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Cochlear®

The Power to Change Lives: Your Role in the Cochlear Implant Referral Process

Laura Lassen, Sr. Manager, Growth Channels

Learning Outcomes

- After this course, participants will be able to identify patients within their practice who may qualify for and benefit from a cochlear implant evaluation.
- After this course, participants will be able to explain how to utilize practical counseling strategies to provide accurate information to patients considering cochlear implants and answer common questions.
- After this course, participants will be able to describe how to implement a process for referring patients to support and resources.

Risks/Benefits

- The applicability and accuracy of the course content may vary by the clinical, geographical, and cultural context; you should evaluate the course accordingly.
- As healthcare is rapidly evolving, new findings may change the validity of the information presented in this course. Providers should always consult the latest research and guidelines from professional associations.
- The interventions discussed in this course may be limited in generalizability, requiring practitioners to consider specific individual and population factors.
- The course may not cover all possible risk factors, diagnostic methods, or treatment options, and complex cases may require additional considerations.
- Healthcare providers should apply cultural competence and sensitivity to ensure effective and respectful care based on their patients' diverse needs.
- Providers should always evaluate the limitations of diagnostic and screening tools, considering their potential for false results as well as any ethical implications.
- It is the responsibility of course participants to critically evaluate the evidence from multiple sources to guide professional practice.

Our Mission

We help people hear and be heard.

We **empower** people to connect with others and live a full life.

We **transform** the way people understand and treat hearing loss.

We **innovate** and bring to market a range of implantable hearing solutions that deliver a lifetime of hearing outcomes.

Cochlear™ Named Most Trustworthy Healthcare Company in the World

We are proud to announce that we have been named the number one most trustworthy company in the healthcare industry by Newsweek in its 2024 rankings of the **World's Most Trustworthy Companies!**

This prestigious recognition underscores Cochlear's unwavering commitment to excellence, innovation, and customer-centricity.

The Newsweek ranking was conducted independently in collaboration with global data research firm Statista and evaluated companies based on customer, investor, and employee trust.

Over 70,000 participants provided 269,000 evaluations, highlighting Cochlear's exceptional reputation and dedication to improving the lives of those with hearing loss.

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Introduction

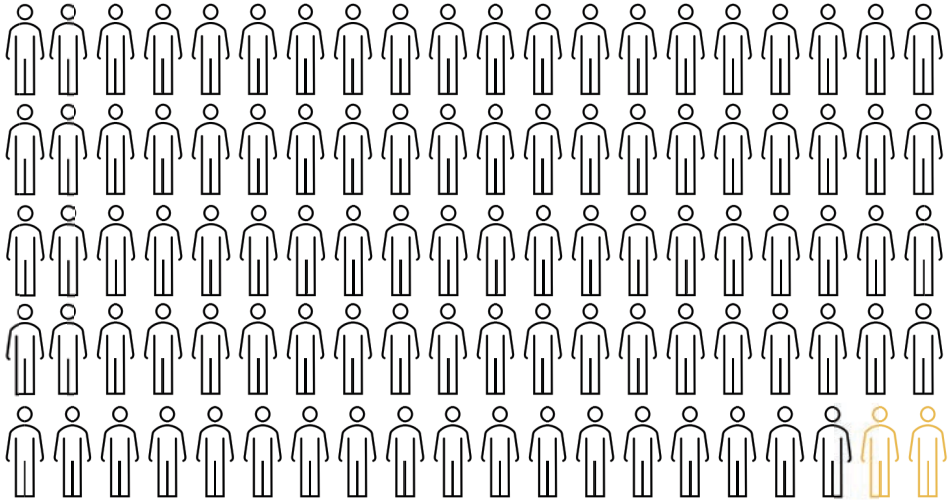
Establishing the Need

Conservative estimates suggest that globally

1 in 20 adults

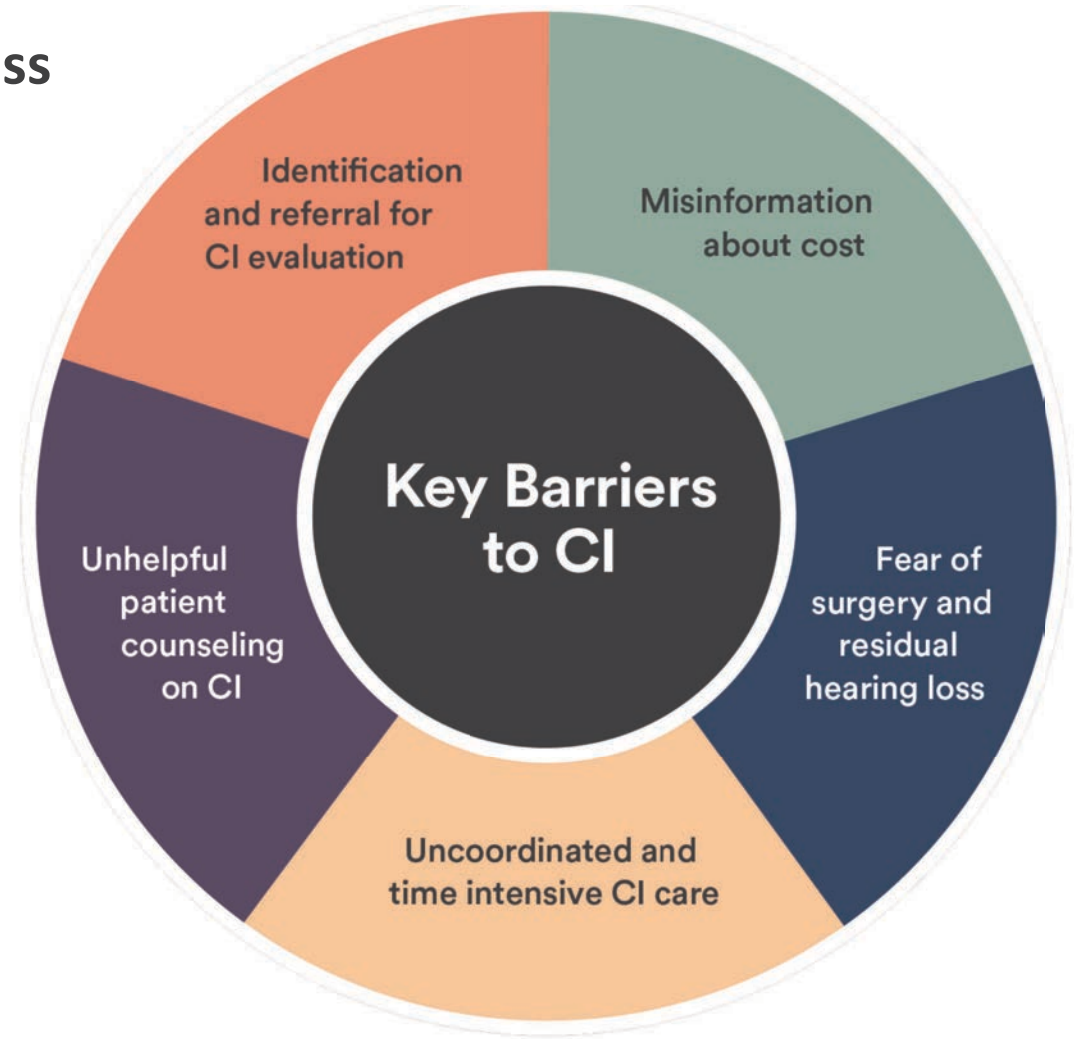
who could benefit from a cochlear implant have one[1-4]

