

1. This document is created for accessibility and is intended to be a supplemental resource. If you would like to print a hard copy of this document, please follow the general instructions below to print multiple slides on a single page or in black and white.
2. This handout is for reference only. Non-essential images have been removed for your convenience. Any links included in the handout are current at the time of the live webinar but are subject to change and may not be current at a later date.
3. Copyright: Images used in this course are used in compliance with copyright laws and where required, permission has been secured to use the images in this course. All use of these images outside of this course may be in violation of copyright laws and is strictly prohibited.
4. Social Workers: For additional information regarding standards and indicators for cultural competence, please review the NASW resource: Standards and Indicators for **Cultural Competence in Social Work Practice**
5. Need Help? Select the “Help” option in the member dashboard to access FAQs or contact us.

How to print Handouts

On a Mac

- Open PDF in Preview
- Click File
- Click Print
- Click dropdown menu on the right “preview”
- Click layout
- Choose # of pages per sheet from dropdown menu
- Checkmark Black & White if wanted.

How to print Handouts

On a PC

- Open PDF
- Click Print
- Choose # of pages per sheet from dropdown menu
- Choose Black and White from “Color” dropdown

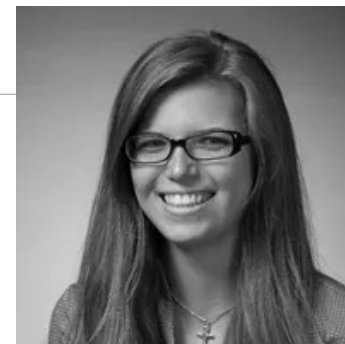
No part of the materials available through the continued.com site may be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of continued.com, LLC. Any other reproduction in any form without such written permission is prohibited. All materials contained on this site are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of continued.com, LLC. Users must not access or use for any commercial purposes any part of the site or any services or materials available through the site.

Measuring What Matters: Success with Hearing Aids and Cochlear Implants for Adults with Severe-to-Profound Hearing Loss, in partnership with RIT/National Technical Institute for the Deaf

Rebecca Jackson, AuD, CCC-A



This course may not be copied, reproduced, published, displayed, broadcast, reduced to any electronic medium or machine-readable form, or otherwise used or distributed in any form without the prior written consent of continued.com LLC. © 2025 Continued®



Rebecca Jackson, AuD CCC-A

Rebecca Jackson is a clinical audiologist at the National Technical Institute for the Deaf. Since 2015, she has provided comprehensive and culturally competent audiological care to RIT/NTID students, faculty, staff, and dependents. Her practice emphasizes accessibility and inclusion, offering services in both spoken English and American Sign Language (ASL). Dr. Jackson holds degrees from Elmira College (B.S) and Gallaudet University (M.S. and Au.D.). In addition to her clinical work, she has served as an adjunct professor, teaching graduate-level courses for local speech-language pathology and audiology programs.

Disclosures

- **Presenter Disclosure:** Financial: Rebecca Jackson is an employee of Rochester Institute of Technology's National Technical Institute for the Deaf. Non-financial: Rebecca Jackson has no relevant non-financial relationships to disclose.
- **Content Disclosure:** This learning event does not focus exclusively on any specific product or service.
- **Sponsor Disclosure:** This course is presented in partnership with the Rochester Institute of Technology/National Technical Institute for the Deaf.

Limitations/Risks

- 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.

Learning Outcomes

After this course, participants will be able to:

- Describe at least three potential measures of success with hearing aids and cochlear implants.
- Explain client-centered and quality-of-life factors in defining success.
- List clinical strategies to support diverse communication goals.

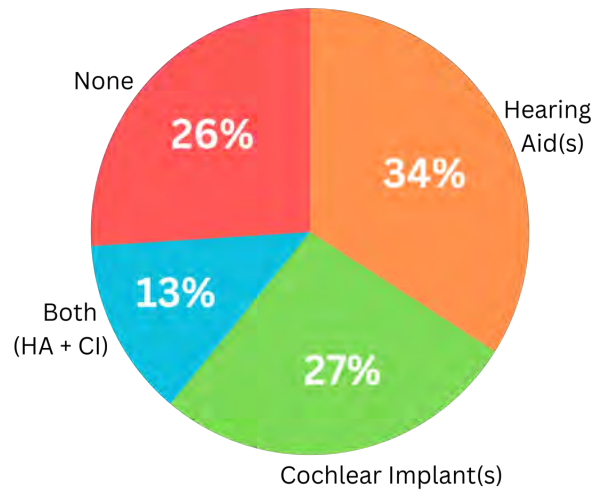
About NTID

The **National Technical Institute for the Deaf (NTID)** is one of the nine colleges of the **Rochester Institute of Technology (RIT)** in Rochester, New York.

