

# **Amplification Options for Adults**

Fact Sheet

If you have a hearing loss, you have may have several options to help improve your ability to hear. When we are looking at traditional hearing aids there are two main things to consider: 1) the style (the way the hearing aids look) and 2) the technology (the electronics inside). It is your job to choose the style with guidance from your audiologist and it is your audiologist's job to choose the technology with input from you. Speak to your audiologist to discuss which options are best for you, your hearing loss and your hearing needs.

# **Styles of Hearing Aids**

## In-the-Ear (ITE) Hearing Aid

This type of hearing aid fi ts in the ear canal and the concha (outer portion of the ear). This is a popular style for adult hearing aid users but there are drawbacks for use with children who are still growing. They cannot be used with many assistive listening devices including direct audio input FM systems. This style of hearing aid cannot provide adequate amplification for individuals with severe to profound hearing loss.

## Behind-the-Ear (BTE) Hearing Aid

With this style of hearing aid the electronics sit behind the ear and the amplified sound is then routed to the ear through the tubing and ear mold. This style of hearing aid can provide the amplification necessary for all degrees of hearing loss from mild to profound. BTE hearing aids can be used with a variety of other assistive devices including FM systems, telephone adaptors, television amplifiers and many others. Because the electronics are behind the ear, BTEs are particularly useful for those with chronic ear infections, excess cerumen (ear wax) and those with small ear canals.

Behind-the-ear hearing aids and ear molds come in a variety of colours and designs.

## **Open Fit Hearing Aid**

Open fit hearing aids are similar to the behind-the-ear (BTE) style because the amplifier and electronics sit behind the ear. However, these hearing aids typically utilize a slim tube and small tip that sit inside the ear canal. The small tip in the ear results in an open fit without plugging the ear resulting in a more comfortable fit, and can eliminate problems with your own voice. However, the open fit hearing aids are not appropriate for severe hearing losses and are best for persons with mild to moderate high frequency hearing loss.



#### **CROS (Contralateral Routing of Signal)**

This hearing aid system is designed for people with one ear that is unaidable (i.e. insufficient hearing to benefit from traditional hearing amplification). The better ear can have normal hearing (CROS Aid) or have some hearing loss as well (Bi-CROS). A microphone is placed on the poorer ear and the sound from that microphone is routed to a hearing aid on the better ear. This provides sound from the "dead" or unusable side of the head. While this does not restore full ability to localize sounds in space, it does provide useful sound information that is not otherwise available to the individual.

# **Other Devices**

#### FM Systems

These are assistive listening devices used to improve the signal-to-noise ratio for the listener and to reduce the effects of poor acoustics. This system is made up of two parts: 1) the transmitter which is used by the speaker or placed near the device to be amplified (eg.TV, computer, stereo) and 2) the receiver which is used by the individual trying to hear. This system helps to bring the speaker's voice directly to the listener's ears either through hearing aids or headphones. The listener is able to hear the speaker above the background noise at considerable distances. There are no wires connecting the listener to the speaker which gives mobility to both. These units are often of benefit for classes, lectures, conferences, meetings, in restaurants, and in large groups.

#### **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) who do not receive benefit from traditional hearing aid amplification. The system consists of a processor that looks like a behind the ear hearing aid, an external magnet that attaches to an internal magnet implanted in the mastoid bone and the actual electrode that is surgically implanted in the cochlea (inner ear). Once implanted, the device is programmed for the individual over several months.

The criteria for candidacy for cochlear implants is updated often, sometimes several times per year. Please check with your local cochlear implant audiologist for the latest criteria.

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

#### **Bone Conduction Amplification Device (BCAD)**

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. The surgery is minor, and many patients report a wide range of advantages over other hearing devices. BCAD is used for people with chronic ear infections, congenital conductive hearing loss, and/or single-sided deafness.