Nassiri et al[5] reported that using a broadened criteria common today expands the potential CI candidate population to 8..05M individuals for a utilization rate of 2.1%



1. Craig A. Buchman, et al., Unilateral Cochlear Implants for Severe, Profound, or Moderate Sloping to Profound Bilateral Sensorineural Hearing Loss. A Systematic Review and Consensus Statements. JAMA Otolaryngol Head Neck Surg. doi:10.1001/ jamaoto.2020.0998 Published online August 27, 2020.
2. Adulthearing.com, accessed 12/15/2022
3. World Health Organization. (2018). Addressing the rising prevalence of hearing loss. World Health Organization. https://apps.who.int/iris/handle/10665/260336. License: CC BY-NC-SA 3.0 IGO
4. Mahboubi H. Gaps in evaluating, managing hearing difficulties. Hearing Journal 2018:71(3):6.
5. Nassiri AM, Sorkin DL, Carlson ML. Current Estimates of Cochlear Implant Utilization in the United States. Otol Neurotol. 2022 Jun 1;43(5):e558-e562. doi: 10.1097/MAO.0000000000003513. Epub 2022 Mar 8. PMID: 35261379.

Barriers to Access



Nassiri AM, Marinelli JP, Sorkin DL, Carlson ML. Barriers to Adult Cochlear Implant Care in the United States: An Analysis of Health Care Delivery. Semin Hear. 2021 Dec 9;42(4):311-320. doi: 10.1055/s-0041-1739281. PMID: 34912159; PMCID: PMC8660164.

Hearing Healthcare Professional Barriers[1]

- My patients don't have enough hearing loss for a cochlear implant
- My patients are generally satisfied with hearing aids
- I don't have enough formal training to recommend cochlear implants
- My patients are too old for surgery

1. PSB Market Research, 2017 data on file

Think of a Patient…

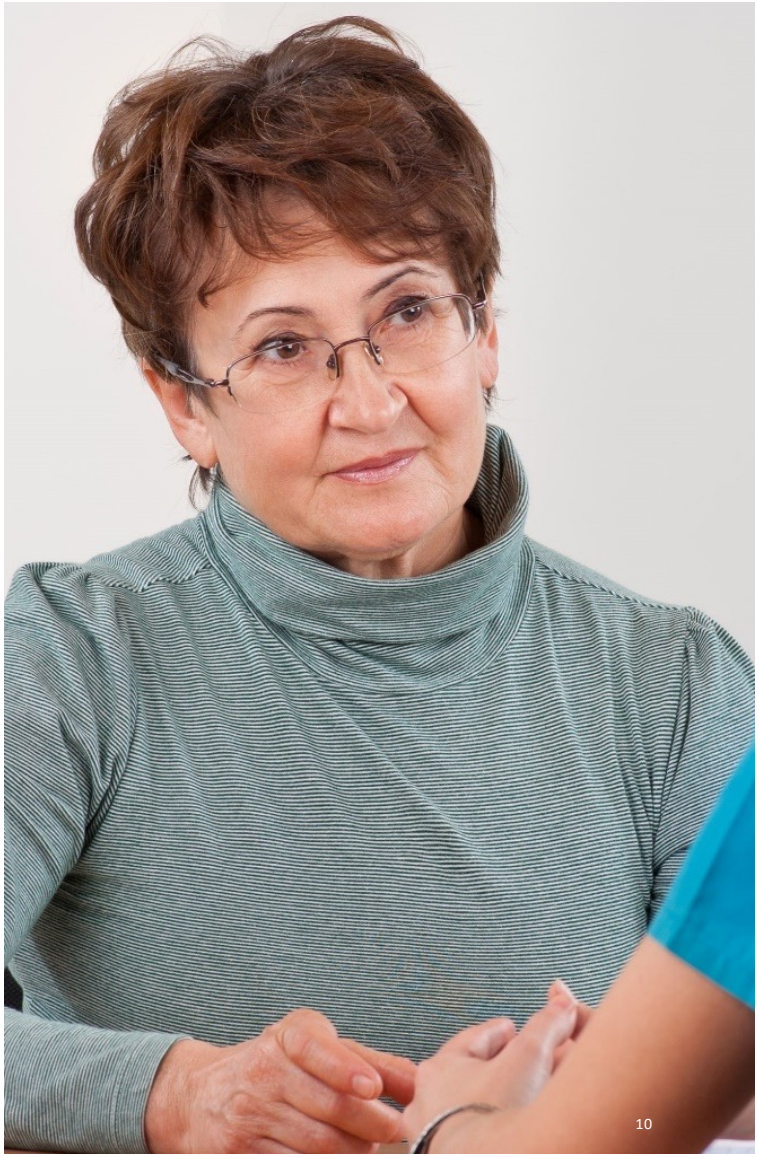
Despite appropriately fit hearing aids…

Do they struggle on the phone with unfamiliar speakers?

