the case history, the audiologists ask questions to find out what medications the patient is taking, what triggers a dizzy spell, what exactly it feels like and how it impacts daily life. Testing is tailored for each patient based on this information.

In a single office visit, the audiologists can treat the common inner ear disorder known as BPPV.

"This is simply done through specif-

ic manipulations of a person's head," Gonzalez says. BPPV is caused when microscopic particles in one part of the inner ear become dislodged and end up in another part of the ear, causing feelings of dizziness every time a person makes a certain head movement. In one office visit, a trained audiologist can maneuver the particles back to where they belong.

"We get people who say, 'That's it, it's fixed?' It's very gratifying to be able to help them. They hug you and cry because they're so relieved to have their lives back," Gleason says.

Because treatment for BPPV is so easy, some patients come in expecting a quick fix. But in many cases the most effective treatment is a series of exercises, or vestibular rehabilitation. These head and body motions, including walking, are designed to stimulate the inner ear as much as possible and force the brain to readjust the way it interprets information. Most people find relief after doing exercises for only a month or two and then naturally start using their balance system again.

"The good news is, because it is so important for us to walk and see clearly, the balance system remains adaptable

throughout our lives, meaning that vestibular rehabilitation usually is very effective," Gleason says.

"The bad news is, the balance system is a use-it-or-lose-it proposition. Imagine every time you move your head you get dizzy, so you decide not to do that anymore. Some people restrict their movements more and more to the point that by the time they come to the VBC, they're moving like blocks of wood. Instead, they need to stimulate those senses. In many cases, the inner ear balance sensors are working normally. They just need to be retrained."

Even when inner ear function on one side is completely lost, the other ear can compensate and keep a person in balance. When a person is at risk of falling due to a balance disorder, he will be referred to a physical therapist specializing in vestibular rehabilitation to help him reach his goals.

"There is no medication to treat chronic dizziness," Gleason says. "Anti-dizziness medications can be useful in the short term to treat unpleasant symptoms such as nausea when a person is traveling. But for long-term balance problems, vestibular exercises and rehabilitation have a much better outcome." □