

NIH News in Health

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Inside News: 3 Understanding Rosacea... 4 Food Allergy in Kids... Hip Replacement... Alcohol Abuse and Alcoholism

Dizziness Can Be a Drag Coping with Balance Disorders

Imagine reaching for something on a grocery shelf and suddenly feeling unsteady. Or looking over your shoulder to back up the car and having things start whirling around you. Most people feel dizzy now and then. But if that feeling persists or interferes with your daily life, it could be a sign of a balance disorder.

A balance disorder makes you feel as if you're moving, spinning or floating, even though you're quite still. More than 4 in 10 Americans will experience an episode of dizziness sometime during their lives that's significant enough to send them to a doctor.

Dizziness can range from feeling lightheaded to woozy to disoriented. Feeling that you or your surroundings are spinning is called **vertigo**. Any of these sensations can be extremely distressing.

"Balance is a multisystem function," explains NIH hearing and balance expert Dr. Daniel Sklare. It begins with a series of signals within the tiny balance organs of the inner ear. These organs work with your brain's visual system to give you a sense of your body's position. They also keep objects from blurring when your head moves. Sense receptors in skin, joints and muscles also send

balance-related signals to the brain. The brain receives and coordinates information from all these different body systems. Balance disorders can arise when any of these signals malfunction.

Because balance is so complex, it can be hard to figure out the underlying cause of certain problems. Some balance disorders can begin suddenly. They might arise from an ear infection, a head injury or certain medications. Low blood pressure can lead to dizziness when you stand up quickly. Disorders related to vision, muscles, bones or joints can also contribute to balance problems.

"As America gets older, many people with imbalance have a collection of these problems," says Dr. Gordon Hughes, NIH clinical trials director for hearing and balance. "They might have aging of the ear, aging of vision, cataracts, muscle weakness from losing some muscle mass or arthritis in the hips, plus other problems like diabetes."

Researchers have identified more than a dozen different balance disorders. The most common is a sudden, often harmless burst of



vertigo that might arise with an abrupt change in the position of the head, like when you bend over to tie your shoes. Technically known as benign paroxysmal positional vertigo (BPPV), this condition can result from

continued on page 2



Definitions

Vertigo

The feeling that you, or the things around you, are spinning.

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continued from page 1

a head injury or simply from getting older. BPPV sometimes occurs when tiny calcium crystals in the inner ear become displaced. In that case, your doctor can treat BPPV by carefully moving the head and body to reposition these particles. An NIH-supported clinical trial showed that this treatment works well for BPPV.

Another common balance disorder is known as Ménière's disease. It can develop at any age, but most often strikes adults between 40 and 60 years of age. Symptoms include



Wise Choices Tell Your Doctor

Discuss your symptoms with a health care provider if:

- You often feel unsteady.
- You feel as if the room is spinning around you.
- You feel as if you're moving when you know you're standing or sitting still.
- You lose your balance and fall.
- You feel as if you're falling.
- You feel lightheaded, or as if you might faint.
- Your vision becomes blurred.
- You sometimes feel disoriented, losing your sense of time, place or identity.

intense vertigo, hearing loss, nausea, tinnitus (a ringing or buzzing in the ear) and a feeling of fullness in the ear. Ménière's disease usually affects only one ear.

Some people with Ménière's disease have single attacks of dizziness separated by long periods of time. Others may experience many attacks closer together over a number of days. Some affected people have vertigo so extreme that they lose their balance and fall. These episodes are called "drop attacks."

An attack of Ménière's symptoms, while not life-threatening, can feel completely overwhelming. The symptoms arise because of a change in fluid volume within the inner ear. But its underlying cause remains unknown. Scientists estimate that 6 in 10 people either get better on their own or can control their vertigo with diet, drugs or devices. In severe cases, surgical therapies can end the dizziness but might affect hearing.

NIH-funded researchers at the University of Washington are now exploring a new treatment option to stop a Ménière's attack. An implant behind the ear is designed to control abnormal electrical activity in the nerve that sends balance information to the brain, bringing the sensation of spinning to a halt. The device is now being tested in clinical trials.

