

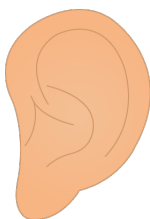
## HEARING LOSS

### WHAT IS HEARING LOSS?

Hearing loss is being unable to hear sound either partially or completely in one or both ears. It can be temporary or permanent. There are different degrees and types of hearing loss.

### HOW WE HEAR

The structure of the ear is divided into three parts: the outer ear, middle ear, and inner ear (cochlea). The ear canal and the eardrum are part of the outer ear. Sound travels through the ear canal, reaches the eardrum, and causes vibrations. Behind the eardrum is the middle ear which contains three bones called ossicles. The ossicles are connected to the eardrum and the inner ear. The vibrations from the eardrum cause the ossicles to vibrate, which leads to the movement of the fluid in the inner ear. This movement causes changes to the hair cells in the inner ear. The hair cells create electrical signals and send them to the brain via the auditory nerve and they are then interpreted as sound.



### COMMON SYMPTOMS OF HEARING LOSS

- Inability to hear clearly when people are talking
- Difficulty hearing with loud noise or background noise
- Difficulty following a conversation when two or more people are talking
- Frequently ask people to repeat what they said
- Hearing buzzing or ringing sounds in the ears

### TYPES AND CAUSES OF HEARING LOSS

#### Conductive Hearing Loss (CHL)

CHL occurs when there is a problem in the outer or middle ear preventing sound from reaching the inner ear. This condition can be temporary or permanent. CHL may be caused by earwax build-up, fluid from an ear infection, damage to the eardrum or ossicles.

#### Sensorineural Hearing Loss (SNHL)

SNHL occurs when the inner ear or the auditory nerve that carries signals from the inner ear to the brain is damaged. SNHL is usually permanent. The nerves in the ear and sensory cells gradually die as a result of aging. Other causes may be due to illnesses, heredity, certain drugs, or exposure to loud noises.

#### Mixed Hearing Loss

People with mixed hearing loss may have damage in the outer or middle ear *and* damage in the inner ear or auditory nerve that carries hearing information from the cochlea to the brain.

### TREATMENT FOR HEARING LOSS

If you have trouble hearing, seek professional help from your primary care physician, and/or a specialist trained in diagnosing and treating hearing problems. Hearing loss can get worse if left untreated.

Conductive hearing loss can usually be restored by medical treatment or surgery. Although there is no cure for age-related hearing loss, hearing aids and amplifying devices may help people hear better.

Cochlear implants, a small electronic device that stimulates the auditory nerves to provide a sense of sound, may be an option for people who have severe hearing loss.

### **PREVENTION OF HEARING LOSS**

- Avoid exposure to loud noises
- Have your doctor remove earwax build-up
- See your doctor if you have pain in the ear (a sign of ear infection), ringing in the ear, or hearing problem
- Discuss with your doctor about medications you are taking that may damage your hearing
- Get a hearing test

### **FOR MORE INFORMATION**

National Institutes of Health

<http://nihseniorhealth.gov/hearingloss/treatmentandresearch/01.html>