

Emerging Issues for Interpreters in the K-12 Setting: Students with Cochlear Implants

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Our Biases and Backgrounds

Who We Are

- Formal interpreter training
- American Sign Language as a second language
- Work at the Ohio School for the Deaf
- Outreach Services working with public schools
 - Services for educational interpreters
 - Colleagues trained in CIs



What do YOU know about Cochlear Implants?

Quiz time!

Emerging Issues for Interpreters in the K-12 Setting: Students with Cochlear Implants

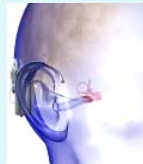
UNDERSTANDING COCHLEAR IMPLANTS: DEVICE & SURGERY

Understanding Cochlear Implant Technology

What is a cochlear implant?

Cochlear implants are electronic devices designed to bring a sense of sound to people who have severe to profound losses of hearing.

Cochlear implants **convert sound energy into electrical energy** along the auditory nerve to the brain. The implant does not touch the brain.



National Association for the Deaf 2005 (NAD)
Cochlear America (image)

Understanding Cochlear Implant Technology

Hearing Aids & Implants: Device Differences



Hearing aids **make sounds louder** and then send those amplified sounds to the ear.

Cochlear implants **bypass the outer and middle ear** to present auditory signals directly to the inner ear.



National Association for the Deaf (NAD)

External Processors by Manufacturers




Cochlear Corporation Med-El Advanced Bionics Corporation



AURIA with PowerGel
Find out more
English configuration that's perfect for teens and adults.


Bone Conduction Implants

- For people with problems with the outer or middle ear.
 - Creates a different path for sound to get to the inner ear
 - For unilateral deafness
 - Conductive hearing loss
 - Mixed hearing loss
 - Uses the body's natural ability to conduct sound through bone
 - Available in the US



Hybrid Implants (EAS)

- Electric Acoustic Simulation
 - Candidate has a severe high frequency loss; low frequency hearing is mostly intact.
 - Combines amplification with nerve stimulation
 - Less destructive to cilia
 - Presently in use in Europe




Cochlear.com

Understanding Cochlear Implant Technology

Although each of these manufacturers would have you believe that its product is the best, the fact remains that no implant (or hearing aid) can guarantee a particular result.

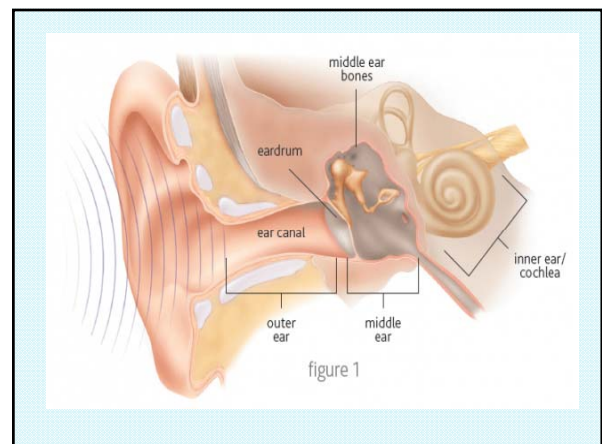
Chute & Nevins (2002)

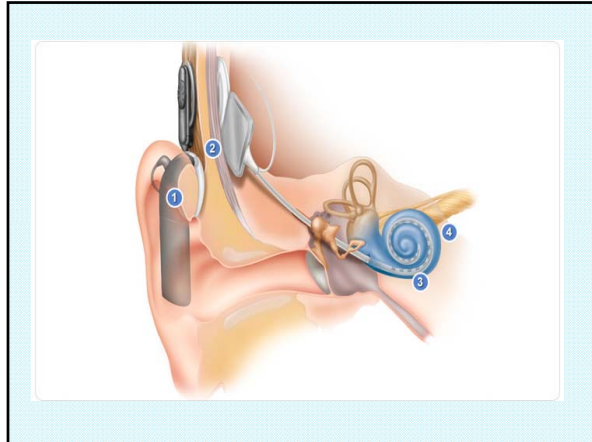
Implant Risks



| | |
|-----------------------|---------------------|
| • Infection at site | • Hip replacement |
| • Bacterial infection | • Knee replacement |
| • Nerve damage | • Dental implants |
| • Device failure | • Lens implants |
| • Side effects | • Breast implants |
| • Device recall | • Cochlear implants |