Have they withdrawn from activities or social situations because they can't hear?

Does hearing loss negatively impact their employment or job opportunities?

Do they return frequently for hearing aid adjustments and still are not satisfied?



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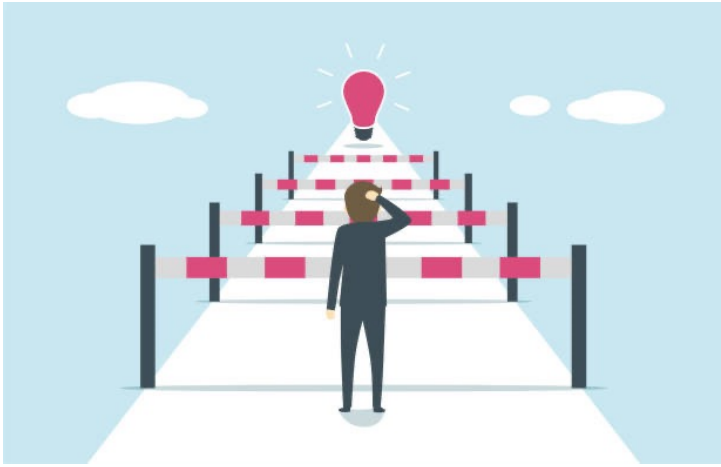
Indications and Considerations for a Cochlear Implant Evaluation

Audiologic Evaluation vs Cochlear Implant Evaluation

- In the United States, the standard of care for audiometric testing includes thresholds and unaided word recognition
- CI candidacy is based on the audiogram and aided sentence recognition
- Diagnostic audiologists rarely perform aided sentence recognition testing

So how *would* clinicians know when to refer?

When clinicians would ask us this, we weren't sure what to say



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When to Consider a Cochlear Implant Evaluation in Adults

Audibility: Pure Tone Average (500, 1000, 2000 Hz)

60 greater than or equal to **60dB**[1] in the better ear

/

Speech understanding: Unaided Word Recognition Score

60 less than or equal to **60%**[1] in the better ear

Patient experiences ANY of the following:

- ❑ Struggles to hear on the phone
- ❑ Has difficulty understanding others
- ❑ Withdraws from social events
- ❑ Often needs others to repeat themselves

Zwolan TA, Schvartz-Leyzac KC, Pleasant T. Development of a 60/60 guideline for referring adults for a traditional Cochlear implant candidacy evaluation.Otol Neurotol 2020;41:895–90

Benefits of Earlier Implantation

Shorter duration of severe to profound hearing loss in the implanted ear was shown to be a predictor of better hearing outcomes[1]

Reduced social isolation[2]

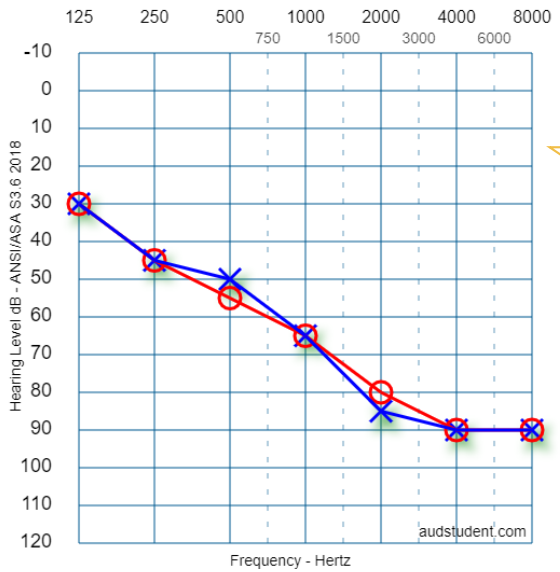
Significant improvement in overall hearing-specific quality of life in adults with bilateral, severe, profound, or moderate sloping to profound hearing loss[3]

Better hearing outcomes correlated with duration of hearing loss, speech understanding before cochlear implantation and the amount of residual hearing[5]

1. Plant K, McDermott H, van Hoesel R, Dawson P, Cowan R. Factors Predicting Postoperative Unilateral and Bilateral Speech Recognition in Adult Cochlear Implant Recipients with Acoustic Hearing. Ear Hear. 2016 Mar-Apr;37(2):153-63. doi: 10.1097/AUD.0000000000000233. PMID: 26462170.
2. Castiglione A, Benatti A, Velardita C, Favaro D, Padoan E, Severi D, Pagliaro M, Bovo R, Vallesi A, Gabelli C, Martini A. Aging, Cognitive Decline and Hearing Loss: Effects of Auditory Rehabilitation and Training with Hearing Aids and Cochlear Implants on Cognitive Function and Depression among Older Adults. Audiol Neurootol. 2016;21 Suppl 1:21-28. doi: 10.1159/000448350. Epub 2016 Nov 3. PMID: 27806352.
3. Buchman CA, Gifford RH, Haynes DS, Lenarz T, O'Donoghue G, Adunka O, Biever A, Briggs RJ, Carlson ML, Dai P, Driscoll CL, Francis HW, Gantz BJ, Gurgel RK, Hansen MR, Holcomb M, Karltorp E, Kirtane M, Larky J, Mylanus EAM, Roland JT Jr, Saeed SR, Skarzynski H, Skarzynski PH, Syms M, Teagle H, Van de Heyning PH, Vincent C, Wu H, Yamasoba T, Zwolan T. Unilateral Cochlear Implants for Severe, Profound, or Moderate Sloping to Profound Bilateral Sensorineural Hearing Loss: A Systematic Review and Consensus Statements. JAMA Otolaryngol Head Neck Surg. 2020 Oct 1;146(10):942-953. doi: 10.1001/jamaoto.2020.0998. PMID: 32857157.
4. Derinsu U, Yüksel M, Geçici CR, Çiprut A, Akdeniz E. Effects of residual speech and auditory deprivation on speech perception of adult cochlear implant recipients. Auris Nasus Larynx. 2019 Feb;46(1):58-63. doi: 10.1016/j.anl.2018.06.006. Epub 2018 Jun 23. PMID: 29945747.

