Leaders in Audiological Care for
Hearing, Tinnitus and Balance Disorders.

ASSOCIATED AUDIOLOGISTS

WHAT TO KNOW ABOUT DIZZINESS AND IMBALANCE

What to know about dizziness and imbalance

If you or a loved one is living with dizziness or imbalance, you know how challenging it can be. Feeling dizzy, unsteady, faint, or lightheaded can interfere with many aspects of life, including driving, walking, social activities, work, and daily tasks.

A dizziness or balance problem can feel isolating or even frightening. But there is good news: you don't have to live with these symptoms and let them interfere with your life.

You're not alone

Although it can seem like you're the only one who suffers from a dizziness or imbalance issue, these conditions affect millions of people. Unfortunately, many people spend months or even years trying to cope with these symptoms and in the process, they put their health and well-being at risk.

Take a look at how common—and serious—dizziness and balance issues can be:

More than one out of four older people falls each year, but less than half tell their doctor. *(CDC, 2016)*

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One out of five falls causes a serious injury such as broken bones in the wrist, ankle, or hip and head injuries. *(CDC, 2016)*

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In the State of Kansas, 30% of older adults fell in 2020. *(CDC, 2020)*

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Vestibular disorders are difficult to diagnose. It is common for a patient to consult 4 or more physicians over a period several years before receiving an accurate diagnosis. *(Vestibular Disorders Association)*

Over 700,000 patients are hospitalized each year because of a fall injury, most often because of a head injury or hip fracture. *(CDC, 2016)*

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More than 95 percent of hip fractures are caused by falling, usually by falling sideways. *(CDC, 2016)*

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An estimated 35.4% of U.S. adults aged 40 years and older (109 million Americans) experience vestibular dysfunction at some point in their lives. *(Vestibular Disorders Association)*

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In the U.S., medical care for patients with chronic balance disorders exceeds $1 billion per year. *(Vestibular Disorders Association)*

Though these statistics may be alarming, there is good news: in 90 percent of cases, dizziness and imbalance disorders can be successfully treated with proper diagnosis. In this e-book, you'll learn some of the causes for dizziness and imbalance, tests that can provide valuable information, and successful treatments that can reduce or alleviate these problems.

What is dizziness?

We've all experienced a feeling of being faint or lightheaded after standing up too quickly or during an illness. But adults who frequently experience dizziness or imbalance may have an underlying issue with the inner ear—and it often won't just go away on its own.

Consider whether you regularly experience the following symptoms:

- You feel unsteady on your feet, or off balance when standing or walking.
- You find it difficult to walk on uneven surfaces.
- Things appear blurry when you move your head.
- You feel uncomfortable or lightheaded when you look at moving objects, in reality or on screens.
- When you're walking, you feel like you might fall at any time, or you have an ongoing fear of falling.
- You have trouble walking in areas of dim lighting.
- You tend to veer from side to side when walking and have trouble walking in a straight line.
- The room rotates when lying down and/or sitting up.

These symptoms all indicate a possible problem with the body's equilibrium—or balance—system. And in many cases, the problem can be resolved by a skilled, experienced audiologist who treats dizziness and balance disorders.

What causes these issues?

Feelings of dizziness can mean many things and are often linked to problems affecting the equilibrium system. A few symptoms of dizziness and imbalance include experiencing blurry vision or spinning (vertigo), and feeling lightheaded, faint, weakness and general unsteadiness. The following are a few common causes for dizziness and imbalance:

Benign Paroxysmal Positional Vertigo (BPPV)

BPPV is the most common cause of vertigo. In fact, this condition will affect approximately 50 percent of individuals over 70 years of age at least once in their lives. BPPV is caused by small calcium carbonate particles (otoconia), which are normally found in the inner ear. These particles can become displaced and migrate into one of the ear's semicircular canals, where they do not belong. This condition is characterized by brief and intense episodes of vertigo that occur with a change in position. BPPV may be the result of the natural aging process, illness, a change in medication, or head trauma. Often, no known cause for BPPV can be identified.

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Loss of balance and unsteadiness

Issues affecting the equilibrium system of the inner ear can result in a feeling of unsteadiness, a loss of balance and/or falls. We use three primary systems to maintain our balance (vision, touch, inner ear) and a disruption to any of these systems can result in imbalance. It is important for individuals who are off balance to be appropriately evaluated so the contribution of each system can be closely observed.

