Hearing Aids

In Audiology, we offer every type of rehabilitative or assistive device for the hearing impaired. Our department dispenses traditional and digital hearing aids and personal assistive listening devices, such as infrared devices for enhanced enjoyment of television.

We also offer bone-anchored hearing aids [BAHAs] for rehabilitation of persons with conductive or mixed hearing loss. Persons born with external ear malformations [atresia] or who have chronic ear disease may be candidates for this form of hearing aid.

Recent and important developments in Audiology include:

Evaluation of central auditory processing disorders [1997]
Introduction of digital hearing aid technology into clinical practice [1997-8]
Introduction of cochlear implants for adults [1997]
Introduction of middle ear implantable hearing aid (Vibrant Soundbridge) [2000]
Introduction of cochlear implantation for children [2000]
BAHAs in single-sided deafness [2001]

Who May Benefit from a Hearing Aid?

Hearing aids are helpful in certain types of sensorineural hearing losses, but not in others. They must be fitted by an audiologist, a professional trained in conducting tests that measure hearing and indicate the cause of a hearing loss, and in fitting hearing aids. The ability to obtain comfortable hearing often depends on the individual patient and his pattern of perceptive hearing loss, as well as the skill of the audiologist.

If the perceptive hearing loss is rather flat, that is if it is at the same level throughout all frequencies, a hearing aid may function well, allowing the patient to have good hearing and discrimination with it. This is often the case in Ménière's disease.

In presbycusis (gradual, symmetrical hearing loss caused by aging), the hearing loss is often in the high frequencies. Special hearing aids are made that magnify the high frequencies only, but the magnification sometimes leads to excessive sensitivity to noise or sound (known as hyperacusia), a sensitivity that makes the hearing aid almost useless. Hearing aids may also be difficult to fit people suffering recruitment, a phenomenon wherein soft sounds cannot be heard but higher volume sounds are perceived normally.

Types of Conventional Hearing Aids

While we have the capability now of cochlear implants and implantable aids, such devices are not appropriate for everyone. Following is a brief description of conventional aids, all of which we regularly distribute:

In-The-Ear (ITE) – ITE aids fit completely in the outer ear and may be used for mild to severe hearing loss. A hard plastic case holds the components, and can include added devices such as a telecoil. ITE aids can cause feedback and adjustment problems, and are not usually worn by children because their growth would require frequent changes of the casings. ITE hearing aids may be damaged by earwax or drainage.

Behind-the-Ear (BTE) – BTE aids are worn behind the ear and may be used for mild to profound hearing loss. The BTE casing contains the components, which are connected to a plastic earmold that sits inside the outer ear. Sound passes through the earmold into the ear. Earwax, fluid, or an improper fit may cause feedback.

Canal Aids – Canal Aids fit into the ear canal, and come in two sizes:

In-The-Canal (ITC) hearing aids are made to fit the patient's ear canal, and are used for mild or moderately severe hearing loss.

Completely-in-Canal (CIC) aids are almost completely concealed in the ear canal. They may also be worn for mild to moderately severe hearing loss. Their small size may cause difficulty during adjustment and removal, and they may be damaged by earwax or fluid. They may be unable to hold additional devices such as telecoils. CIC aids are not usually worn by children.

Body Aids – Body aids are used for profound hearing loss when other aids cannot be used. Body aids are attached to a belt or pocket, and connected to the ear by a wire.

The Mechanisms of Hearing Aids

The inner circuitry of hearing aids varies among hearing aids, even if they appear the same externally.

Analog/Adjustable – the audiologist specifies the volume and other qualities needed, and a laboratory builds the aid to meet each patient's needs. The audiologist may make some adjustments. This type of circuitry is usually the least expensive.

Analog/Programmable – the circuitry will permit more than one setting, and the audiologist uses a computer to program each aid. Analog/programmable circuitry may be used in all types of hearing aids. Using an optional remote control device, individuals may change the setting to adjust to different listening environments.

Digital/Programmable – digital/programmable aids use a microphone, receiver, battery, and computer chip. They can be used in all types of hearing aids and are usually the most expensive. They may be adjusted with the greatest flexibility.

Getting Used to Your Hearing Aid

Adjusting to a hearing aid is a gradual process that requires patience. New users must learn to listen in a variety of environments and become accustomed to different sounds, as hearing aids do not restore normal hearing or eliminate background noise. It is helpful at first to wear the aid in comfortable environments for only a few hours at a time. You may need to get used to your voice sounding loud (the occlusion effect), or you may need to have the aid adjusted if there is feedback.