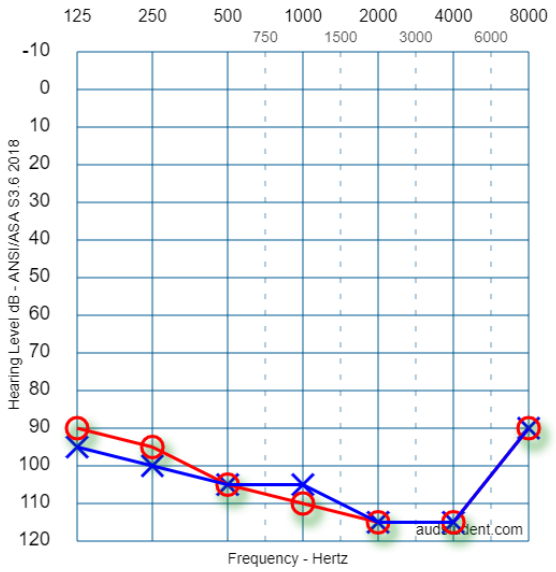
Said Another Way[1]

Patient A



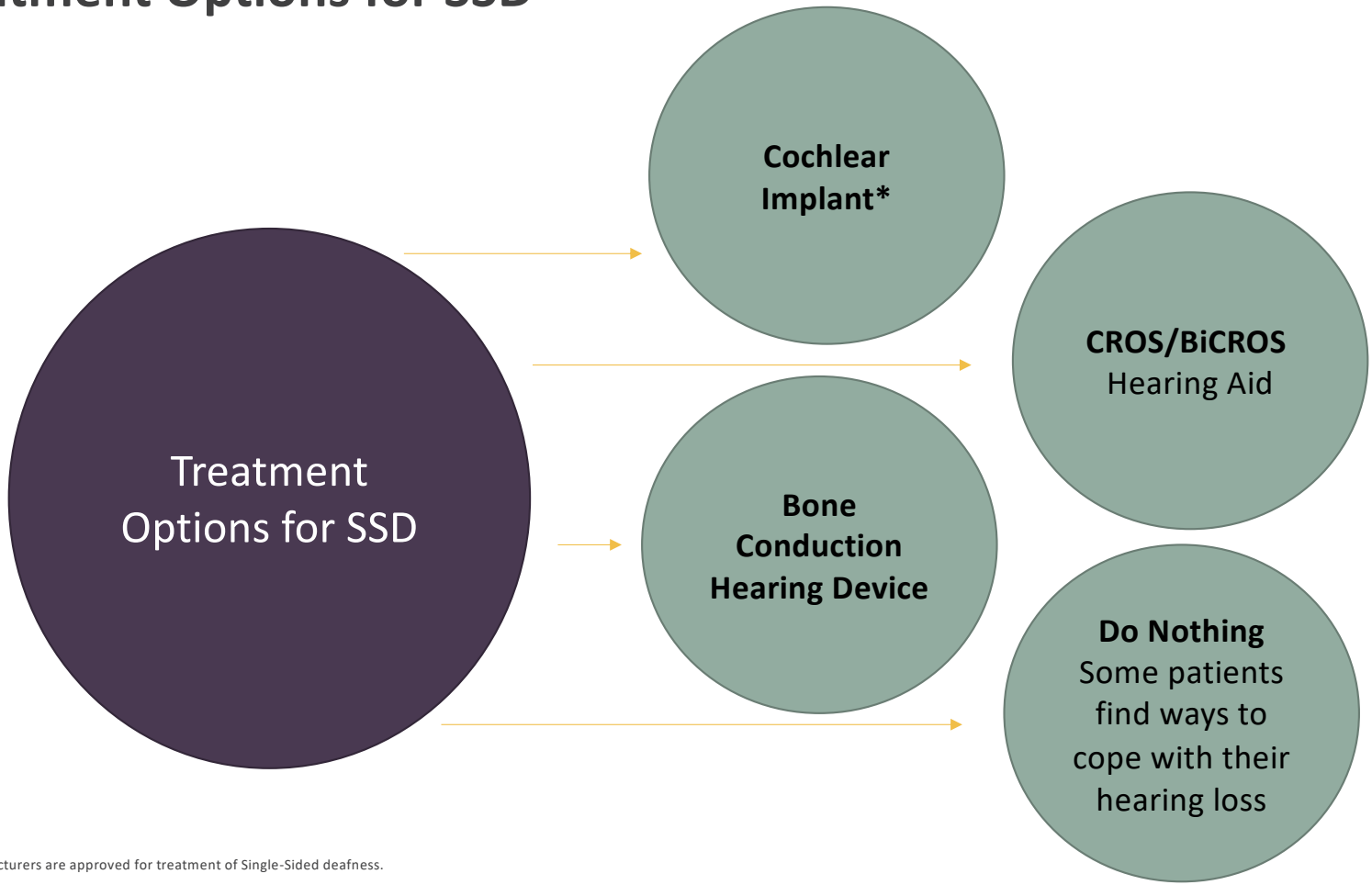
Patient A may do better than Patient B

Patient B



1. Dowell RC. The case for earlier cochlear implantation in postlingually deaf adults. Int J Audiol. 2016;55 Suppl 2:S51-6. doi: 10.3109/14992027.2015.1128125. Epub 2016 Feb 26. PMID: 26918896.