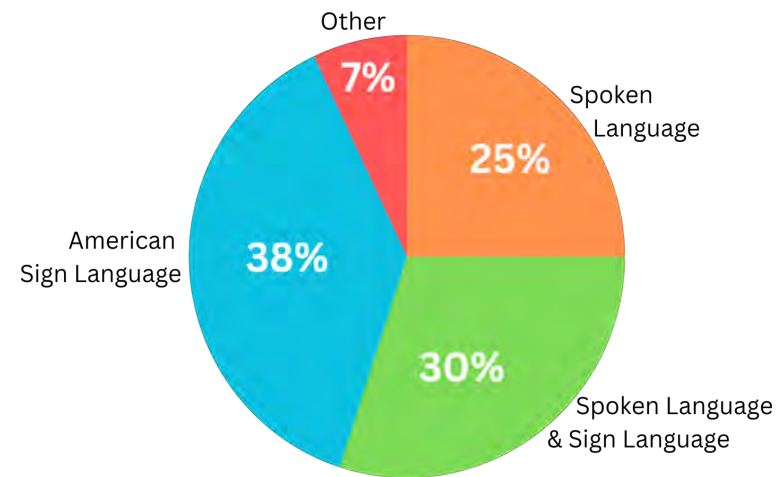
NTID was established by U.S. Congress in 1965 to provide higher education opportunities for deaf and hard-of-hearing students.

About NTID Students

Listening Technology Use



Communication Modes



About NTID AuDs & SLPs

- ASHA-certified Audiologists and Speech Language Pathologists at NTID provide on-campus audiological and speech-language services to members of the RIT and NTID Community. Our primary mission to serve and support the diverse communication needs and communication skill development for our deaf and hard of hearing college students.
- Our AuDs and SLPs are fluent in American Sign Language and prioritize matching each student and client's language and communication modalities.

<https://www.rit.edu/ntid/css/>

Our Services

- **Audiology Center**

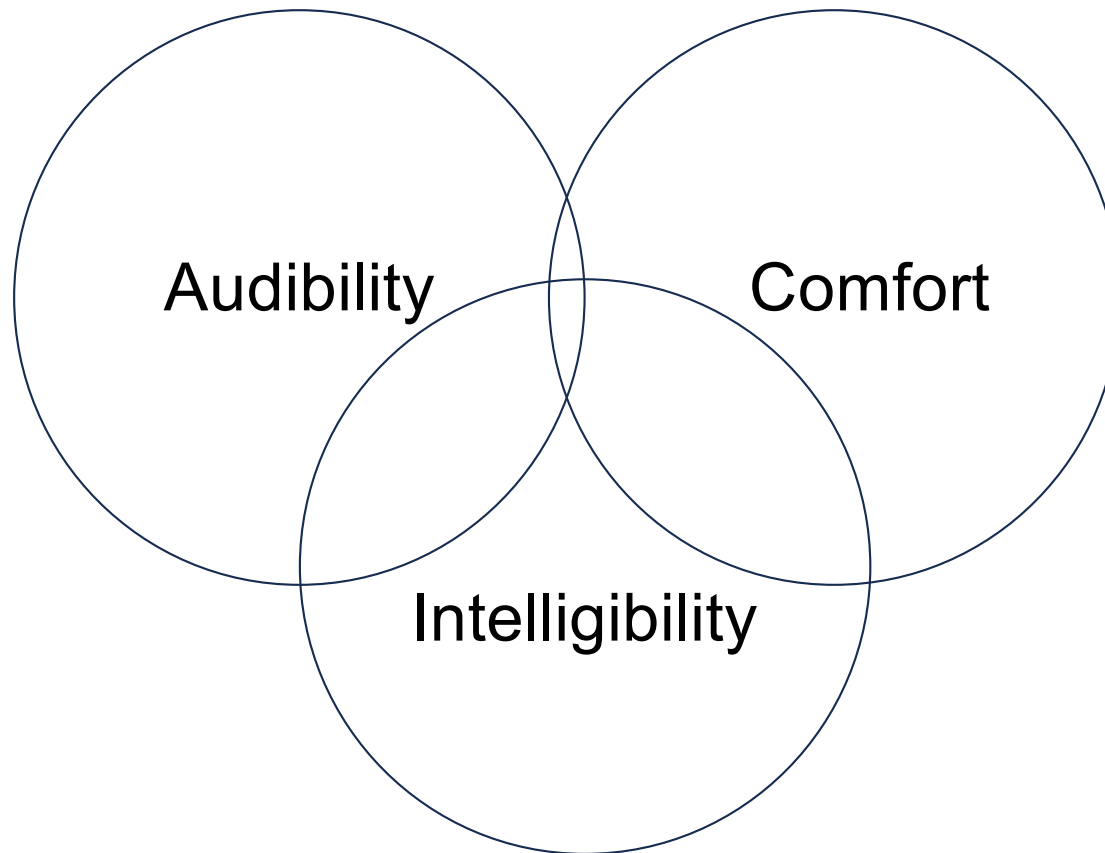
- Hearing tests
- Consultations
- FM/Roger loans
- Speechreading and/or listening training
- Cochlear implant mapping
- Hearing aid and cochlear implant adjustments, troubleshooting, repairs, and upgrades

