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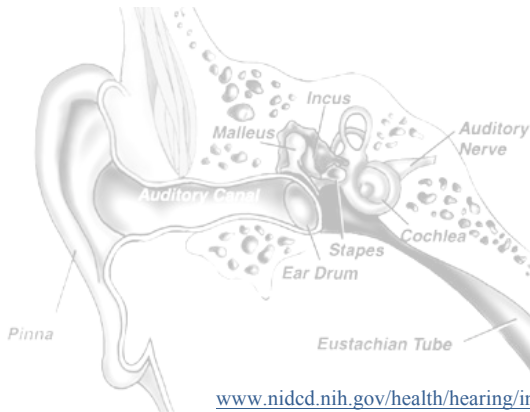
Chronic Ear Infection

Chronic otitis media, or infection of the middle ear, occurs when the ear fails to completely recover after a single severe ear infection or after multiple recurrent childhood ear infections. The symptoms vary depending on whether or not there is active disease, involvement of the surrounding mastoid bone and/or a hole in the ear drum. There may be drainage, hearing loss, tinnitus (head noise), dizziness, pain, or rarely facial weakness. Hearing is measured in decibels (dB), and a hearing level of 0-25 dB is considered normal hearing. Your level is:

Right ear _____ dB Left ear _____ dB

Hearing Severity / % Loss

25 dB (normal).....0%	65dB(Severe).....60%
35 dB (mild).....15%	75dB(Severe).....75%
45 dB (moderate)..30%	>85dB (Profound)..>90%



www.nidcd.nih.gov/health/hearing/innear

The normal ear is divided into the outer, middle and inner ear. The outer ear helps carry sound to the ear drum, or tympanic membrane. In the middle ear, sound is transmitted from the ear drum to the three hearing bones, or ossicles, and then to the inner ear. In the inner ear, sound is converted into a fluid wave, and interpreted by the **hearing organ**, the cochlea, as different sound frequencies. The hearing nerve carries this sound information to the brain. The inner ear also contains five **balance organs**, including three fluid-filled semicircular canals which detect head rotation, and

two other crystal-containing organs that detect vertical and horizontal movements.

There are two types of hearing impairment. If there is a problem in the outer or middle ear, a **conductive hearing loss** occurs. If the trouble lies in the inner ear, a **sensorineural hearing loss** occurs. A conductive hearing loss commonly occurs when there is a hole in the ear drum, or tympanic membrane. It can also occur when there is destruction of the hearing bones, the malleus (hammer), incus (anvil) and stapes (stirrups).

If a **tympanic membrane perforation** is present, you should not allow water into your ear canal. While showering, you can place a cotton ball in the ear and cover it with Vaseline. Swimming is permissible if you use an ear plug, which can be custom made. Nose blowing should be avoided to prevent bacteria from the nose from entering the ear. If there is active drainage, the most outer ear canal can be gently cleaned with a cotton tip applicator, and antibiotic ear drops may be prescribed and used with a cotton ball to catch any excess fluid/drops.

Your ear exam shows ...

Right

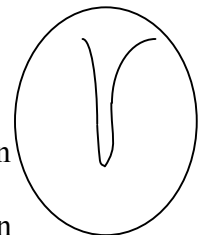
Left



Scarring of ear drum

An ear drum perforation

A cholestatoma (cyst) in the middle ear or mastoid



Destruction of the hearing bones

A mastoid cavity

Old Farm Professional Plaza
 4000 South 700 East #10
 Salt Lake City, UT 84107

TOSH Medical Towers
 5770 South 250 East #285
 Salt Lake City, UT 84107

Lone Peak Medical Campus
 74 East 11800 South #360
 Draper, UT 84020

Tooele Clinic
 1929 North Aaron Drive #1
 Tooele, UT 84074

Surgical Treatment

Recurrent infection, cholesteatoma and conductive hearing loss are all indications for surgical treatment. Surgery was originally developed to control infection and prevent serious complications, such as abscess or meningitis. Surgery has been modified to now also repair hearing loss in addition to making the ear “safe.”

Myringotomy and ventilation tubes (ear tubes) is usually performed in children for recurrent ear infections or persistent ear fluid affecting hearing. However, it can be performed in adults with chronic ear infections and eustachian tube dysfunction. It can be done under local anesthesia in the clinic or under general anesthesia in the operating room at the time of another procedure.

Myringoplasty means a repair of the ear drum only, and is a simple procedure that can be performed under local anesthetic. It is used for very small perforations in that absence of infection or damaged hearing bones. Tissue is used to plug the hole, and it is usually healed, sealing the ear drum in 6 weeks. It may improve hearing as well.

Tympanoplasty is performed to eliminate infection and improve hearing. A hole, or perforation, in the ear drum is repaired using a thin layer of tissue from the same incision site, and damaged hearing bones can be repaired or replaced at the same time. If a perforation needs to be repaired, the incision is usually behind the ear and the surgery requires a general anesthetic. Occasionally, if hearing bones alone need to be repaired, it can be done under local anesthetic. In some cases, the ear drum is repaired during the first surgery, and the hearing mechanism is repaired at a planned second surgery approximately 6 months later. This outpatient surgery usually last 1-2 hours, and the ear is completely healed 8 weeks later. Sometime it takes a few months before the hearing is completely improved.

Mastoidectomy means the removal of infected bone behind the ear. The operation is performed under general anesthesia through an incision behind the ear. It is usually performed at the time of a tympanoplasty, and often needs to be done in order for a perforation not to recur. It is usually performed with a technique that spares the normal ear canal anatomy. For severe cases, a canal wall down

to the ear and allowing the mastoid to be cleaned in the clinic. In special cases, the mastoid can be replaced with bone or fat that is harvested from the patient at the same surgery. The outpatient surgery usually lasts 3-4 hours, and complete healing usually takes 3-4 months.

You are a good candidate for...

Right	Left
Ear ventilation tubes	Myringoplasty
Tympanoplasty	Ossicular Reconstruction
Mastoidectomy	Mastoid Obliteration

What to expect

You will have a dressing that will stay on for 24 hours after the surgery. You can return to work in 3-5 days. Your postoperative visit will be 3 weeks after surgery. There may be packing in the ear that needs to be removed at the three week visit. After surgery, you may have drainage for several days, and will need to use a cotton ball. You will need to keep the ear dry and shower with a cotton ball and Vaseline. Hearing may take several weeks to a few months before completely improving. Hearing will not usually be tested until about 3 months after the surgery. You may also experience tinnitus (head noise), taste disturbance, jaw joint soreness, or mild dizziness for the first week or two after surgery.

Possible complications

- **Ear infection** – foul drainage may indicate infection and require antibiotic drops or pills.
- **Hearing loss** – can occur in about 3% of cases.
- **Severe Dizziness** – can occur, and may require a short course of steroid pills.
- **Hematoma** – a collection of blood can occur, and may need draining or even hospitalization and IV antibiotics if it gets infected.
- **Facial Nerve Weakness** - can occur right after surgery from the local anesthetic, but is a rare complication from surgery. It is usually temporary, but can take weeks or months to completely resolve.
- **Spinal fluid leak** – is a rare complication from mastoid surgery, and may require a lumbar drain and hospitalization.

For more information visit:

<http://www.entnet.org/healthinformation/ears.cfm>

<http://emedicine.medscape.com/article/858684-overview>