Treatment Options for SSD



* Not all Manufacturers are approved for treatment of Single-Sided deafness.

When to consider a hearing implant evaluation for single sided deafness (SSD)*

Does your patient meet any of these criteria?

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	Poor ear	Good ear	Age
Cochlear implant Pure Tone Average (AC @ 500, 1000, 2000, 4000 Hz)	greater than **80** dB HL	less than or equal to **30** dB HL	5 years and older
Bone conduction Pure Tone Average (AC @ 500, 1000, 2000, 3000 Hz)	greater than or equal to **80** dB HL	less than or equal to **20** dB HL	surgical: 5 years and older non-surgical: any age

Daily interactions[1,2]

Patient experiences **ANY** of the following:

- ☐ Unhappy with hearing aids
- ☐ Has tinnitus with hearing loss
- ☐ Favors one ear
- ☐ Struggles localizing sounds
- ☐ Withdraws from social events
- ☐ Often needs others to repeat themselves

Scan to learn more about when to refer

www.cochlear.us/SSD

* This provides a recommendation only of when to refer for a cochlear implant or bone conduction evaluation, but does not guarantee candidacy based on indications. For more information on candidacy criteria, please visit https://www.cochlear.com/us/en/home/diagnosis-and-treatment/how-cochlear-solutions-work

1. Firszt JB, Reeder RM, Holden LK, Dwyer NY, Asymmetric Hearing Study T. Results in adult cochlear implant recipients with varied asymmetric hearing: a prospective longitudinal study of speech recognition, localization, and participant report. Ear Hear 2018;39:845–862.
2. Alhanbali, S., Dawes, P., Lloyd, S., & Munro, K. J. (2017). Self-Reported Listening-Related Effort and Fatigue in Hearing-Impaired Adults. Ear and Hearing, 38(1), e39–e48. https://doi.org/10.1097/AUD.0000000000000361.

This material is intended for health professionals.

FUN4637 ISS1 MAR22

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Navigating the Counseling Conversation

Common Candidate Questions

- Would a stronger hearing aid work for me?
- Am I too old for a cochlear implant?
- My hearing aids are at least doing something for me – why would I give that up for a cochlear implant?
- I don't think surgery is necessary – isn't it better to just wait?
- What would a cochlear implant do for me?
- What if I lose my hearing?

Helpful things to consider when talking with your patients

Inform	Introduce	Encourage	Evaluate
Inform them you have done everything you can to maximize their hearing with hearing aids	Introduce cochlear implants as a potential option when hearing aids are no longer enough	Encourage patients to attend a CI meeting with other prospective candidates or recipients	Note that the goal of a CI evaluation is to determine possible next steps so that the patient can make an informed decision

Counseling Patients[1]

Change is hard

You are your patient's trusted advisor

Patients need you to be confident

What you say (and how you say it) matters!

You're recommending an evaluation, not surgery

Patients get to decide their own path

You don't have to have all the answers, more will come at the CICE.

Zwolan, T. How to Counsel Hearing Aid Users About Their Prospective Candidacy for a Cochlear Implant. Audiology Practices, Vol. 10, No. 2. pgs. 24-29.

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The Referral Journey: A Patient's Perspective

Kelly Flodin

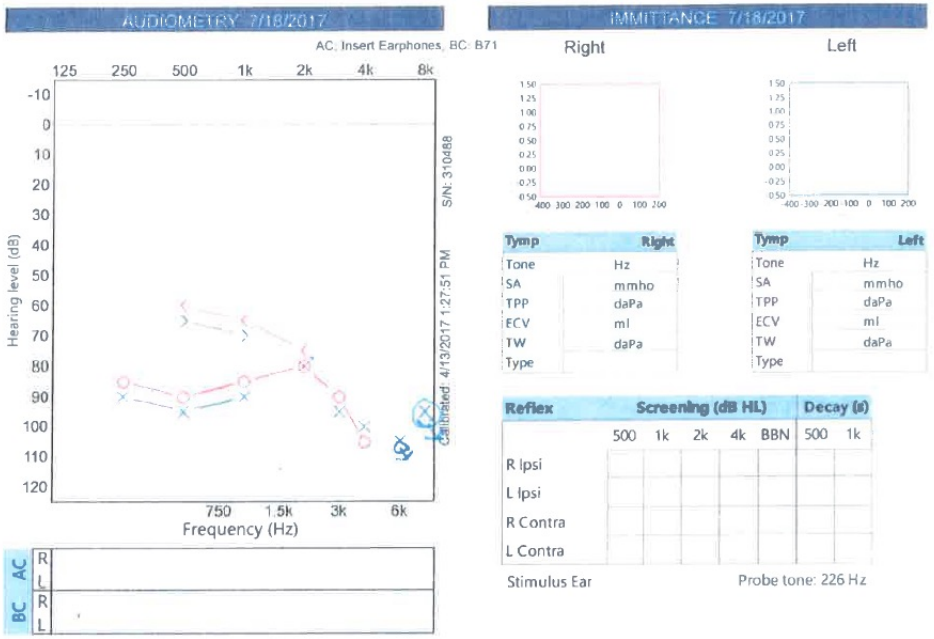
With bilateral cochlear implants for over five years, I'm passionate about CI advocacy and regularly participate in research as a willing "guinea pig" to help advance the technology. I thrive on connecting with fellow CI users and candidates, sharing experiences, and building community.

Professionally, I work with my hands—welding, fabricating, and repairing machinery. Outside of work, I restore old trucks and hot rods, play guitar, and enjoy the outdoors through hunting and fishing.

