



COMMUNICATION CONSIDERATIONS A-Z™

Cochlear Implants

by Patricia M. Chute, Ed.D., and Mary Ellen Nevins, Ed.D.

What is a cochlear implant?

A cochlear implant is an auditory device for children who present with severe to profound bilateral sensorineural hearing loss and receive limited or no benefit from hearing aids. It consists of a surgically implanted portion that is placed on the skull in the area behind the ear and an external portion that looks like a behind the ear hearing aid.

There are three manufacturers of cochlear implant systems in the United States. They are Boston Scientific, Cochlear Americas and Med El Corporation. Each manufacturer has a website that describes cochlear implants in general as well as specifics related to their own device. There is no best device on the market; each provides auditory access, however, performance differences among individual users are a result of a variety of factors. These include: age at first identification of hearing loss, age at implantation, residual hearing, use of hearing aids, type of training and the condition of the cochlea to name a few. The websites for each manufacturer are as follows:

- www.cochlear.com
- www.bionics.com
- www.medel.com/us/for-parents/

2) What issues are at the forefront of cochlear implantation?

The major issues at the forefront of implantation consist of the selection of the device, decision to undergo unilateral vs bilateral implantation and the best methodology for training a child post implantation.

Device selection requires parents to obtain information from a variety of sources. These include other parents, implant center professionals and

manufacturers. Some parents may be influenced by the way the device looks but should keep in mind the daily maintenance and yearly cost of the device under consideration.

Recent trends in implantation have changed from recommending implants for only one ear to recommending implants for both ears. This has occurred as a direct result of the impressive performance of cochlear implants in general and follows the guidelines used in fitting hearing aids with respect to amplifying both ears. A discussion with the cochlear implant team with regard to the child's profile and whether it fits with bilateral implantation should be explored. Even if a child does not get bilateral cochlear implants, issues concerning the use of a hearing aid in the ear opposite to the implant should be considered.

The best methodology for training a child with a cochlear implant must take into account the family's goals for their child. Most parents choose implantation for its contribution to speech and spoken language development regardless of whether or not sign communication is also being used. Working under this assumption, parents who choose implantation for their child will want to have access to a professional who is knowledgeable and skilled in developing the auditory skills that form the foundation for learning to talk. Sometimes that person is a teacher of children with hearing loss, a speech-language pathologist or a specialized therapist (or all three) who work together to help a child with an implant maximize the potential of the device.

3) What should every parent or professional know about cochlear implants?

A cochlear implant will not be able to overcome any additional challenges that a deaf child may have. For example, a child who has learning problems may not do as well as children without such problems. More importantly, children who attend schools in which only sign language is used and have very limited access to spoken language will not be able to use implants in as successful a manner. Communication and collaboration among the family, school and cochlear implant team is vitally important.

4) Where else can I find information about cochlear implants?

A book entitled *The Parents' Guide to Cochlear Implants* published by Gallaudet University Press and authored by Patricia Chute, Ed.D. and Mary Ellen Nevins, Ed.D. was written specifically to address many of the questions that parents have when considering implantation for their child. As noted earlier, the manufacturers all have websites that provide a wealth of information for parents. In addition each of these websites have links to implant centers that are in the area where the child lives. Some additional websites are:

<http://www.nidcd.nih.gov/health/hearing/pages/coch.aspx>

<http://clerccenter.gallaudet.edu/KidsWorldDeafNet/e-docs/CI/index.html>

<http://www.oraldeafed.org/guides/parents.html>

Communication Considerations A to Z™ is a series from Hands & Voices that's designed to help families and the professionals working with them access information and further resources to assist them in raising and educating children who are deaf or hard of hearing. We've recruited some of the best in the business to share their insights on the many diverse considerations that play into communication modes & methods, and so many other variables that are part of informed decision making. We hope you find the time to read them all!