Hearing & Hearing Loss

As of 2009, there are some 315 million people in the United States. Of those, it is estimated about 36 million have hearing loss. Although hearing loss is often associated with aging, hearing loss is clearly present in newborns, children, teenagers, young adults and adults. Healthy human ears can perceive an enormous range of sounds in terms of pitch and loudness. Hearing is the primary sense through which we learn speech and language. The ability to hear clearly from birth is extremely important with regard to normal development of speech and language skills, auditory processing skills, a sense of self, as well as normal emotional and psychological well-being and more.

Common Causes of Hearing Loss

As we age, our ears are exposed to a lifetime of noises such as lawnmowers, telephones, industrial machinery, leaf blowers, chain saws, industrial noise, hair dryers, weapons, and recorded and live music. Many of these sounds occur at loud and potentially injurious levels. Although some people are born with hearing loss, most acquire hearing loss later in life. Causes for acquired hearing loss include a genetic predisposition, ear disease, noise exposure (including music, industrial, military and more), ototoxic medicines, head trauma, and others.

General Types of Hearing Loss

There are three primary hearing loss categories: sensorineural, conductive, and mixed.

The first category of hearing loss is the most common, called "sensorineural." Sensorineural hearing loss occurs when tiny hair cells within the inner ear (the cochlea) are damaged. Sensorineural hearing loss is permanent and in most cases there are no medical or surgical treatment options. Hearing aids are the primary treatment for sensorineural hearing loss. In some situations, such as when hearing aids have not been beneficial for particular patients with severe and profound sensorineural hearing loss, these people may benefit from cochlear implantation.

The most common sensorineural hearing loss is a high-frequency hearing loss, typically associated with aging or noise exposure, and often both. High-frequency hearing loss may be difficult for patients to "self-diagnose" because it occurs slowly over decades. Persons with high-frequency sensorineural hearing loss often note they can hear, but they cannot hear clearly. They may say "people don't speak as clearly as they used to..." These are common observations from people with high-frequency sensorineural hearing loss. The primary rehabilitative tool for these individuals is hearing aids.

The second most common type of hearing loss is referred to as "conductive." Most often, conductive hearing loss results from a blockage of the normal air conduction sound pathways. Conductive hearing loss may be due to ear wax (cerumen) blocking the ear canal or perhaps a foreign object may be lodged in the ear canal. Another example of a conductive hearing loss is when fluid occupies the middle ear space, as might occur with common ear infections (otitis media).

The third most common type of hearing loss is called a "mixed" hearing loss. As its name implies, it involves both sensorineural and conductive hearing loss components.

Degree of Hearing Loss

Audiologists use general terms (*normal*, *mild*, *moderate*, *severe*, and *profound*) to characterize the degree of hearing loss. Hearing loss is measured in decibels (dBs) and the general categories refer to an average of the decibel level of hearing loss present.

In general, people with normal hearing (up to 25 dB hearing loss for adults, up to 15 dB for children) can hear most speech sounds in quiet and comfortable listening situations. For information regarding children with hearing loss, please see "Children and Pediatric Hearing Loss."

Adults with mild hearing loss (between 26 and 40 dB) may hear reasonably well in one-on-one conversation, but will miss words and speech sounds when speech is quiet or when there is background noise present.

Adults with moderate hearing loss (between 41 and 70 dB) miss a lot of speech sounds and telephone conversation. They often ask for repeats and often say, "What did she say?"

Adults with severe hearing loss (between 71 and 90 dB) need hearing aids to perceive speech sounds almost all of the time. People with severe hearing loss will miss the vast majority of conversational speech and using telephones will be very difficult.

Adults with profound hearing loss (91 dB or more) cannot hear speech sounds even if they are very loud. People with profound hearing loss need hearing aids or cochlear implants to perceive speech sounds.

People with untreated hearing loss (people with hearing loss who do not wear hearing aids) experience a decreased quality of life. Untreated hearing loss has been shown to cause sadness, depression, anxiety, paranoia, and poor social relationships. People with untreated hearing loss may have a difficult time in their careers—often earning thousands of dollars less than their hearing peers. However, the difference in wages between people with untreated and treated hearing loss is reduced by half, when people wear hearing aids.

Information was obtained from the American Academy of Audiology website at www.audiology.org.