
CONDUCTIVE HEARING LOSS

Hearing loss can be broadly separated into two categories: conductive and sensorineural (damage to tiny hair cells in the inner ear). Conductive hearing loss results when there is any problem in delivering sound energy to your cochlea, the hearing part in the inner ear. Common reasons for conductive hearing loss include blockage of your ear canal, a hole in your ear drum, problems with three small bones in your ear, or fluid in the space between your ear drum and cochlea. Fortunately, most cases of conductive hearing loss can be improved.

WHAT ARE THE SYMPTOMS OF CONDUCTIVE HEARING LOSS?

Symptoms of conductive hearing loss can vary depending on the exact cause and severity (see below), but may include or be associated with:

- Muffled hearing
- Sudden or steady loss of hearing
- Full or “stuffy” sensation in the ear
- Dizziness
- Draining of the ear
- Pain or tenderness in the ear

WHAT CAUSES CONDUCTIVE HEARING LOSS?

Conductive hearing loss happens when the natural movement of sound through the external ear or middle ear is blocked, and the full sound does not reach the inner ear. Conductive loss from the exterior ear structures may result from:

- *Earwax*—Your body normally produces earwax. In some cases, it can collect and completely block your ear canal causing hearing loss.
- *Swimmer’s ear*—Swimmer’s ear, also called otitis

externa, is an infection in the ear canal often related to water exposure, or cotton swab use.

- *Foreign body*—This is typically a problem in children who may put common objects including beads and beans in their ears but can also be seen in adults most often by accident, such as when a bug gets into the ear.
- *Bony lesions*—These are non-cancerous growths of bone in the ear canal often linked with cold water swimming.
- *Defects of the external ear canal, called aural atresia*—This is most commonly noted at birth and often seen with defects of the outer ear structure, called microtia.
- Middle ear fluid or infection
- Ear drum problems

Conductive loss associated with middle ear structures include:

- *Middle ear fluid or infection*—The middle ear space normally contains air, but it can become inflamed and fluid filled (otitis media). An active infection in this area with fluid is called acute otitis media and is often painful and can cause fever. Serous otitis media is fluid in middle ear without active infection. Both conditions are common in children. Chronic otitis media is associated with lasting ear discharge and/or damage to the ear drum or middle ear bones (ossicles).
- *Ear drum collapse*—Severe imbalance of pressure in the middle ear can result from poor function of the Eustachian tube, causing the ear drum to collapse onto the middle ear bones.
- *Hole in the ear drum*—A hole in the ear drum (called the tympanic membrane) can be caused by trauma, infection, or severe eustachian tube dysfunction.

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- *Cholesteatoma*—Skin cells that are present in the middle ear space that are not usually there. When skin is present in the middle ear, it is called a cholesteatoma. Cholesteatomas start small as a lump or pocket, but can grow and cause damage to the bones.
- *Damage to the middle ear bones*—This may result from trauma, infection, cholesteatoma, or a retracted ear drum.
- *Otosclerosis*—This is an inherited disease in which the stapes or stirrup bone in the middle ear fuses with bones around it and fails to vibrate well. It affects slightly less than one percent of the population, occurring in women more often than men.

WHAT ARE THE TREATMENT OPTIONS?

If you are experiencing hearing loss, you should see an ENT (ear, nose, and throat) specialist, or otolaryngologist, who can make a specific diagnosis for you, and talk to you about treatment options, including surgical procedures. A critical part of the evaluation will be a hearing test (audiogram) performed by an audiologist (a professional who tests hearing function) to determine the severity of your loss as well as determine if the hearing loss is conductive, sensorineural, or a mix of both.

Based on the results of your hearing test and what your ENT specialist's examination shows, as well as results from other potential tests such as imaging your ears with a CT or MRI, the specialist will make various recommendations for treatment options.

The treatment options can include:

- Observation with repeat hearing testing at a subsequent follow up visit

- Evaluation and fitting of a hearing aid(s) and other assistive listening devices
- Preferential seating in class for school children
- Surgery to address the cause of hearing loss
- Surgery to implant a hearing device

These conditions may not, but likely will, need surgery:

- Cholesteatoma
- Bony lesions
- Aural atresia
- Otitis media (if chronic or recurrent)
- Severe retraction of the tympanic membrane
- A hole in the ear drum
- Damage to the middle ear bones
- Otosclerosis

Many types of hearing loss can also be treated with the use of conventional hearing or an implantable hearing device. Again, your ENT specialist and/or audiologist can help you decide which device may work best for you and your lifestyle.

WHAT QUESTIONS SHOULD I ASK MY DOCTOR?

1. What is the cause of my hearing loss?
2. Will my hearing loss likely get worse with time?
3. What are my treatment options?
4. What are the risks of the surgery you are recommending?
5. Do you do this surgery frequently?