

Hearing Problems

Hearing Loss

Hearing loss can result from aging (called presbycusis), disease, radiation therapy, head/neck surgery and some drug therapies. Some types of hearing loss run in families.

- *Sensory hearing loss* occurs when the cells involved in hearing are damaged. This usually occurs in the inner ear. Inner ear problems can also disrupt your sense of balance.
- *Conduction hearing loss* occurs when something is physically blocking the pathway that sound waves travel such as wax, tumor, infection, or a foreign body. This usually involves the outer ear, eardrum, or middle ear.
- Mixed hearing loss is a combination of both sensory and conductive hearing loss.

Diagnosis

Signs and symptoms include noises that sound muffled to you and hearing that is getting worse (hearing loss is progressive). You may notice the loss on one or both sides. Hearing loss is painless but can cause dizziness, balance problems, nausea, and/or ringing in the ears (tinnitus). Your doctor will do a full health history and physical exam, and may refer you to an audiologist (diagnoses, treats, and manages hearing loss and balance problems), and/or give you hearing tests.

What you can do

- ✓ Tell your doctor right away if you notice any loss of hearing, your symptoms become more severe, or you have dizziness or loss of vision.
- ✓ If your hearing loss is caused by a build-up of wax, there are many over the counter eardrops available for you to use. Discuss this with your healthcare provider.
- ✓ Tell people that you have trouble hearing. Ask them to pronounce words slowly and clearly. Shouting is high pitched and can make it harder for you to hear them.). Gestures may be helpful.
- ✓ Depending on the cause of your hearing loss, hearing aids may be useful to better your hearing. Hearing aids use an amplifier to pick up sound, and help to make sounds clearer. Ask a hearing aid specialist to help you pick the hearing aid that is best for you.
- ✓ Even with hearing aids, it may still be difficult for you to understand what people are saying to you. If you do not understand someone who is speaking to you, ask him or her to clarify what is being said. Tell them what parts of the sentence you were able to understand.
- ✓ If hearing loss is severe or total, there may be a need to learn lip reading and sign language.
- ✓ Some chemotherapy can cause Meniere's disease (dizziness, tinnitus, and hearing loss). While there is no cure for Meniere's, your doctor may recommend you lower the salt in your diet and take a diuretic medication (reduces fluid retention). Other medications may be prescribed such as those that treat motion sickness and nausea.
- ✓ Avoid all medicines that may cause hearing loss.
- ✓ Keep your appointments, follow your providers' instructions, and don't share your medications.

Ototoxicity

Ototoxicity is the ear damage from certain medications that cause hearing loss, dizziness, and/or balance problems. If these types of medications are used at high doses or are used over a long time, they can damage cells in your inner ear. Hearing loss from ototoxicity may be temporary or permanent.

Medications that may cause ototoxicity if given in high doses or over a long period of time include cisplatin, Lasix (diuretic), aspirin, and certain antibiotics such as gentamycin, tobramycin, and streptomycin).

Dizziness may be the first sign that the balance mechanism (in the inner ear) isn't working correctly and/or has been damaged. Note: Dizziness may also be caused by dehydration/low blood pressure – usually this type of dizziness occurs when you are changing positions, particularly getting into a standing position quickly – as well as stress, fatigue, depression, heart problems, anemia, hyperventilating (breathing very fast), inflammation or infection in the ear, infections in central nervous system (brain and spinal cord), and benign or malignant tumors in brain or ear

Diagnosis

Signs and symptoms include tinnitus (ringing, humming, or other sound in your ear/head that gets louder as ototoxicity gets worse), feeling pressure or fullness in head/ears, hearing loss, feeling like room is spinning, and nausea/vomiting. Your doctor will do a full health history and physical exam; may order bloodwork and imaging tests such as x-ray, or CT or MRI scan; and may refer you to a specialist such as an audiologist, neurologist, or otolaryngologist/ENT.

What you can do

- ✓ Tell your doctor right away if you have new dizziness, a change in existing dizziness, ringing in your ears, loss of vision, loss of hearing, or if you have symptoms that are not getting better.
- ✓ Drink 2-3 quarts/liters every day to help prevent dehydration (alcohol and drinks with caffeine or high in sugar can cause or worsen dehydration).
- ✓ Change positions slowly. Example, when getting up from sleep, sit up first before you stand.
- ✓ If dizziness isn't severe, walk often but slowly. If severe, walk with assistance.
- ✓ Vestibular exercises can help if you have vertigo (sensation you or room are spinning)
- ✓ Relaxation techniques (meditation, guided imagery, etc.) or anti-anxiety medications\ may help if you have tinnitus (ringing/buzzing in the ear) that gets worse when you are stressed or anxious. Use low level sounds (radio, TV, white noise) to help distract you from the ringing/humming.
- ✓ If you have Meniere's disease, see treatments under hearing loss above.
- ✓ Avoid any medications that cause ototoxicity.
- ✓ Keep your appointments, make sure all your doctors know you have hearing loss, follow your providers' instructions, and do not share your medications with anyone.

