

# Ear Hygiene and Protection

It is important to care for your ears and protect your hearing now. Many times warning signs of hearing loss are not recognized until it is too late. In many cases the hearing loss that has occurred is irreversible. Understanding how to properly protect your ears is vital to reduce hearing loss.

## How are the functions of the three parts of an ear?

### ❖ Outer Ear

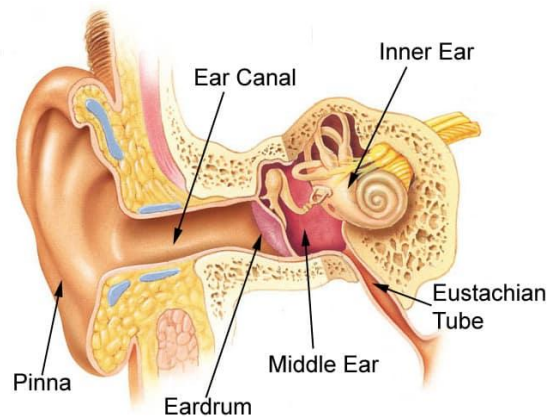
- The auricle collects sound waves and funnels them into the ear canal.
- Sound that is amplified in the ear canal causes vibrations on the eardrum.

### ❖ Middle Ear

- The ossicles amplify the sound from the middle ear and transmit it to the inner ear.
- The Eustachian tube, which connects the middle ear and throat to equalize air pressure between the middle ear and outside of the ear.

### ❖ Inner Ear

- The cochlea converts sound into electrical impulses that travel down neurons to the brain.
- The brain interprets these signals and allows us to recognize what sound we heard.



## Earwax: what it is and how to safely clean the ear.

- ❖ Earwax is a brown, orange, or yellow waxy substance that is secreted into the ear canal that helps to protect the skin in the ear, clean out debris and dead skin cells, and protect the ear from bacteria, viruses, and fungi.
- ❖ Never use anything smaller than your finger to clean your ears.
  - Q-tips and other smaller objects have the potential to puncture the eardrum and also pack earwax down into the ear canal.
- ❖ When cleaning your ears, use a damp washcloth to clean around the outside of the ear and the entrance of the ear canal.

- ❖ If you start to notice that your ears feel clogged or if your hearing begins to sound muffled, you can try to remove the earwax at home with an over-the-counter earwax removal product (Debrox, Auro, Murine, etc.).
  - Children under the age of 12 and adults/children who have failed to successfully remove earwax after multiple attempts should go to an audiologist to have earwax removed by a professional.



### Hearing loss: what causes it?

Hearing loss can occur when any part of the ear is damaged. Hearing loss is not always permanent, but any hearing loss does have the potential to be permanent. Inside the cochlea of the inner ear there are hair cells which help to detect sound waves. These hair cells are only able to work when they are standing straight up. Loud noises can cause these hair cells to bend over. After a recovery period, the hair cells can heal and return to a standing position. If you are repeatedly exposed to loud noises, the hair cells do not have the ability to return to a standing position and they die. Once a hair cell dies, it cannot grow back or be repaired.

### Hearing loss: how can you prevent it?

- ❖ Wear ear protection (ear plugs, ear muffs, etc.) when doing activities that involve loud noises such as using power tools, cutting the grass, or using loud machinery.
- ❖ Wear ear protection at concerts, motor sports events, or any other place where the volume of noise can be excessive.
- ❖ When listening to music through earbuds, the volume of music should be adjusted so that it is comfortable to you and that no one else can hear what you are listening to.
- ❖ You should immediately see an audiologist if you notice that you have ringing in your ears (tinnitus), have difficulty understanding what others are saying, or start to experience muffled sounds. An audiologist can run tests to determine if you have hearing loss, perform surgery to help with hearing damage, or fit you for hearing aids.

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