

The Great Unknown: An Investigation of Audiologists' Familiarity with Auditory Brainstem Implants (ABIs), Neurofibromatosis Type 2 (NF2), Their Clinical Knowledge Regarding Candidacy Criteria, and Outcomes of ABIs

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Purpose Statement

The purpose of this study was to investigate audiologists' familiarity with auditory brainstem implants (ABI) in adult patients with Neurofibromatosis Type 2 (NF2). Areas that were investigated included their frequency in recommending ABIs to adult patients who have Neurofibromatosis Type 2 (NF2), their knowledge of candidacy criteria for an ABI and about ABIs. A secondary purpose of this study was to investigate the level of knowledge practicing audiologists had about auditory outcomes of ABI recipients.

Method

- The researcher used a quantitative analysis to assess how familiar audiologists were with NF2, ABIs, including ABI candidacy requirements.
- Audiologists who, at the time of recruitment, were currently or previously had been on a Cochlear Implant and/or ABI team, were recruited as participants.
- Survey was posted on three different ASHA Special Interest Groups, the ASHA Community Research Digest, and Audiology Community sites of ASHA.
- Survey was also sent to institutional member sites of the American Cochlear Implant Alliance (ACIA).
- Participants were asked to forward the survey to any colleague that fit the participant inclusion criteria.

Participants' Level of Comfort Regarding Auditory Outcomes with Cochlear Implants/Auditory Brainstem Implants

	Extremely Uncomfortable	Moderately Comfortable	Neither Comfortable nor Uncomfortable	Moderately Comfortable	Extremely Comfortable	n	M	SD
	1	2	3	4	5			
Range of Auditory Outcomes with CIs	7% (n=2)	3% (n=1)	10% (n=3)	31% (n=9)	48% (n=14)	29	4.1	1.2
Range of Auditory Outcomes with ABIs	10% (n=3)	17% (n=5)	14% (n=4)	28% (n=8)	31% (n=9)	29	3.5	1.4

Note: CI= Cochlear Implants, ABI= Auditory Brainstem Implants

Participants' Knowledge of Candidacy Criteria for ABIs and CIs

	Not Knowledge-able at All	Slightly Knowledge-able	Moderately Knowledge-able	Very Knowledge-able	Extremely Knowledge-able	n	M	SD
	1	2	3	4	5			
Candidacy Criteria for an ABI	10% (n=3)	21% (n=6)	14% (n=4)	17% (n=5)	38% (n=11)	29	3.5	1.4
Candidacy Criteria for a CI	0% (n=0)	3% (n=1)	3% (n=1)	7% (n=2)	85% (n=25)	29	4.8	0.5

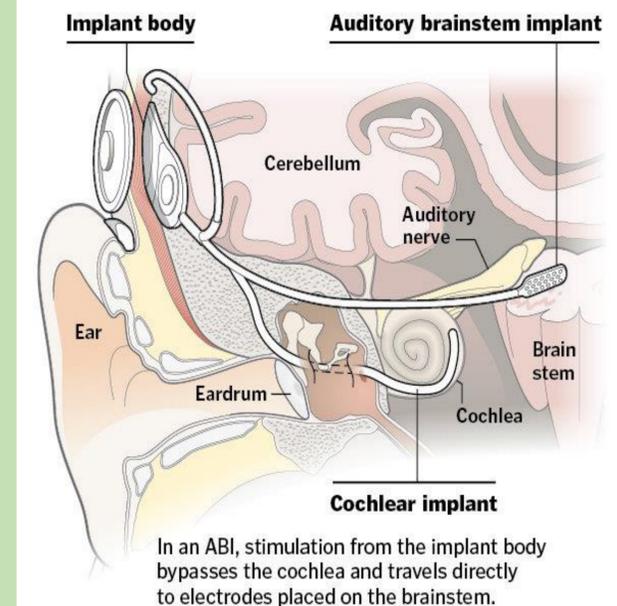
Note: CI= Cochlear Implant, ABI= Auditory Brainstem Implant

Major Conclusions

- Participants were not extremely familiar with NF2 or ABIs and wanted to be more educated about these topics.
- Audiologists were far more knowledgeable and familiar with CIs including candidacy criteria, their components and range of auditory outcomes, compared to those of ABIs.
- Participants were Moderately Uncomfortable to Neither Comfortable nor Uncomfortable when needing to discuss or describe various factors such as diagnosis and treatment options regarding NF2 to their adult patients.
- Participants were Moderately Comfortable to Extremely Comfortable when needing to discuss range of auditory outcomes with CIs but only "neutral" to Moderately Comfortable with the range of auditory outcomes of ABIs.

Hearing implants bypass damage

A cochlear implant, which stimulates the auditory nerve, won't improve hearing when this nerve had been destroyed by disease, injury or a tumor. But an auditory brainstem implant (ABI) might.



SOURCES: House Ear Clinic; Med-El Medical Electronics

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Neff, W. (2014). Hearing implants bypass damage [Photograph]. *Cleveland.com*. https://www.cleveland.com/healthfit/2014/03/university_hospitals_cleveland_1.html

Implications

- This study allows readers to understand a little about what NF2 is and how ABIs are different from CIs and benefit patients who have NF2 and have the potential to help non-NF2 patients.
- Current audiologists that were surveyed appeared to have varies knowledge regarding ABIs. To be prepared for future patients, they need more information.