Audiogram 2017

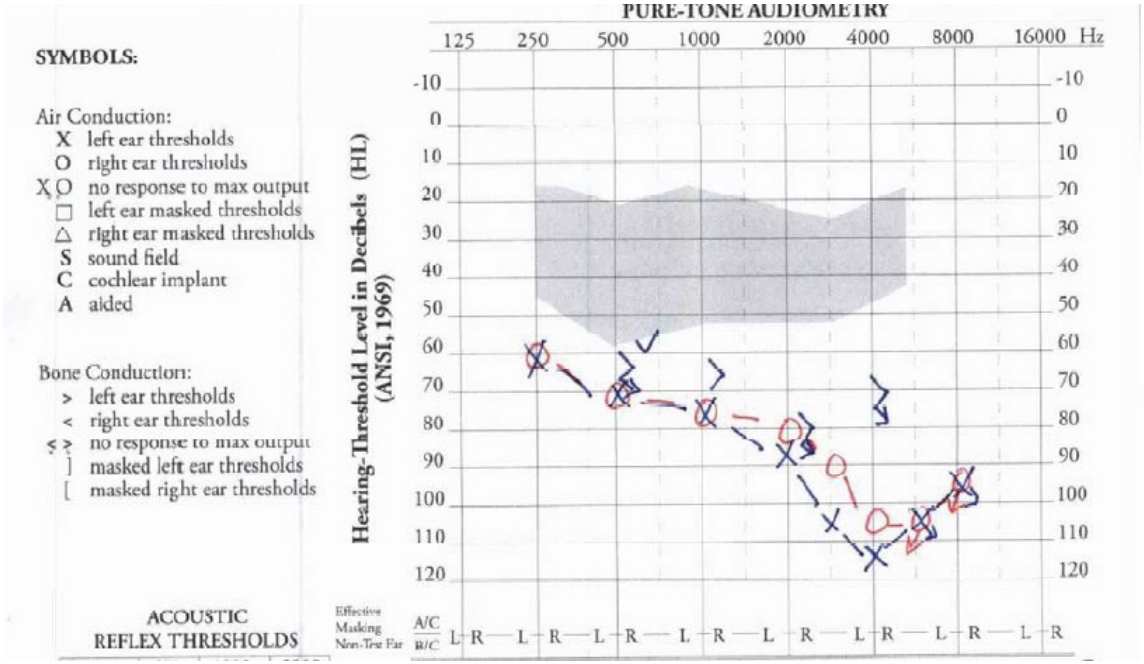
Report Comments

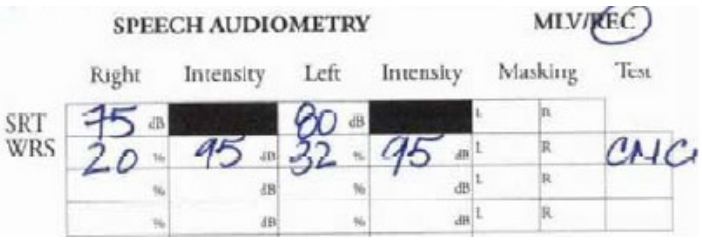
Unable to obtain speech scores with live voice – distorted & not intelligible



PTA (dB HL) / AI (%)			
	AC	BC	AI
Right	85	66	
Left	88		0

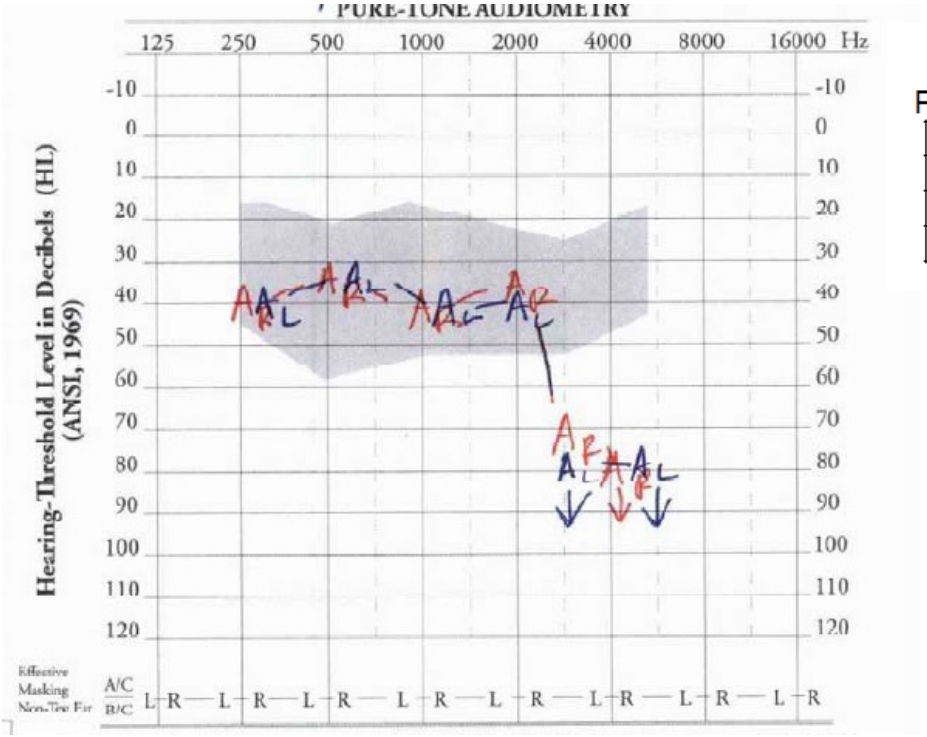
Audiogram 2020-Initial referral to CI Center





Comments: WR tested at MCL; 100 dB SL distorted / painful

Aided thresholds & CIE Evaluation results-2020



Evaluation

Prior audiologic testing 6/12/2020

Test	List #	Right Aided	List #	Left Aided
CNC- Words	7	28%	1	24%
CNC- Phonemes	7	42%	1	44%
AzBio Sentences- Quiet	18	33%	13	24%