Migraine

When many individuals think of migraine, headache immediately comes to mind. It is important for patients to understand that migraines can present with a number of different symptoms. One of these symptoms is related to the perception of dizziness or vertigo. Interestingly, research has shown that as many as 25 to 30 percent of individuals who suffer from migraines also experience vertigo as an aura. Many of those with vestibular migraines do not experience headaches at the same time as their dizziness.

Vestibular neuronitis/Neuritis

Vestibular neuronitis is the second leading cause of vertigo. This condition is typically characterized by a rapid-onset vertigo that is not accompanied by hearing loss. Patients may experience an intense spinning sensation with nausea and vomiting. These intense symptoms typically improve over the course of several days, with gradual improvement over the next few months. Vestibular neuronitis can occur as a single attack or multiple attacks. This condition is related to inflammation of the inner ear and may be related to a viral infection.

Health risks related to dizziness and imbalance

Dizziness and imbalance are far more than an inconvenience. These conditions can cause a number of symptoms that can harm your health, including:

Falling
Falls can be dangerous for any age, resulting in broken bones, head injuries, and more. Falls are a leading cause of death for older adults.

Personal safety
If you don't know when an episode of imbalance is going to occur, activities like driving or operating machinery can be extremely dangerous.

Avoidance of social activities
Ongoing issues with imbalance and dizziness can make a person more likely to avoid activities they once enjoyed, such as going out with friends, family get-togethers, and opportunities to meet new people.

Reclusive behavior and depression
Dizziness and imbalance disorders can be serious health conditions that result in a person isolating themselves at home and missing out on daily life. Being alone frequently with no outside interactions can lead to depression, which is already a common and serious condition among many Americans, particularly older adults.

Tests: get the information you need

A comprehensive battery of tests may be performed during a vestibular evaluation. In some cases, testing may take up to two hours. Prior to each test, we provide a detailed explanation so the patient can gain a better understanding of what we are measuring and what to expect.

Evaluating and treating equilibrium disorders

Problems with the equilibrium system can result in dizziness, vertigo, and imbalance. The equilibrium system is very complex and cannot be directly observed. To truly understand a patient's equilibrium, a number of sophisticated tests must be performed, correlated, and compared.

Balance disorders are often accompanied by changes in hearing and/or ear function. These changes can be acute and hardly noticeable by the patient. Testing will include comprehensive testing of the outer, middle, and inner ears. These tests include audiologic, tympanometry/immittance, and otoacoustic emission tests.

A number of complex pathways control our equilibrium. An evaluation will include sophisticated measures of these pathways and the central nervous system. These tests are:

- Auditory Brainstem Response
- Computerized Dynamic Visual Acuity (CD-VAT)
- Electro-oculography
- Electrocochleography (ECOG)
- Rotary Chair
- Sensory Organization Performance
- Vestibular Evoked Myogenic Potential
- Video/Electro-nystagmography
- Video Head Impulse Test (vHIT)

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Audiologic Testing: Evaluates the hearing portion of a patient's ear. This allows us to define cause, type and degree of hearing loss. This testing is important for dizzy and off-balance patients because small unnoticed hearing changes can indicate inner ear damage or other medical problems.

Auditory Brainstem Response (ABR): This test helps us evaluate the neural integrity of the nerve going to the hearing part of the inner ear. This test is often used to further explain why a person might have unilateral symptoms or test findings. This test helps us evaluate the nerve quality and function of the inner ear hearing nerve.

Computerized Dynamic Visual Acuity (CD-VAT): The CD-VAT is used to analyze the delicate connection between the equilibrium part of the ear and the eyes. Individuals with permanent inner ear damage will often demonstrate head and eye movements that are out of synchronization.

Electro-oculography: This testing evaluates very specific eye movements that are coordinated by the equilibrium centers of the brain. Damage to these brain areas can cause dizziness.

Electrocochleography (ECOG): This technique records electricity generated in the inner ear and auditory nerve. The test helps rule out an abnormal accumulation of fluid within the inner ear that may be causing acute attacks of true room spinning vertigo.

Otoacoustic Emission Testing: This test helps us evaluate the function of the inner ear. This test also helps us further differentiate where an individual's hearing loss is coming from. This is important for patients who have equilibrium disorders, as it further defines the location of an inner ear problem.