Adapted from FDA website (www.fda.gov)





Understanding Cochlear Implant Technology

- **Activation (2-4 weeks post surgery)**
 - Fitting the headset
 - Cochlear implant check
 - Programming the speech processor
 - Turning processor on



Understanding Cochlear Implant Technology

- **THRESHOLD**
 - levels are set to allow the user access to soft speech and environmental sound
- **COMFORT**
 - amount of electrical current a user needs for perception of a comfortably loud 'beeping' signal

Understanding Cochlear Implant Technology

- **Maps must be frequently updated**
 - Over time – become less clear
 - Adaption and tissue growth



Understanding Cochlear Implant Technology

Long-term implant reliability

2005

According to a study by Maurer (2005), after 11 years over 91% of implants were still working

2010

According to an study by Sigfrid D and Yun (2010), if implanted "early," CI likely to have 18-year life (companies are required to guarantee the device for a period of time; actual life may be much longer)

Understanding Cochlear Implant Technology

What the literature says:

Benefits:

- Aid in lip reading
- Perception of environment sounds
- Aid in monitoring the volume of one's own voice

University of Maryland Medical Center website
<http://www.umm.edu/otolaryngology/cochlear.htm>

Understanding Cochlear Implant Technology

What the literature says:
Does a cochlear implant provide “normal” hearing?

NO, but...


- provides a limited sense of hearing
- good language abilities = can integrate this sensation with visual cues to understand spoken language
- can learn to understand spoken sentences without looking at the person who is talking, particularly if there is not background noise

Children’s Hospital, Boston website
<http://www.childrenshospital.org/az/Site2004/mainpageS2004P0.html>

Understanding Cochlear Implant Technology

Cochlear implants ... do not by themselves impart the ability to understand spoken language through listening alone. In addition, they do not guarantee the development of cognition.

Spencer et al. (2004)



Understanding Cochlear Implant Technology

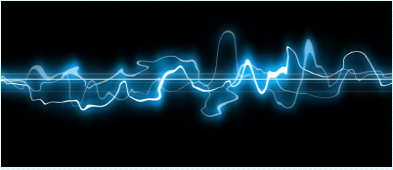
EIPA Content Standards

“Cochlear implants are medical devices that are intended to improve a student’s hearing. Interpreting for a student with a cochlear implant may mean that the student is receiving some of the teacher’s spoken message as well as the interpreted message.”

Understanding Cochlear Implant Technology

Hearing Aids & Implants: Functional Differences

Unlike a hearing aid, the cochlear implant has the potential to give the recipient full access to speech sounds.




Emerging Issues for Interpreters in the K-12 Setting: Students with Cochlear Implants

HOW ARE CHILDREN WITH IMPLANTS DIFFERENT FROM THOSE WITHOUT IMPLANTS?

What the literature says:

... there are so many factors that contribute to outcome that it’s not possible to compare children with implants to children without.

International Journal of Pediatric Otolaryngology Volume 45,
Issue 1, Pages 83-89 (15 September 1998)



What the literature *really* says:

HOW ARE CHILDREN WITH COCHLEAR IMPLANTS CHANGING?



How are children with implants changing?

Demographics

As of November 2004, roughly 3,000 cochlear implant surgeries were performed annually in the US. Of this amount,

- 37% were between ages 21 and 65
- 34.5% were between ages 2 and 21
- 17% were age 65 or older
- 11% were below age 3
 - only 0.2% of cochlear implant users were age 1 or lower

National Institute on Deafness and Other Communication Disorders

How are children with implants changing?

Early Implant users

- Older age of implantation
- Candidacy was limited to profoundly deaf individuals
- Processors had fewer channels

Current implant users

- U.S. children are implanted as early as 12 months; trend is even younger.
- Candidacy is expanded to include severe-profound
- Processors change constantly; newer ones have 24 channels

How are children with implants changing?

- When CIs were first studied, children entered mainstream educational environments about 3 – 4 years post-implantation
- Now children are routinely implanted between 12-24 mos.
 - Changes in candidacy criteria mean more children will have CIs than not.
 - According to the Gallaudet Research Institute, over 91% of children currently with cochlear implants continue to consistently wear them.

