

## BILATERAL COCHLEAR IMPLANTS

Bilateral implantation is becoming increasingly common. It is well-established that binaural hearing offers advantages for speech discrimination in noise as well as sound localization. Recipients have reported improved listening in school, work places and social situations. The same candidacy criteria would apply as for single-sided CI surgery.

## EQUIPMENT CHOICES

There are 3 manufacturers of cochlear implants approved for use in the United States:

- Advanced Bionics ([www.advancedbionics.com](http://www.advancedbionics.com))
- Cochlear Corporation ([www.cochlear.com](http://www.cochlear.com))
- Med El ([www.medel.com](http://www.medel.com))

## THE GIFT OF HEARING FOUNDATION

The Gift of Hearing Foundation was established in 2004 by those who have experienced and embrace the life-changing technology of Cochlear Implants (CI). The reason for forming this Foundation was the discovery that this amazing bionic technology is not available to everyone who might be a candidate. There are two main barriers: lack of awareness and prohibitive cost – both of which limit access.

Our mission is to eliminate these barriers by providing awareness of this technology and addressing the ways in which access can be increased so that anyone who is a candidate for cochlear implants may receive them.

We are a 501c3 non-profit incorporated in the state of Massachusetts. For more information about us, see our web site:

[www.giftofhearingfoundation.org](http://www.giftofhearingfoundation.org)

## MORE INFORMATION

Visit the “Resources” section of our website for additional information and links to a wealth of information including:

- Frequently asked questions
- CI Center locations
- Personal Stories
- Resources for parents of CI candidates
- Bilateral CIs

And please feel free to contact us for any additional information you may need.



**Phone or text:** 617.661.HEAR (4327)

**E-mail:** [info@giftofhearingfoundation.org](mailto:info@giftofhearingfoundation.org)

[www.giftofhearingfoundation.org](http://www.giftofhearingfoundation.org)

Administrative Offices:

95 Old Boston Neck Road

Narragansett, RI 02882

This brochure is provided for informational purposes only and is not intended to constitute medical or similar advice. It is merely provided for your information. CI professionals should be consulted with any specific medical questions

# COCHLEAR IMPLANTS

## WHEN HEARING AIDS ARE NOT ENOUGH



A child responds to the new sounds she hears with her cochlear implant

Public Service information provided by:



## GENERAL INFORMATION

A cochlear implant is the most successful and effective method to date for treating patients with sensorineural hearing loss who cannot be helped by traditional amplification, including those who are congenitally deaf.

## DESCRIPTION

A cochlear implant is a hearing device that bypasses the damaged hair cells in the inner ear and sends electrical stimulation to the auditory nerve. The implant consists of two parts:

- 1.) An internal prosthetic receiver-stimulator with an electrode array. The receiver-stimulator is surgically implanted just behind the ear and the electrode array is gently inserted into the cochlea.
- 2.) External equipment that consists of a microphone, processor and transmitter which are typically worn on the ear much like a BTE hearing aid.



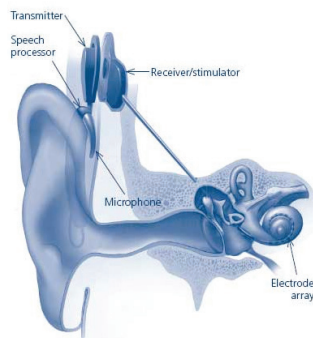
Advanced Bionics HR90K® cochlear implant



Advanced Bionics Harmony BTE processor

## HOW IT WORKS

The microphone and processor collect sound information which is converted to a digital signal and then sent wirelessly to the receiver-stimulator. From there, the signal is transmitted along the electrode array to provide direct stimulation to the auditory nerve which carries the signal to the brain where it is interpreted as sound.



Ear with cochlear implant

## CANDIDACY

The criteria for candidacy evolve constantly to reflect technology and research outcomes. In general a candidate must:

- Have sensorineural hearing loss in both ears
- Be free of medical and physical contraindications for placement of the implant
- Have difficulty hearing voices, using the phone or hearing in noisy places even with hearing aids
- Have realistic expectations and be committed to follow-through for making the CI a success

“My implant has given me a second chance at life.”

– SM, adult deafened by sudden-onset hearing loss

Following are additional criteria by age groups:

### Adults

- Pure tone average hearing loss > 70 dB HL
- Score of < 50% on open-set sentence test in best-aided listening condition

### Children (> 4 years)

- Severe-profound hearing loss
- Score of < 12 % on difficult open-set word recognition test
- Score of < 30% on an open set sentence test

### Infants

- Little or no benefit from appropriately fitted hearing aids following adequate trial
- Failure to reach developmentally appropriate auditory milestones
- 12 months of age

(This is an FDA guideline. Parents should seek consulting with a cochlear implant center prior to 12 months of age in order to complete candidacy evaluation and determine insurance coverage)

## COCHLEAR IMPLANTS vs HEARING AIDS

Cochlear implants provide access for sound for many individuals with sensorineural hearing loss who receive minimal to no benefit from hearing aid amplification.

## BENEFITS of COCHLEAR IMPLANTS

- Uses patient’s functioning auditory nerve to transmit sound which means:
  - Hearing levels not affected by hair cell loss
  - Better access to high frequency sounds
  - Features programmable computer system
  - Finely tuned customization capabilities
  - Background noise filters/screens
  - Ability to upgrade external device to newer technology without the need for surgery
- Includes accessories\* for:
  - Intelligent wireless (e.g. Bluetooth)
  - Phones (regular and cell)
  - Assistive listening devices
  - Personal music players (e.g. iPods)

\* Accessories and peripherals may vary depending on the CI manufacturer



AB-Neptune



Cochlear Americas

“My son has had a cochlear implant for 6 years already, and not a day goes by that I don’t marvel at what it allows him to do – the things he can hear and the ease with which he can communicate. It has opened up his world in a way I never imagined.”

- LG, parent of a bilateral cochlear implant user