



## **Cochlear Implants**

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Cochlear implants are electronic hearing devices. These devices pick up and process sound for a person who has severe-to-profound hearing loss. Cochlear implants have two main parts—an external component and an internal component. The external piece is larger and typically sits above and behind the ear by a magnet. The internal component is "implanted" under the skin by a surgeon. An individual usually receives one cochlear implant, on either the left or the right side.

After a person heals from surgery, the cochlear implant must be "started up." *Mapping* is the term for adjusting the device so that a person hears sounds, including speech. *Learning to recognize, understand,* and *attach meaning to these sounds is a process.* Therefore, an audiologist changes the mapping over time as the person responds to and learns sounds. The individual can work with a speechlanguage pathologist on different skills, including identifying sounds, producing speech, and regulating the loudness of one's voice. As well, an individual with a cochlear implant might use lipreading or sign language to help him/her communicate.

## **Resources:**

American Speech-Language-Hearing Association. (2010). Cochlear implants. Retrieved from http://www.asha.org/public/hearing/ treatment/cochlear\_implant.htm

## Who Is a Candidate for Cochlear Implants?

Adults and children who have severe-to-profound hearing loss may be candidates for cochlear implants. *Individuals who are candidates for cochlear implants would have minimal or no benefit from hearing aids.* Other important considerations for getting a cochlear implant are the individual's overall health, ability to maintain the device, and available support system for educational or rehabilitation needs. A team of healthcare related professionals will help determine the benefits and risks for each individual.

For children, the American Speech-Language-Hearing Association (2010) states that the best candidates for cochlear implants are those who: "have profound hearing loss in both ears; can receive little or no useful benefit from hearing aids: have no other medical conditions that would make the surgery risky; are involved (when able), along with their parents, in all aspects of the informed consent process; understand (when able), along with their parents, their individual roles in successful use of cochlear implants; have (when able), along with their parents, realistic expectations for cochlear implant use; are willing to be involved in intensive rehabilitation services; and have support from their educational program to emphasize the development of auditory skills."

For more information on cochlear implants go to: FDA U.S. Food and Drug Administration – Medical Devices – Cochlear Implants http://www.fda.gov/MedicalDevices/ ProductsandMedicalProcedures/ ImplantsandProsthetics/ CochlearImplants/default.htm

National Institute on Deafness and Other Communication Disorders – Cochlear Implants http://www.nidcd.nih.gov/ health/hearing/coch.asp

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