

Meniere's Disease

Symptoms and treatment

This handout describes how normal hearing works, the symptoms of Meniere's disease, how it is treated, and where to learn more.

What is Meniere's disease?

Meniere's disease is named for Prosper Meniere, the French doctor who first described it. It is a degenerative disease, which means it gets worse over time. It has no known cure. Treatment is given to control symptoms.

Meniere's disease affects the parts of the ear that control hearing and balance. Most people with Meniere's have these symptoms:

- Hearing loss, a feeling of fullness in the ear, and *tinnitus* (ringing in the ears), caused by a buildup of fluid in the *cochlea* (hearing organ). This fluid buildup is called *cochlear hydrops*.
- Dizziness, caused by too much fluid in the *semicircular canals* (balance organ). This fluid buildup is called *vestibular hydrops*.

How does normal hearing work?

The ear has 3 parts. Each part plays a different role in hearing:

- Sound travels along the **outer ear** canal. This causes the eardrum to vibrate.
- This vibration is picked up by the 3 small bones of the **middle ear** (*malleus, incus, and stapes*).
- The middle ear bones conduct the vibration from the eardrum to the **inner ear** (cochlea). This causes waves of fluid that stimulate tiny hair cells.



Your doctor will check your ears and give you other exams to test for Meniere's disease.

As the hair cells move, they create an electrical current in the *auditory* (hearing) nerve, which then sends signals to the brain. The brain recognizes these signals as sound.

What are the symptoms of Meniere's?

Symptoms of Meniere's are:

- Dizzy spells (*vertigo*)
- Hearing loss
- Ringing in the ears (*tinnitus*)
- Feeling of fullness in the ear

The dizzy spells can be mild or intense, and they can last from 20 minutes to a full day. About 90% of people (90 out of 100) with Meniere's have the problem in only 1 ear. The disease can occur at any age, but most often it begins between ages 30 and 50.

In early stages of Meniere's, hearing may improve after an episode of vertigo. People with late-stage Meniere's may have permanent hearing loss and long-term imbalance and dizziness, even though the severe vertigo stops. For about 5% of people (5 out of 100), their only Meniere's symptom is hearing loss that goes back and forth between better and worse.

What can I expect from medical therapy?

Medical therapy controls symptoms in about 70% of people (70 out of 100) with Meniere's. Through medical therapy:

- Vertigo can be controlled, if it occurs.
- Tinnitus rarely goes away.
- If treatment is started while hearing is still going back and forth between better and worse, it sometimes improves and may become stable as the disease progresses.
- In most patients, hearing loss keeps getting worse.

Medical therapy works best in the early stages of the disease, and within 1 to 2 months of starting it. If it does not work, your provider may advise other treatments.

If I have Meniere's in one ear, will I also get it in the other ear?

Meniere's in both ears is rare. It usually occurs with an *autoimmune disorder*. In autoimmune disorders, the body sees its own tissues as foreign and attacks them. There are many different types of autoimmune disorders.

How can I be checked for Meniere's?

You may have some or all of these tests to find out if you have Meniere's disease:

- **Auditory test** to check how well you hear pure tones and speech
- **General health check**, including a blood sugar test and blood tests to check for infection
- **Electronystagmography (ENG)** to check how well your inner ear system that controls balance is working
- **Auditory brainstem response (ABR)** and **Electrocochleography (EcoG)** to check specific parts of your hearing system
- **Magnetic resonance imaging (MRI)** tests to look at your inner ear and hearing nerve
- **Antibody measurement** to see if you have any autoimmune diseases that affect hearing
- **Glycerol** test to check for changes in your ability to hear after you drink glycerol (pure glycerin)
 - A **positive** result shows active Meniere's.
 - A **negative** result may mean you have inactive Meniere's, especially if you have had hearing loss for a while.

How is Meniere's treated?

No Smoking

Nicotine is toxic to the inner ear and may hinder or cancel all of the other treatments for Meniere's. People with Meniere's are advised not to smoke or use any other tobacco products.

Eat a Low-sodium (Low-salt) Diet

A low-sodium (low-salt) diet will help decrease the amount of fluid in the inner ear. You will stay on this diet until you have not had dizzy spells for 2 years. Ask your provider for the handout "Eating a Low-Salt Diet."

Limit Caffeine

Avoid products with caffeine, such as coffee, tea, cola, and chocolate. Decaffeinated products are OK.

