Cochlear and other hearing implants

The purpose of a hearing implant is to improve hearing, but it will not restore hearing to normal. There are four types of implants: cochlear (inner ear), middle ear, bone conduction and auditory brainstem implants. Implanted hearing devices require surgery.

Your audiologist or otolaryngologist can tell you if you may benefit from one of these implantable devices.

What is a cochlear implant?
A cochlear implant is a medical device that may help improve hearing for people who have severe to profound hearing loss. The implant uses a thin metal coil to electronically stimulate the hearing nerve, bypassing a damaged or deformed cochlea. In contrast, a hearing aid simply amplifies sound and sends it through the malfunctioning cochlea to the hearing nerve.

A cochlear implant has two parts: internal and external.

The internal components are a receiver and electrode system, and are implanted by a surgeon. These components are not visible outside of the body.

The external components are the microphone, sound processor and transmitter system. The microphone picks up sound from the environment and sends it to the sound processor (also called the speech processor). The sound processor may look like a pager-style unit or may resemble a behind-the-ear hearing aid. The headpiece transmits sound to the internal implant.

A magnet holds the external components in place over the implanted internal components.

Other types of hearing implants
Depending on the degree and type of hearing loss, your doctor may recommend another type of implant.

Auditory brainstem may be recommended for a person with neurofibromatosis Type 2 (NF II), if the removal of the NFII tumors damages the auditory nerve.

Bone conduction hearing systems may be recommended if a person has a conductive hearing loss, a mixed hearing loss or hearing loss in only one ear.

Middle ear systems may be recommended for a person who does not get enough benefit from hearing aids, cannot medically tolerate hearing aids or prefers to have a hearing device other than a hearing aid.
Would an implant help you?
You could be a candidate for a cochlear or other implant if you receive little or no useful benefit from hearing aids. Keep in mind that an implant may improve understanding of speech more than a hearing aid for some people, but implants do not restore normal hearing.

If you are wondering whether an implant is an option for you, your first step is to talk to your otolaryngologist (ENT). To evaluate whether you are a good candidate for this surgery, your doctor will first test your hearing and overall health. Your doctor may also request additional screening to find out how prepared you are for rehabilitation after the surgery.

Talk to your audiologist or otolaryngologist (ENT) to learn more about cochlear implants and your specific hearing loss.

Learn more
Search the following websites by typing “cochlear implant” in the search box.

- [Food and Drug Administration](http://www.fda.gov)
- [House Ear Institute](http://www.hei.org)
- [National Institute on Deafness and Other Communication Disorders](http://www.nidcd.nih.gov)
- [Hearing Loss Association of America](http://www.hearingloss.org)
- [AG Bell Association](http://www.agbell.org)

Implant manufacturers’ websites

- [Advanced Bionics](http://www.advancedbionics.com)
- [Cochlear Americas Corporation](http://www.cochlearamericas.com)
- [Esteem Implant by Envoy Medical Corporation](http://www.esteemhearing.com/)
- [Med-EI](http://www.medel.at/US/)
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