If you think you may have a balance disorder, talk with your health care provider. Your doctor can assess whether your symptoms might be caused by a serious disorder, such as



Web Links

For more information about balance disorders, see our links online:
<http://newsinhealth.nih.gov/issue/Aug2012/Feature1>

a heart or blood condition. If an inner ear balance disorder is likely, you may be referred to a specialist such as an otolaryngologist, a doctor with expertise in the ear, nose and throat. You might receive a hearing test, a balance test and possibly an imaging study of the brain.

Work with your doctor to figure out how to cope with your dizziness on a daily basis and reduce your risk of injury. For example, wear low-heeled shoes or walking shoes outdoors. You might decide to try using a cane or walker. Safe, secure handrails in stairwells and grip handles in bathrooms can help make your home safer. Driving a car may be especially hazardous, so ask your doctor if it's safe for you to drive.

A specialized rehabilitation therapist can give you a set of head, body and eye exercises to help reduce dizziness and nausea.

Meanwhile, researchers continue to work to develop new, more effective approaches. In one experimental rehabilitation strategy, now in clinical trials, scientists have created a "virtual reality" grocery store. It allows people with balance disorders to walk safely on a treadmill through computer-generated store aisles. While holding onto a grocery cart, they can look up and down, turn their heads and reach for items on virtual shelves. By doing this, they safely learn how to navigate an environment that can be challenging for someone with a balance problem.

"The key for people looking for treatment is to go to the best team of clinical experts that they can gain access to," says Dr. Sklare. "It's very important to get that level of assessment." ■

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Red in the Face

Understanding Rosacea

Some people think of a rosy complexion as a sign of good health. But red patches on the face may point to something more troubling—a long-lasting skin disorder called rosacea.

Rosacea (pronounced ro-ZAY-she-ah) may start as redness on the cheeks, nose, chin or forehead. It might even look like an outbreak of pimples. But over time, the condition can worsen. **Inflammation** can make affected skin swollen and sensitive. Red, thick, bumpy skin may appear on the face, causing discomfort and distress. Up to half of people with rosacea also develop eye problems. Eyelids may become inflamed, and vision impaired.

Rosacea affects an estimated 14 million Americans. The causes of rosacea are unclear. The condition tends to run in families, so **genes** likely play a role.

Although anyone can get rosacea, lighter-skinned populations are at greater risk. People who blush frequently may also be more vulnerable. It usually first strikes in middle age, when people are between 30 and 60 years old. Women are 3 to 4 times more likely than men to develop rosacea, especially during menopause. But rosacea symptoms are generally more severe in men.

Rosacea symptoms can come and go, flaring up for weeks or months and then subsiding. Over time, the facial redness can deepen and become more permanent.

People are often embarrassed by rosacea flare-ups. "The physical appearance can be debilitating for people, causing them to lose work or to have low self-esteem," says Dr. Richard Gallo, a skin expert at the University of California, San Diego. "Many psychological problems are the consequence of having this red, puffy face."

Things that cause flare-ups are called triggers. Although they vary from person to person, common triggers include hot foods or beverages, spicy foods, alcohol, extreme temperatures, sunlight, stress, exercise and hot baths.

To identify and then avoid triggers, Gallo says, "take a very careful record of the things that you eat and the things you are doing. Then also record when your rosacea is flaring, and see if you can put the two together."

Because rosacea tends to worsen over time, early detection is critical. There's no test for rosacea, and several other conditions can have similar symptoms. Your doctor needs expertise and experience to make a diagnosis. A dermatologist—a physician who specializes in skin disorders—can aid with rosacea detection and care.

Although there's no cure for rosacea, medical treatments and lifestyle changes can reduce symptoms. Antibiotics taken orally or applied to the skin can lessen redness and bumps. For more serious cases, laser surgery can remove visible blood vessels, reduce redness or correct thickened, bumpy skin.