1 Month Post Activation Results

Left 1 month post activation

Functional Gain Audiometry: Ear specific cochlear implant testing was completed in a calibrated sound field using warbled tone and conventional audiometry. The following results were obtained in dB HL with good reliability:

Implanted Ear	Map #	250 Hz	500 Hz	1000 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	SRT
Left	8	25	25	35	20	35	25	20	25

		Left CI		Bimodal
Test	List #	Score	List #	Score
CNC- Words	7	70%	DNT	DNT
CNC- Phonemes	7	86%	DNT	DNT
AzBio Sentences- Quiet	27	90%	DNT	DNT
AzBio Sentences- +10 SNR	29	54%	24	80%
AzBio Sentences- +5 SNR	DNT	DNT	DNT	DNT
AzBio Sentences- 0 SNR	DNT	DNT	DNT	DNT

3 Month Post Activation

Implanted Ear	Map #	250 Hz	500 Hz	1000 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	SRT
Left	11	25	20	30	20	30	30	20	25

		Left CI		Bimodal
Test	List #	Score	List #	Score
CNC- Words	9	90%	DNT	DNT
CNC- Phonemes	9	96%	DNT	DNT
AzBio Sentences- Quiet	11	95%	DNT	DNT
AzBio Sentences- +10 SNR	14	80%		
AzBio Sentences- +5 SNR	18	51%	DNT	DNT
AzBio Sentences- 0 SNR	DNT	DNT	DNT	DNT

Most Recent Results (2023) after Implantation of Right Ear

Implanted Ear	Map #	250 Hz	500 Hz	1000 Hz	2000 Hz	3000 Hz	4000 Hz	6000 Hz	SRT
Right	61 (900 pps)	25	30	30	25	35	30	25	DNT
Left	27 (900 pps)	25	30	25	20	30	30	25	DNT

Test	List #	CI Right	List #	CI Left
CNC- Words	10	84%	3	92%
CNC- Phonemes	10	94%	3	97%
AzBio Sentences- Quiet	2	96%	29	95%
AzBio Sentences- +10 SNR	18	86%	6	86%
AzBio Sentences- +5 SNR	11	57%	15	35%

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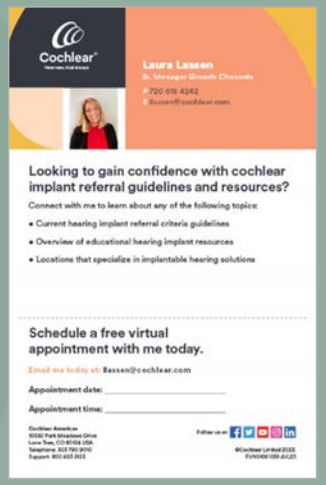
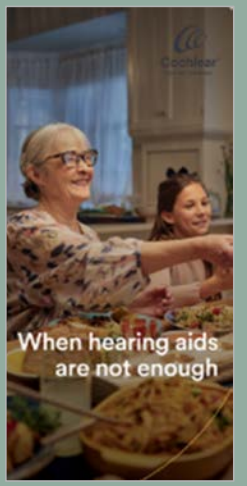
Resources and Next Steps

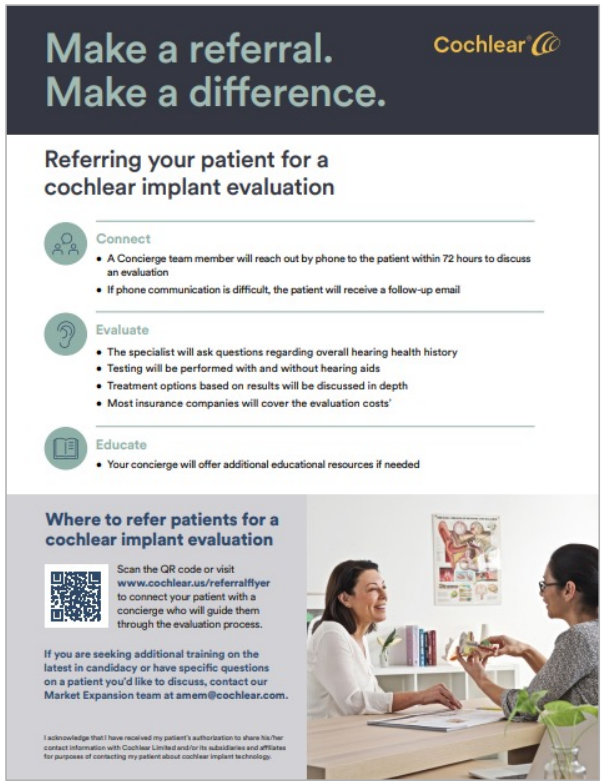
You don’t need all the answers.

- Refer patients to Cochlear for assistance
- Collateral available for your office
- Connect patients with mentors
- Meet one-on-one for professional assistance





Support for professionals to connect patients



Connect

- Your Concierge team member will reach out by phone to the patient within 72 hours to discuss an evaluation
- If phone communication is difficult, the patient will receive a follow-up email

