About Hearing Loss and Assistive Technology for Deafness/Hard of Hearing

Hearing Loss

Overview

The topic of Hearing loss is very broad and can mean loss of the ability to hear only certain sounds to complete hearing loss at birth or early childhood or after language development. Individuals who have grown up Deaf may have some hearing but may identify with Deaf culture and in the US typically use ASL (American Sign Language) for communication. Individuals who are considered Late-Deafened may also use ASL and other visual forms of communication but may not identify with cultural aspects of being Deaf. Individuals with hearing loss frequently do not relate the condition to being a disability or an impairment and typically prefer the terms, "Deaf" or "Hard of Hearing".

Medical Aspects

A wide range of medical conditions may cause a person to be or become Deaf or Hard of Hearing. The hearing loss may impact high or low frequency sounds and/or volume (decibel level). Some medical conditions are progressive and require periodic treatment. An audiologist is a licensed medical professional whose specialty is hearing and balance. The minimum credential for an audiologist is a Master's degree and they can measure the degree and type of hearing loss and prescribe hearing aids and/or medical treatments such as implant technologies. A hearing aid dispenser can also measure and prescribe hearing aids but may not recognize certain hearing or ear related medical conditions. An Ear, Nose and Throat doctor may also serve the client.

Communication

Persons who are Deaf or Hard of Hearing typically have a preferred primary communication mode that is either visual or auditory, or may be both. ASL is a visual language and communication can be face to face or via video technologies. For persons who primarily use ASL, written English may be a secondary language with spelling and syntax reflecting more ASL than grammatically correct written English. Persons who are not literate in ASL who have some hearing may utilize hearing aids or other device/s that can amplify sound and provide custom tone control.

Environmental Access and Acoustics

Hearing aids may be used as a communication support and/or may provide access to environmental sounds including traffic and emergency alerts. Hearing Aids typically have a number of settings that can be customized to meet the auditory demands of specific environments and allow access to additional technologies such as loop systems. Emergency alerts typically have a visual and an auditory output. Other alerts such as timers, telephone ringers and doorbells, may have amplified sounds and/or visual and/or vibrating output.

Assistive Technology

Assistive technology services for persons with hearing loss may be funded through a health plan such as hearing aids and implant technologies, other specialty programs or purchased off-the-shelf.

Assistive Technology to accommodate persons who are Deaf or Hard of Hearing [AT-DHH]

Amplification/Tone Technologies:	**Visual Technologies:**	**Tactile/Vibrating:**
Hearing Aids	Video phone technologies	Smart Phone Apps
Telephones	Captioned phones	Visual/tactile alerting systems
Personal Amplification Systems	Captioned and/or signed media	
Alerting Systems	Devices with lighted or text output	