NIH-funded scientists continue to search for new insights into rosacea. Gallo and his colleagues have found that some people with rosacea have high levels of inflammation-causing chemicals in their skin. The researchers are using this knowledge to develop experimental therapies that are now being tested in clinical trials.

If you have troubling facial redness, talk to a dermatologist or other health care provider. Taking steps early on will help to control and reduce the symptoms of rosacea. ■



Wise Choices

Signs of Rosacea

- Frequent redness (flushing) on the face, especially on the forehead, nose, cheeks and chin.
- Small red lines under the skin.
- Thickened skin or constant redness along with sometimes-painful bumps.
- Inflamed eyes or eyelids.
- Swollen, red, bumpy nose, especially in men.



Definitions

Inflammation

Heat, swelling and redness caused by the body's protective response to injury or infection.

Genes

Stretches of DNA, a substance you inherit from your parents, that define characteristics such as eye color and your risk for certain diseases.



Web Links

For more information about rosacea, see our links online:

<http://newsinhealth.nih.gov/issue/Aug2012/Feature2>

Health Capsules

Food Allergy Reactions in Kids

Young kids allergic to milk or eggs had allergic reactions to these and other foods about once a year—even though their families were taught how to avoid these foods, a new study reports.

Food allergies are caused by an abnormal **immune system** reaction to food. Severe allergic reactions can lead to a life-threatening condition called anaphylaxis.

To learn more about food allergies in preschoolers, NIH-funded scientists followed 512 infants for 3 years. All had known or suspected allergies to milk or eggs. When the study began, the kids were 3 to 15 months old, and their parents or caretakers were taught strategies for avoiding allergy-triggering foods. They also received written emergency plans and prescriptions for epinephrine, a

drug that reverses symptoms and can save lives.

The researchers found that nearly 3 in 4 children had a food allergy reaction during the study, and over half had more than one reaction. Most reactions were to milk (42%), egg (21%) and peanut (8%). In about 1 in 10 cases, the foods were given to the kids on purpose, even though their caretakers had learned how to avoid the foods.

Over 11% of the allergic reactions were severe. But less than a third of these were treated with epinephrine,



Definitions

Immune System

The system that protects your body from harmful microbes.

Considering Hip Replacement?

Hip replacement is an operation in which a damaged hip joint is removed and replaced with an artificial joint. If you or someone you know is considering hip replacement, you can learn more about this surgery at [NIHSeniorHealth.gov](http://nihseniorhealth.gov), a website for older adults.

The new hip replacement topic at <http://nihseniorhealth.gov/hipreplacement/> whoneeds/01.html describes some of the reasons for having the surgery, how to prepare for and recover from it, and ways to avoid complications.

Making a decision to have hip replacement can be difficult. "Surgery

of any type involves risk," says Dr. Stephen I. Katz, director of NIH's National Institute of Arthritis and Musculoskeletal and Skin Diseases. "But if less invasive treatments such as medications and physical therapy have not helped, hip replacement has proven to be an effective way to relieve pain and restore function."

The hip replacement topic on the NIHSeniorHealth site joins nearly 60 other research-based health topics of interest to older adults. Additional topics include physical activity, disorders such as stroke and Alzheimer's disease and safe use of medicines. ■

For links to more information, see these stories online:
<http://newsinhealth.nih.gov/issue/Aug2012/Capsule1>

the recommended treatment for severe reactions. In most cases, caretakers didn't realize how severe the reaction was, didn't have epinephrine available or feared giving the drug.

"What is troubling is that in this study we found that a significant number of young children received allergenic foods from parents who were aware of the allergy," says the study's lead author, Dr. David Fleischer of National Jewish Health in Denver. The findings suggest that parents need to be better educated about the importance of avoiding allergy-triggering foods and treating severe reactions with epinephrine. ■



Featured Website

Alcohol Abuse and Alcoholism

www.niaaa.nih.gov

This redesigned website for NIH's National Institute on Alcohol Abuse and Alcoholism (NIAAA) offers a wealth of information about how alcohol use affects human health. Learn about ongoing research into treating and preventing alcohol-related problems.

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