While there are no drugs to specifically treat ototoxicity, medication may be prescribed for the dizziness and nausea symptoms such as meclizine/Antivert®, dimenhydrinate/Dramamine®, scopolamine patch/Transderm-Scop®, prochlorperazine/Compazine®, or promethazine/Phenergan®).

Tinnitus

Tinnitus is a condition in which you ‘hear’ ringing, buzzing, or other sound in your head/ears. It can make concentrating, resting, or sleep difficult. Most often, the condition is subjective – only you hear the noise. There are rare cases of objective tinnitus, where others can hear the sound too. These sounds may be caused by problems with the Eustachian tube (ear), a heart valve, or a blood vessel.

While all the causes of tinnitus are not known, some drugs can definitely affect hearing. High doses of aspirin taken over a long period of time; water pills (diuretics); heart and blood pressure medications such as metoprolol/Lopressor®; certain antibiotics such as gentamycin, tobramycin, and streptomycin; anti-nausea medications such as promethazine/Phenergan®; and anti-malaria drugs such as quinine. Depending on the cause, your tinnitus may last a few days to a few months – or it may be permanent.

People report certain things make their tinnitus worse:

- Stress/anxiety
- Ear or sinus infections; ear/head/neck injuries; jaw problems
- Wax buildup or foreign object in the ear canal
- Heavy smoking
- Certain medical conditions: Meniere’s disease, heart or thyroid disease

Diagnosis

Symptoms: The noise you “hear” may be low roar or buzzing or high whistling or squealing and it may come and go, or be constant. Your doctor will do a full health history and physical exam; hearing test; possibly order bloodwork or imaging tests such as x-ray, angiogram, CT or MRI scan; and may refer you to a specialist, such as an audiologist, neurologist, otolaryngologist/ENT.

What you can do

- ✓ Tell your doctor right away if you have any change in your tinnitus, loss of vision, loss of hearing, or if you have symptoms that are not getting better.
- ✓ If you have hearing loss with your tinnitus, you may need hearing aids.
- ✓ Avoid loud noises.
- ✓ Drink 2-3 quarts/liters every day to help prevent dehydration. (Alcohol and drinks with caffeine or high in sugar can cause or worsen dehydration.)
- ✓ Relaxation techniques (meditation, guided imagery, etc.) or anti-anxiety medications may help if you have tinnitus (ringing/buzzing in the ear) that gets worse when you are stressed or anxious.
- ✓ Use low level sounds (radio, TV, white noise) to help distract you from the ringing/humming.
- ✓ If tinnitus is from jaw problems, your doctor may refer you to a specialist to have corrective surgery.
- ✓ If you have dizziness with your tinnitus, change positions slowly. For example, when getting up in the morning, sit up for a minute or two before you stand up. If dizziness isn’t severe, walk often but slowly. If severe, walk with assistance.
- ✓ Avoid the medications that caused your tinnitus – and any drugs that cause tinnitus.

- ✓ Vestibular exercises can help if you also have vertigo (sensation you or room are spinning).
- ✓ If you have Meniere's disease, see treatments under hearing loss above.
- ✓ There are drugs that can be prescribed for tinnitus and dizziness such as meclizine/Antivert®, dimenhydrinate/Dramamine®, scopolamine patch/Transderm-Scop®, prochlorperazine/Compazine®, or promethazine/Phenergan®)
- ✓ Keep your appointments, make sure all your doctors know you have tinnitus, follow your providers' instructions, and do not share your medications with anyone.

Tests for Hearing Problems

Most tests check for your response to tones or words delivered at different pitches, volumes, and/or noise environments.

- Pure tone audiometry provides a baseline used to measure future hearing tests by testing to find the quietest sounds you can hear at different pitches
- Speech audiometry determines the level at which you can hear words and understand them
- Tympanometry tests how well the ear drum and middle ear are working (also used to diagnose fluid in the ear or torn eardrum)
- Otoacoustic emissions testing is used for early detection of treatment-related hearing loss by measuring hair cell function in the inner ear
- Acoustic Reflex Measures (aka middle ear muscle reflex (MEMR) tests how well the ear responds to loud sounds.
- Tuning fork test can show if there is hearing loss in one or both ears. It can also show which type of hearing loss you have (conductive or sensory). A tuning fork is a two-pronged metal device that makes a tone when it vibrates.
- Speech and word recognition tests can show how well you can hear spoken language.

When to Contact Your Health Care Provider

If you have medication-induced hearing loss or tinnitus, call your doctor if you:

- get sudden severe ear pain
- have a temperature of 100.4°F (38 C)
- vomit more than 4-5 times in 24 hours
- suddenly lose vision or hearing
- fall down because you got dizzy or couldn't keep your balance
- have nausea and vomiting that is not getting better with prescribed medication or that prevents you from eating or drinking
- lose consciousness (faint)
- have symptoms that are not better within 3 days of receiving treatment