Amplification Options for Children

Fact Sheet

If you suspect your child has a hearing loss see an audiologist. Your audiologist will determine the best course of action to help improve your child's hearing.

Behind-the-Ear Hearing Aid

This is the most popular style of hearing aids for children because they provide the greatest amount of flexibility in fitting. This type of hearing aid sits on top of your child's ear. Amplified sound is routed to the ear through tubing and an ear-piece called an ear-mould. These hearing aids can provide the amplification necessary for even a profound hearing loss, can be attached to other special listening devices such as FM systems, and can have excellent flexibility in how they are programmed. Behind-the-ear hearing aids and ear-moulds now come in a variety of bright colours and designs.

In-the-Ear Hearing Aid

This type of hearing aid fits completely in the ear and outer ear canal. This is a very popular style for adult hearing aid users but there are drawbacks for children using them. They cannot be used with FM systems and usually cannot be used with other listening devices. Also, your child's ears are continually growing which results in the need for frequent re-casing and re-shelling of the hearing aids. While this is being done, your child is usually left without amplification for a few days. This size of hearing aid is not powerful enough to provide adequate amplification for severe or profound hearing loss. For severe or profound hearing loss, a behind-the-ear hearing aid is required.

CROS (Contralateral Routing of Signal)

A hearing aid system designed for people with unilateral hearing loss (or for hearing losses which are much more severe in one ear than the other). A microphone is placed on the poorer ear and the signal is routed to a hearing aid on the better ear. Body Aid Your child wears the hearing aid in a harness or pocket with the cord leading to the ear mould, in the outer ear. It was once the popular choice for children because it would allow for the use of powerful hearing aids. But other hearing aids have become more powerful making this a less useful option that it used to be. These aids have a lot of breakage of the cords and do not provide the best auditory signal when worn on the body. This type of hearing aid is being phased out.

FM Systems

These are assistive listening devices used to improve the signal-to-noise ratio for the listener. An FM auditory trainer is a personal listening device which includes a remote microphone placed near the sound source (usually the speaker's mouth but the source can also be a television or radio, for example) and a receiver for the listener.

Fact Sheet

The listener is then able to hear the speaker at an optimal level above the background noise at a distance of up to 500 feet. There are no wires connecting the listener to the speaker which gives mobility to both. These units are often of benefit to the preschooler but are essential to the child with hearing loss in the classroom.

Sound field FM systems provide amplification for the whole classroom through the use of two to four wall- or ceiling- mounted loudspeakers while the teacher wears a transmitter. This system has direct benefits to every child in the classroom but is particularly helpful for:

- ~ children with history of middle ear infection
- ~ children with unilateral hearing loss
- ~ children with minimal hearing loss who do not wear hearing aids
- ~ children with mild-to-moderate hearing loss who do wear hearing aids
- ~ children with central auditory processing problems or attention difficulties with normal hearing
- ~ children in early primary grades with normal hearing who are in the critical stages of developing academic competencies

These systems are of benefit to teachers as well as there are fewer incidents of vocal fatigue and laryngitis among users.

Fact Sheet

Cochlear Implant

A device surgically implanted into the cochlea to bypass the sensory organ to activate the hearing nerve directly. It is designed for individuals with severe-profound sensorineural hearing loss (in both ears, though only one is implanted) who do not get any benefit from hearing aid amplification The system consists of a directional microphone, a cable and transmitter which fit behind the ear, a speech processor which can be worn in a pocket or on a belt, and the internal portion of the device (the magnet and receiver/stimulator) which are implanted in the mastoid process (behind the pinna). Once implanted, the device is programmed for the individual child over several months.

To be considered a candidate for a cochlear implant a child must:

- ~ be over 18 months of age
- ~ have a severe-profound sensorineural hearing loss in both ears
- ~ no medical reasons that would interfere with surgery
- ~ willingness and ability of families to take part in extensive pre- and post-implant assessment and training sessions
- ~ have had little or no benefit from amplification despite appropriate and consistent use
- ~ be enrolled in an appropriate educational setting which emphasizes auditory learning
- ~ psychological and motivational suitability of the candidate

The criteria for candidacy for cochlear implants is updated yearly, please check with your local cochlear implant professional for the latest criteria.

For more information, see the CAA Fact Sheet *What Is A Cochlear Implant?*

BAHA (Bone Anchored Hearing Aid)

This device combines a sound processor with a small titanium fixture implanted behind the ear. The system allows sound to be conducted through the bone rather than via the middle ear – a process known as direct bone conduction. Surgery is minor, and many patients report a wide range of advantages over other hearing devices. BAHA is used to aid children with chronic ear infections, congenital hearing loss, and single-sided deafness.