Rotary Chair: This advanced test utilizes a computer-controlled motorized chair to stimulate the ear at different speeds. A patient's eye movements are also recorded with video goggles. This test allows us to assess the overall health of the inner ears and how the brain is adapting to a vestibular disorder.

Sensory Organization Test: This test helps us identify balance problems. With careful evaluation, it allows the audiologist to determine the cause of imbalance and identify a potential fall risk.

Tympanometry/Immittance Testing: Helps us rule out fluid in the middle part of the ear, which can impact other vestibular test results. This test also allows us to evaluate nerve responses.

Vestibular Evoked Myogenic Potential (VEMP): This neurological test helps to evaluate a very specific portion of the nerve that goes to the equilibrium part of the inner ear. There are two portions of the equilibrium nerve, and this test evaluates the bottom part of the nerve.

Video/Electro-nystagmography (VNG/ENG): This test is composed of a number of subtests. For this testing, a patient wears video goggles or electrodes. These allow us to watch for small eye movement abnormalities, which can indicate an inner ear problem. There are also sub-tests that can help us identify positional vertigo and/or permanent ear damage. This testing also looks at the top portion of the nerve going to the equilibrium part of the inner ear.

Video Head Impulse Test (vHIT): vHIT is a non-invasive test that involves the patient wearing small video goggles. The audiologist moves the patient's head, stimulating each of their six semi-circular canals. The goggles measure the patient's discreet eye movements, which are recorded in a computer-based diagnostic system. Results tell the audiologist how well the semi-circular canals are working, which can be critical to balance control.

Choosing the right test

An audiologist who specializes in dizziness and imbalance disorders can discuss which test(s) may be best for you based on your symptoms and a physical exam. Because dizziness and imbalance issues are often complex, many patients will require several different tests to determine which factors are causing the issue and how it can best be treated.

A skilled, experienced audiologist has the ability to perform a variety of tests and will explain what you can expect and why each test is being conducted. In some cases, a referral to an otolaryngologist (ear, nose and throat specialist) or neurologist, may be necessary, depending on the findings of the exams.

Getting relief with successful treatment

Once testing is completed, your audiologist will discuss the primary cause of your dizziness and imbalance issues, as well as any other factors that may be contributing to your symptoms. This is an important step toward a comprehensive, effective treatment plan to help you get back to optimal function and health.

Many people benefit greatly from non-invasive treatments such as physical therapy and special exercises that can be conducted by an audiologist. The type of therapy and treatment you need will be based on your test results, health history, and lifestyle.

Partnering with an audiologist

Audiologists must undergo extensive training in hearing and balance disorders and the mechanics of the inner ear and vestibular system. For this reason, their background and education make them an invaluable resource in finding a safe, effective treatment for issues with hearing, balance, dizziness, lightheadedness, and vertigo.

You may wish to ask your audiologist about their level of education, as well as any affiliations with professional organizations including the Academy of Doctors of Audiology and the American Speech-Language-Hearing Association.

Vestibular Testing at Associated Audiologists

To schedule testing at Associated Audiologists for dizziness and balance issues, please call **913-498-2827**, or talk with your physician about a referral. We offer testing at our Overland Park Clinic.

Please be aware that a comprehensive evaluation can take from one to three hours, depending on the issue. Our staff can provide you with a better estimate of the time needed for testing when you schedule an evaluation.

Also, the Associated Audiologists staff has the expertise to check and verify your insurance coverage and benefits for vestibular evaluation and treatment. We will be happy to explore and explain all your options.

ABOUT ASSOCIATED AUDIOLOGISTS, INC.

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Associated Audiologists, Inc., is the region's leader in audiologic care for hearing and balance disorders. The practice was established in 1985.

Today, it has grown to include multiple doctoral-level audiologists and eight convenient locations to serve you. The audiologists have allied health staff privileges at AdventHealth, Saint Luke's South, East and North hospitals.

They specialize in:

- Hearing Diagnostics
- Prescription Hearing Aids
- Tinnitus
- Dizziness and Balance Disorders

The Associated Audiologists team uses advanced diagnostic and verification technology to diagnose and treat hearing loss. Associated Audiologists offers digital prescription hearing products from the world's most respected manufacturers backed by unparalleled service.

The practice's audiologists also are leaders in local, regional and national professional audiology associations. All members of the Associated Audiologists team are certified by the American Speech-Language-Hearing Association and they are frequent presenters at educational conferences.

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