TYPES OF HEARING AIDS

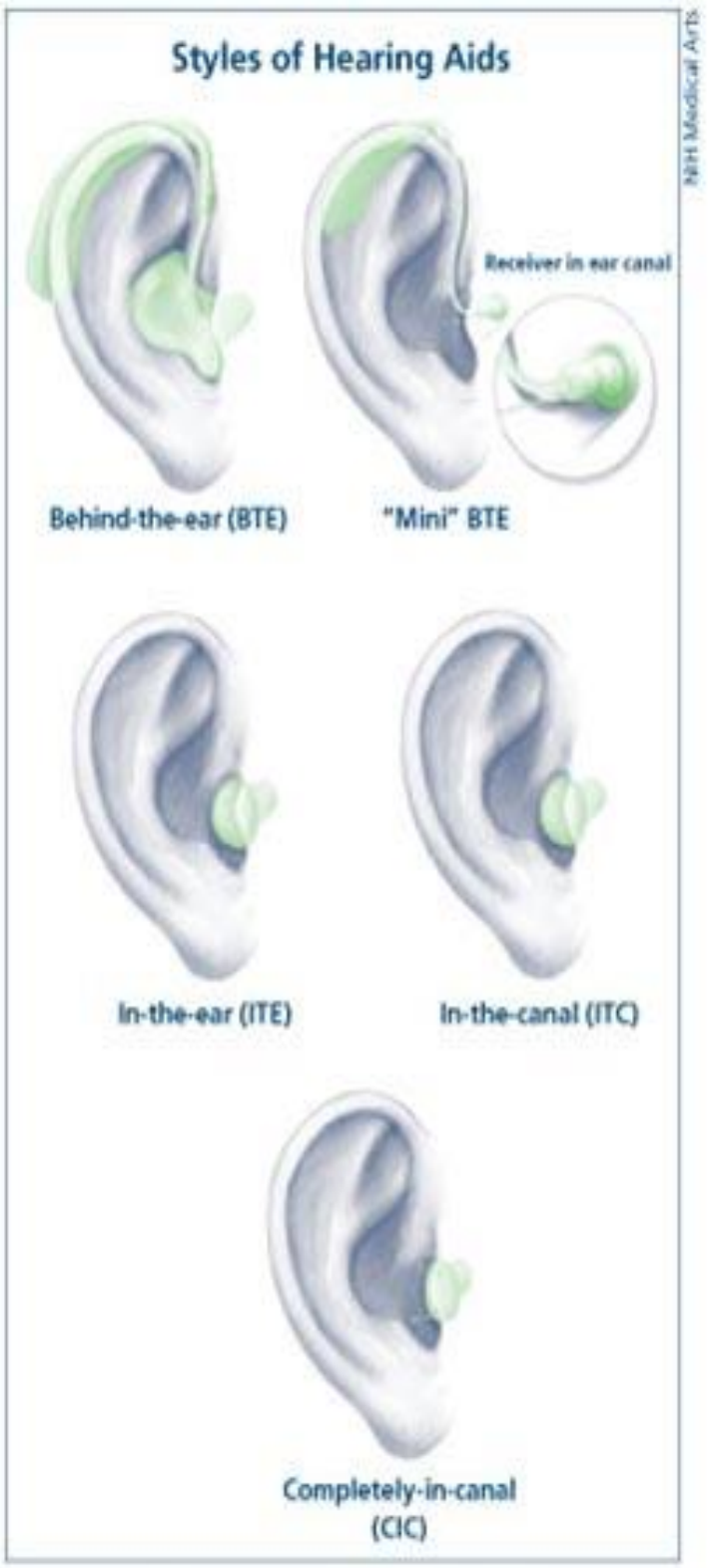
BTE- behind the ear- are about one inch long and fit snugly behind your outer ear. A small tube connects with the amplification device behind your ear and delivers amplified sound into your ear canal. It has an adjustable volume control. The battery fits into a compartment at the bottom of the aid. Its larger size allows for more power and features, such as Telecoils. BTE's are suitable for the entire range of hearing loss

OTE- on the ear- area new style of BTE that are extremely small and sits on top of the outer ear. The tube going into the ear canal cab be very narrow and is some OTEs, may have a speaker located in the ear canal itself.

ITE-in the ear- are custom fitted to your outer ear's contours. Both the volume control and the battery are smaller than the ones used in a BTE. The smaller size may not amplify sufficiently for those with very severe loss. For some users, this small size can be difficult to insert or remove, change batteries, or adjust the volume. Most ITE aids have special features, such as Telecoils, to make talking on the telephone easier. ITEs are appropriate for those with mild to moderate loss

ITC- in the canal- are smaller. They fit farther into the ear canal so they are barely visible. They are cosmetically appealing but are harder to manipulate and may not be powerful enough offer someone with severe loss. They are customized to fit the size and shape of your ear canal.

CIC-completely in the canal- are the smallest ITEs. Cosmetically, they may be the most flattering, but their tiny size can be a real disadvantage in handling. Because they are closest to your eardrum, they need less power and take a smaller battery. They are the most expensive ITEs because of their miniaturized circuitry, and they often need more frequent maintenance and cleaning than larger aids because of their placement in the canal



Courtesy of NIDCD/NIH