How are children with implants changing?

- As of 2010 approximately 188,000 people worldwide have received cochlear implants. In the United States, roughly 41,500 adults and 25,500 children have received them.
- Worldwide, the approved age of implantation is as low as four months.

National Institute on Deafness and Other
Communication Disorders
Gallaudet Research Institute (GRI)



We don't live our lives statistically...

we live them
anecdotally.

Unknown author



Meet the Kids
REAGAN

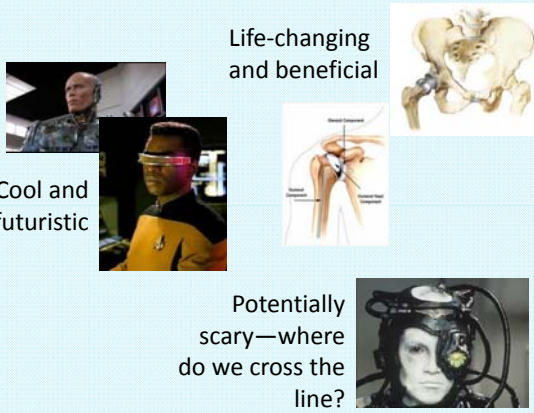
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HOW DO WE FEEL ABOUT IMPLANTS?

Cool and futuristic

Life-changing and beneficial

Potentially scary—where do we cross the line?



EIPA Content Standards

What interpreters are expected to know for the EIPA written test

“Culturally deaf people tend to view cochlear implants as representing a medical model which views deaf and hard of hearing students as needing to be fixed and become hearing.”

NAD Position Papers

1993

- “The NAD DEPLORES the decision of the Food and Drug Administration which was UNSound scientifically, procedurally, and ethically.”
- Topics included
 - Scientific errors
 - Procedural errors
 - Ethical errors

2000 (current)

- Recognition of diversity, technology as a choice, parents’ rights
- Headings include:
 - Rationale
 - Wellness Model
 - The Cochlear Implant
 - Parents
 - Recommendations

Current Position Paper

- The NAD
 - recognizes diversity
 - welcomes all ... regardless of ... use of technologies
 - subscribes to the wellness model
 - recognizes all technological advances
 - recognizes the rights of parents to make informed choices [and] respects their choice to use cochlear implants and all other assistive devices

"I thought they would come here and think this is the deaf world and would not use it. But they're here in the deaf world, and they are using it. It's the same with hearing aids. People will use a hearing aid if it helps them, and other people, like me, they don't use it because it doesn't help them."

Jane Fernandes, Vice President
Laurent Clerc National Deaf
Education Center



- Cochlear implants have not caused dramatic changes in most clinician's philosophies.
 - Whatever "their" methodology is, they believe it will benefit children with cochlear implants
- Every methodology has a "star" performer

Loud and Clear Newsletter; Advanced Bionics Vol 4., Issue 2

Attitudes towards students using cochlear implants

Experience suggests that interpreters have residual misunderstanding about the technology of the implant that stem from the early vehement objections of the Deaf Community to implantation in children.

Chute & Nevins (2006)

Alliances or Opposing Camps – Must Interpreters Choose Sides?

- Proponents of oral education, total communication, bilingual education, etc...
- Deaf community and medical community
- Deaf community and interpreters in K-12 educational settings
- Community interpreters and educational interpreters

"Cultural experiences evolve over decades. The pace of informational technology has not allowed time to do that."



Surgeon John Niparko
Director of Otolaryngology and Neurotology at Johns
Hopkins University in Baltimore

<http://www.earsurgery.org/site/pages/posts/the-changing-deaf-culture15.php>

Meet the Kids
DREW

Emerging Issues for Interpreters in the K-12 Setting: Students with Cochlear Implants

THE INTERPRETER, TRANSITION ISSUES, AND IEP DEVELOPMENT

Students Moving to General Education Programs?

“Twenty years ago there were only a few children who used an educational interpreter. Today, there are thousands in all states. It is likely that with cochlear implants we will see even more students accessing the general education curriculum through an educational interpreter.”