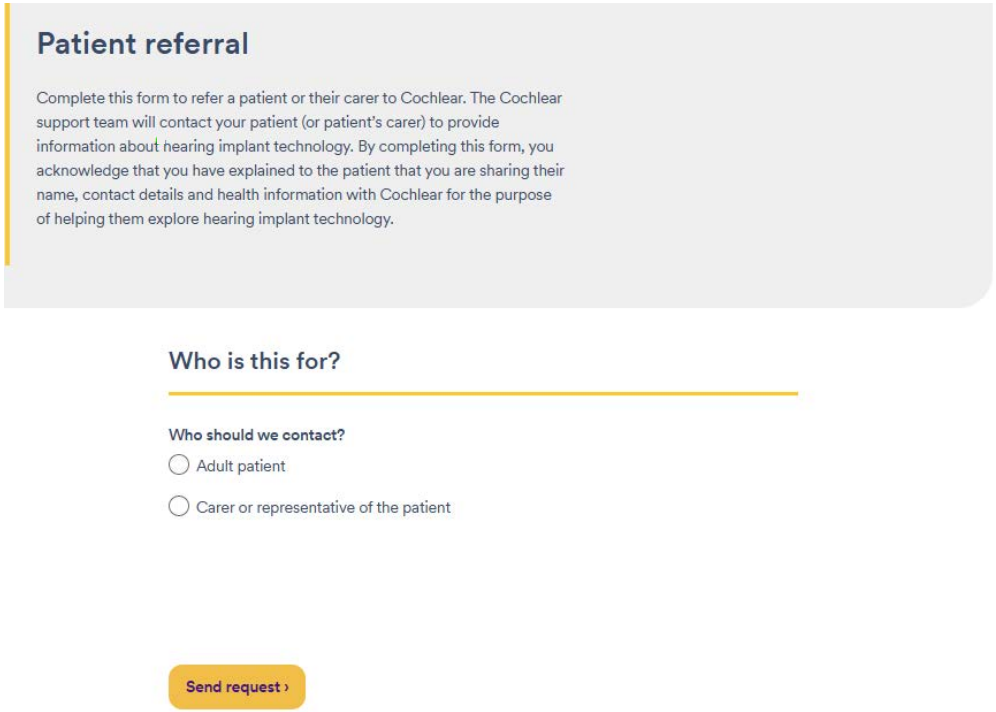
Evaluate

- The specialist will ask questions regarding overall hearing health history
- Testing will be performed with and without hearing aids
- Treatment options based on results will be discussed in depth
- Most insurance companies will cover the evaluation costs

Educate

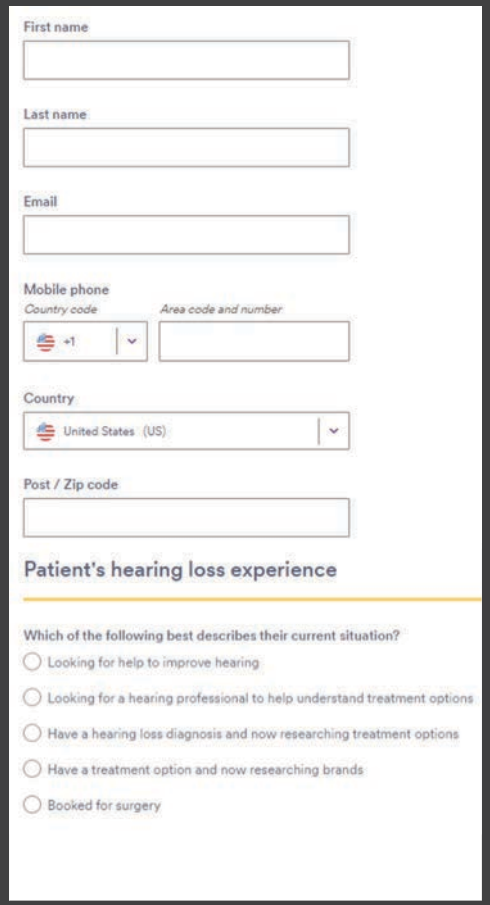
- Your concierge will offer additional educational resources if needed

Support for professionals to connect patients



Make a referral. Make a difference.

Scan the QR code or visit **cochlear.us/referralppt** to connect your patient with a concierge who will guide them through the evaluation process.

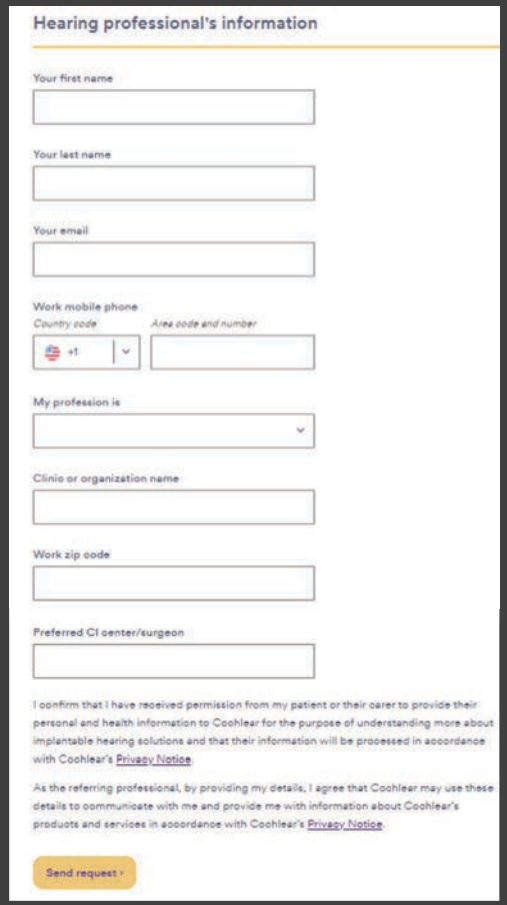


1

Provide your patient's contact information

2

Tell us about their hearing loss



3

Share your professional information

4

Let us know if you have a preferred center

What happens next?

1

Your patient will receive a phone call within 72 hours along with an email. They can respond to either in order to connect for more information.

2

Our Concierge team member will help them identify a local center for an evaluation and provide assistance on how to schedule.

3

The Cochlear Team will follow-up to answer questions and help provide more information if they qualify for an implantable solution.

THANK YOU

Contact us at: AMEM@cochlear.com for more information, resource requests or to connect with area CI centers

www.cochlear.com

This material is intended for health professionals. If you are a consumer, please seek advice from your health professional about treatments for hearing loss. Outcomes may vary, and your health professional will advise you about the factors which could affect your outcome. Always read the instructions for use. Not all products are available in all countries. Please contact your local Cochlear representative for product information.