Diuretic Medicines

Because Meniere's involves fluid in your ears, your provider may prescribe *diuretic* medicines. Diuretics help remove sodium and water from your body. They also increase your urine output. Diuretics are usually stopped if you have not had a dizzy spell for 1 year.

Sometimes diuretics cause you to lose too much potassium. To prevent this, eat foods that are rich in potassium such as orange juice, bananas, dried fruits, raisins, cantaloupe, nectarines, winter squash, navy beans, potatoes, and salt-free peanuts.

Having “flu-like” symptoms or feeling very weak may be signs of low potassium. Talk with your doctor right away if you have these symptoms.

Avoid Stress

Meniere’s symptoms may get worse when you are stressed. Do your best to avoid stressful situations.

Watch for Food Allergy

Food allergies can make Meniere’s symptoms worse in some people. Keep a record of what you eat to see if there are foods that make your symptoms worse. Some common allergies are chocolate, red wine, wheat, beer, shellfish, and milk products.

Drugs to Treat Vertigo

Drugs such as meclizine (Antivert) and diazepam (Valium) are often prescribed to treat vertigo. These drugs can be used during acute attacks, but they are not helpful for daily use.

Chemical Labryrinthectomy (Chemical Perfusion Therapy)

This is a fairly simple procedure that is done in the clinic. It controls or gets rid of vertigo in the advanced stages of Meniere’s disease. During the procedure, an antibiotic called gentamicin is injected into the middle ear. One or more injections may be needed. To learn more, see the handout “Chemical Perfusion of the Inner Ear.”

Surgery

Many different surgeries are used to treat Meniere’s, if and when surgery is needed:

- **Endolymphatic sac surgery** – This surgery is done when hearing in the affected ear is good, but dizzy spells occur even with medical management. The *endolymphatic sac* is part of the inner ear that regulates fluid. It is thought that the sac is damaged in Meniere’s. Surgery to drain or remove the sac may lessen vertigo. If you have this surgery, you will need to stay overnight in the hospital.

In 75% of people (75 out of 100), dizziness is relieved after this surgery. Long-term relief is achieved in 50% to 60% of patients (50 to 60 out of 100). Hearing is usually not affected. Sometimes it improves, but in about 5% of patients (5 out of 100), hearing gets worse as a result of this surgery. Most times, this surgery does not help tinnitus.

- **Vestibular nerve section** – This procedure saves hearing in over 90% of patients (90 out of 100). It is a more invasive operation and requires making an incision behind your ear. You will need to stay in the hospital for about 5 days after this surgery. Risks from this surgery include *meningitis* (inflammation around the brain and spinal cord) and a leak of spinal fluid.

This surgery controls vertigo in more than 95% of patients (95 out of 100). Most people have severe vertigo right after surgery, but it goes away quickly. If you have this surgery, you will have physical therapy afterward to regain your balance control.

- **Labyrinthectomy** – This surgery is for people with severe Meniere’s. Medical therapy is not controlling their symptoms and severe hearing loss makes them unable to communicate. This surgery gets rid of major dizzy spells in 95% of patients (95 out of 100).

Patients are usually dizzy after this surgery, but they feel more stable over time as the other ear takes over the balance function. Most times, the dizziness lasts about 3 to 5 days, but it may last for weeks. In the elderly, it may last longer.

Tinnitus may not be improved by this surgery, and may get worse. Hearing is destroyed in the operated ear and will never return.

How do I know which treatment might work for me?

Decisions about treatment are based on what stage of the disease you are in, how severe your vertigo attacks are, or how much dizzy spells disrupt your life.

Since most people do well with a low-salt diet and medical therapy, these 2 treatments are usually tried first. We also suggest that you try to find ways to reduce stress in your life. Ask your health care provider for help with this if you need it.

If medical therapy fails, there are many surgical and non-surgical treatment options that your provider can talk with you about.

How can I learn more?

To learn more about Meniere’s:

- Talk with your health care provider.
- Call the Otolaryngology Clinic at University of Washington Medical Center (UWMC), at 206-598-4022.
- Visit UWMC’s otolaryngology website: www.uwENT-headneck.org.
- Visit Virginia Merrill Bloedel Hearing Research Center’s website: <http://depts.washington.edu/hearing>.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns.

- UWMC Otolaryngology – Otolaryngology and Audiology: 206-598-7519
- HMC Otolaryngology – Head and Neck Surgery Center: 206-744-3229