Classroom Interpreting – “Interpreters and Children”

Educational needs of children who are deaf are shifting

- Over the last five years, the number of students using CIs in the classroom has doubled
- Steady increase in the number of students educated using the spoken method only
- Almost 48% of students who are deaf are in classrooms using the auditory verbal method

Gallaudet Research Institute

Communication Choices

- 85% of parents of deaf children choose spoken language as a primary communication
- 25% of these children become successful auditory, spoken users with no visual language
 - This leaves the other 75% = *where?*
- Whether written or spoken, English is not readily accessible for deaf and hard of hearing children
 - Even for those with CI

Adapted from Presentation by Debra Patkin, J.D., M.A. Linguistics, EHDI 2011

Protocols and Strategies for Interpreting

Brain imaging suggests that the brain can readily handle dual-language development (bimodal/bilingual)



Petitto, L. A., Katerlos, M., Levy, B., Guana, K., Tetrault, K. & Ferraro, V., 2001 and Kovelman, I., Shalinsky, M., White, K., Schmitt, S., Bernes, Petitto, L.A. (in press)

What do we know about Sign Language and children with implants?

- In a study of 95 children implanted
 - Subset of children using Sign Language
 - 32 were signing pre-implant
 - 73% of those children had no additional risk factors
 - No evidence of detrimental effects on “outcome” measures (including oral language)



Communication modality: Predictors of Outcome after Cochlear Implantation ~ Jennifer Johnston, Betsy Kammerer, Terrell Clark, Margaret Kenna

Student Feedback

- In an interview of Swedish children with implants, children in regular classes had problems hearing the teacher when all the students were present. Reasons given:
 - The teacher spoke too quickly, too much or too indistinctly.
 - The children's voices were indistinct or too low (volume).

"Interviews with Deaf Children about Their Experiences using Cochlear Implants" Priesler, Tvingstedt, Ahlstrom American Annals Vol. 150, #3, 2005.

"There are many sound reasons for using educational interpreters with students who are deaf or hard of hearing. Parents and interpreters need to discuss the reasons and rationale and create access support strategies that can meet the diverse needs of students who use oral communication or who have a cochlear implant."

Classroom Interpreting – "Parents"

- Students with oral skills or using a cochlear implant can experience challenges in accessing communication
- Issues related to distance from speaker or background noise
- Opportunity to become a competent signer while young and before the academic stakes get too high
- Bilingual (ASL/English) goals for the child
- IEP may stipulate interpretation only for new vocabulary and concepts so the student will rely on hearing ability alone as a means of sound habilitation

Classroom Interpreting - Parents

Considerations for the IEP Team – Interpreting Services

- Approaches to how interpreting services are to be provided after implantation
 - Interpret all auditory material – whether student is watching or not
 - Interpret only when student indicates need
 - Interpret only key words and new material
 - Interpret only in given situations

Considerations for the IEP Team – Interpreting Services

- Situations when student might continue to need interpreting services
 - In large groups or settings where ambient noise makes it difficult to hear
 - Assemblies, multiple groups working at the same time
 - In situations where the student would not wear the processor
 - Some sports, repair of external device, remapping, noisy environment

Considerations for the IEP Team – Interpreting Services

- Approaches when the goal is to change from use of sign language to an auditory-only approach
 - Continue interpreting services until student indicates a desire to stop or is seen to no longer use the interpreter
 - Wean student from interpreting (encourage less use) as cochlear implant use is developed
 - Immediately drop interpreting services

Other Considerations for the IEP Team

- The student may use assistive technology in addition to the implant
 - Personal FM System
 - Microphones
 - Soundfield FM System
 - Microphones and speakers
 - Hearing aid for one ear, cochlear implant for the other
 - Captioning systems
 - Devices related to other needs of the student (vision, mobility, etc.)

Other Considerations for the IEP Team

- The student may have other related services in addition to (or instead of) interpreting
 - Note-taker
 - Captioner/text interpreting services
 - SLP/Audiologist/TOD
 - Push-in or pull-out services
 - Extra people in the classroom
 - Space considerations
 - Challenges of working together

Other Considerations for the IEP Team

- The physical environment is important
 - Seating considerations
 - Acoustic modification of the classroom
 - Acoustic ceiling tiles
 - Carpeted floors or coasters on desk and chair legs
 - Sound-dampening material on walls, windows
 - Visual aids
 - Overhead projectors, LCD projectors, SMART Boards
 - Some of these are noisy!

