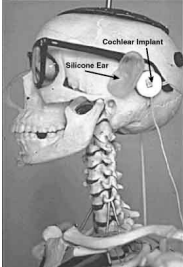


Cochlear Implants



- What is a cochlear implant?
- How do they work?
- Candidacy
- Cochlear implants and the Deaf Community

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Cochlear Implants*

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How Cochlear Implants Work

- Overview
- Styles of Cochlear Implants
- How the CI processes speech

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Overview



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Styles

- External Speech Processor



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Styles (continued)

- Ear Level Speech Processor



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How the CI processes speech

- Sound is picked up by ear level microphone.
- Sound is delivered to processor (either ear level of external).
- Speech is processed in similar manner to that of a digital hearing aid.

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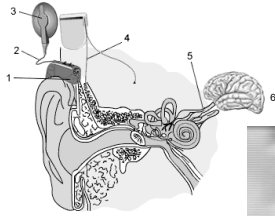
*How the CI processes speech
(continued)*

- Processor is programmed by computer
- Signal is sent back to a magnetic transmitter.
- Signal is sent via FM signal to sub-cutaneous receiver.
- Delivered to multichannel electrode in cochlea.

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*How the CI processes speech
(continued)*

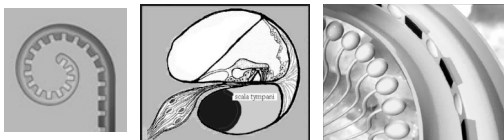


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*How the CI processes speech
(continued)*




- Electrodes stimulate soma of VIIIth cranial nerve located in spiral ganglion.



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What does a cochlear implant sound like?

- One channel implant 
- Four channel implant 
- Eight channel implant 

Surgical Implantation

- Play video here

Candidates for CI

- Adults
 - Any adults with an intact cochlea.
 - Severe to profound post-lingual hearing loss.
 - Time between hearing loss onset and implantation could be a factor
 - Should be in relatively good health
 - Age not a factor



Candidates for CI

- Children
 - Ages 6 to 18 months or older
 - Time between hearing loss onset and implantation could be a factor
 - Profound bilateral hearing loss
 - Intact cochlea & auditory nerve
 - Good general health
 - No otitis media



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Cochlear Implants and Deaf Community

- Hearing Viewpoint
 - Cochlear Implants “cure” deafness
 - Allows child to live in hearing world
- Deaf Viewpoint
 - Deafness not a disease but a culture
 - CIs = genocide, i.e., death of Deaf Culture
 - NAD is not anti-CI but feels parents need to make an informed choice.

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Summary

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