

## INDICATIONS FOR SURGICAL REPAIR OF HEARING LOSS

*Terry R. DeGroot, MD*

The vast majority of hearing loss arises from sensori-neural origin based on many possible causes. However, a large number of individuals suffer hearing loss caused by surgically correctible conditions. Following is a listing of the more common etiologies and therapeutic surgical procedures to aid in resolving conductive forms of hearing loss as well as basic procedures to treat other chronic conditions which can also lead to hearing decrease.

### SURGERY FOR HEARING LOSS

**Stapedectomy** – a surgical treatment for otosclerosis, a disease of ear bone degeneration that causes the stapes (a bone in the middle ear) to become fixed and prevents it from vibrating normally. During stapedectomy surgery, the stapes bone is removed (typically with a micro-laser), and a prosthesis of various materials is inserted in the middle ear as a replacement.

**Ossicular reconstruction (Middle ear prosthesis)** – a surgical procedure to correct hearing loss from an abnormal middle ear bone(s). One, two or all three of the middle ear bones are replaced with prosthetic hearing bones.

**Cochlear implantation** – involves the surgical implantation of a computerized electronic device designed to help people with nerve deafness who gain little or no benefit from hearing aids. The device converts sound energy to electric impulses that stimulate the nerve of hearing directly.

**Implantable auditory prosthesis (Implantable hearing aid)** – an implantable middle ear hearing device that amplifies sound like a standard hearing aid. The implantable prosthesis vibrates the middle ear bones in the ossicular chain directly, rather than amplifying the sound through the ear canal.

**Bone Anchored Hearing Aid (BAHA)** - a hearing device that allows direct bone-conduction through a

titanium implant and vibrator implanted into the skull. It is useful for patients who cannot use conventional air-conduction hearing aids, for example patients without ear canals.

**Repair of fistula for hearing loss** - A fistula of the inner ear is an abnormal connection between the fluid-filled inner ear and the air-filled middle ear. This can result in dizziness and hearing loss. The repair involves patching the leak in the middle ear and can be done through the ear canal.

### SURGERY FOR EAR INFECTIONS AND CHRONIC EAR DISEASE

**Myringotomy tubes** - small tubes that are surgically placed into a child's eardrum by an ear, nose, and throat surgeon. The tubes may be made of plastic or metal and help restore hearing and reduce risk of ear infections.

**Tympanoplasty** - the repair of perforations, or holes, in the eardrum (tympanic membrane) and can also involve repair of the middle ear bones. Eardrum perforations (holes) can be caused by trauma or infection.

**Mastoidectomy** - an operation to remove chronic infection or other disease from the bone behind the ear (the mastoid bone) when medical management is inadequate. The most common indication is 'cholesteatoma', a benign growth of the middle ear and mastoid bone. Cholesteatoma may destroy adjacent structures of both hearing and balance and has a high recurrence rate, especially in children.

The initial obvious step in the diagnostic protocol is to direct the patient to undergo a thorough audiometric evaluation in order to determine the type of hearing loss from which they suffer.

Please refer any patients who you suspect have a hearing loss to Comprehensive Ear & Hearing for Comprehensive Hearing Assessment.

**Dr. Terry DeGroot is available at all three Comprehensive Ear & Hearing locations for medical ear & hearing care including cerumen management.**

**If you have a patient with any of the following symptoms an appointment with Dr. DeGroot is recommended:**

- Sudden hearing loss or noticeable change in hearing
- Ringing in the ears
- Ear pain or pressure
- History of ear wax accumulation



Terry DeGroot, M.D.

- Audiological testing • Hearing instruments • Custom sound & swim plugs
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#### Office Hours

Monday - Friday 8:30 am - 5:00 pm  
 After hours appointments available by request.

THERE ARE  
**TWO TYPES**  
OF HEARING LOSS...

While the causes of hearing loss may be varied, there are only two types of hearing loss:

**Conductive** — A problem with the outer or middle ear, conductive hearing loss is often medically or surgically treatable. A common example is chronic middle ear infection.

**Sensorineural** — The most common type, sensorineural hearing loss is a problem with the inner ear or the hearing nerve, is usually permanent, and can be rehabilitated with amplification through hearing aids.

**Mixed hearing loss** is a combination of conductive and sensorineural hearing loss.

...BUT NUMEROUS  
**NEGATIVE**  
EFFECTS

Many people put off getting help for their hearing loss because they think it's insignificant — something they can deal with by simply turning the TV louder or asking friends to repeat themselves. But research has linked untreated hearing loss to significant issues such as:

- Irritability, negativism and anger
- Fatigue, tension, stress and depression
- Avoidance or withdrawal from social situations
- Social rejection and loneliness
- Reduced alertness and increased risk to personal safety
- Impaired memory and ability to learn new tasks
- Reduced job performance and earning power

The specialists at Comprehensive Ear & Hearing will perform a comprehensive hearing assessment to determine the type of hearing loss a patient is suffering from and advise you on the next step in their treatment plan.

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