Students with age-appropriate language who are at or above grade level in all academics

- Sometimes declared “no longer eligible under IDEA”
- 504 plan – “reasonable accommodations”
 - Interpreting, tutoring, note-taking, captioned media, preferential seating, etc
 - No speech and language therapy or auditory training
 - Special educators not involved in writing or implementing the plan; no modification of academic content
 - Limited funds available; no district-provided transportation or independent evaluations, no parental consent required, no due process
 - Less monitoring, no reevaluations, student may have to fail before interventions are considered again

Right to FAPE

- Code of Federal Regulations (Section 300.101)

“Each State must ensure that FAPE is available to any individual child with a disability who needs special education and related services, even though the child has not failed a course or grade, and is advancing from grade to grade.”
- Consider multiple factors
 - Social-emotional skills and social relationships
 - Acquisition and use of knowledge and skills
 - Appropriate behaviors

“When schools conclude that a non-delayed child is a child who needs no help, they're not seeing the big picture. If they deny a student services, not only are they breaking the law, they are going against common sense. Good luck rebuilding any credibility with families after that.”

Hands & Voices President Janet DesGeorges

**Bottom Line –
It's about the student, not about us**



**In an IEP meeting for a child who is
doing well with an implant**

Take on the role of...

1. An educational audiologist who wants to discontinue interpreting services
2. A parent who wants to continue interpreting services **and** increase speech therapy services
3. A general education teacher who notes the child rarely watches the interpreter

Respond from the role of...

1. A deaf educator who supports bilingualism (ASL and spoken English)
2. An administrator whose district is laying off teachers and charging for participation in sports
3. The interpreter who works with the student

Meet the Kids
APRIL

Emerging Issues for Interpreters in the K-12 Setting: Students with Cochlear Implants

**PROTOCOLS AND STRATEGIES
FOR INTERPRETING**

One Size Does Not Fit All

- Variation in children with Cochlear Implants
 - Post-surgical results
 - Age of implantation
 - Audiological functioning
 - Adaptation to sound environment
 - Language exposure/preference
 - Spoken language monolingual who needs additional visual input; Spoken language L1, ASL L2 and vice versa
 - Some kids are “hard wired” to be visual or auditory learners
 - Even a mild hearing loss (15 – 26db) can lead to academic lags in excess of one year.

Protocols and Strategies for Interpreting

Challenges facing interpreters:



- Variability of communication needs for students will demand a greater skill set from the interpreter
- Increased distractibility for the student
- Intermittent reliance on interpreter challenging the interpreter's engagement with the information presented

Seal 2003

Protocols and Strategies for Interpreting

Challenges facing interpreters:

- Reduced eye gaze or receptive understanding in some students with implants
- Increased dependency on facial and mouth cues of interpreters
- Districts' demands for retooling or changing the job duties of interpreters



Seal 2003

Protocols and Strategies for Interpreting

Interpreting methods for students with cochlear implants:

- Sign transliteration
- Cued speech transliteration
- English-driven sign interpretation
- Message-driven ASL interpretation
- Oral transliteration

Seal 2003



Protocols and Strategies for Interpreting


Classroom strategies

- Develop awareness of student reaction to auditory stimuli
- Monitor technology
- Attend to shift from interpreter to auditory information
 - Allow student to attempt to access sound first; add visual supports if needed
 - Encourages development of listening and discrimination skills without compromising cognitive development and access to academic content.
- Label acoustic sound/ambient noise selectively

Protocols and Strategies for Interpreting

Classroom strategies


- Evaluate options for interpreting large-group events
- Recognize child may have pronounced language delays
- Distinguish between child's recognition of sound and language
- Determine amount of reliance on FM technology



Protocols and Strategies for Interpreting

Classroom strategies

- Incorporate other "non-ASL" techniques into your work
 - Pointing
 - Gesture
 - Picture
 - Object
 - Written word



Protocols and Strategies for Interpreting

Future trends for interpreting for students with cochlear implants

Interpreters with a wide skill set will play a key role in facilitating communication for many implant users for years to come.