- **Speech & Language Center**

- Speech intelligibility
- Grammar and technical/professional vocabulary and practice
- Communication strategies for work-related interactions/job interviews
- Presentation skill development and practice
- Use of mobile applications as communication tools

How Do We Define Success with Hearing Aids and Cochlear Implants?

✓ Measures of Success



Audibility and Comfort

- Goal: Improve access to soft and average intensity sounds and maximize comfort of loud sounds
- Measurement of Success:
 - NAL-NL or DSL prescriptive target verified with probe microphone measures (Real Ear)
 - Soundfield audiogram
 - Most Comfortable Level (MCL)/Uncomfortable Level (UCL)

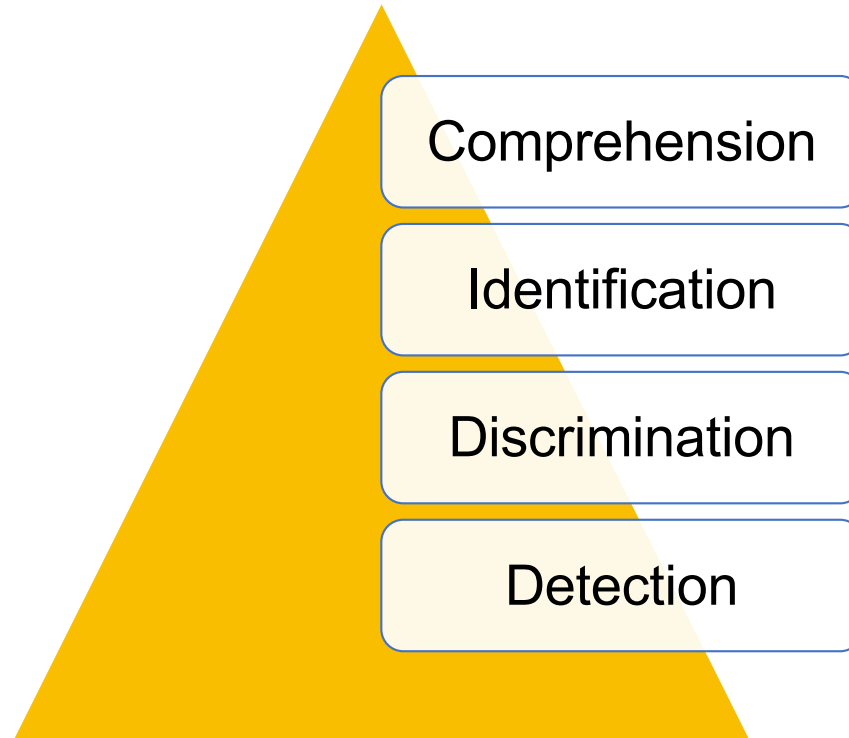
Speech Intelligibility

- Goal: Improve ability to understand speech
- Measurement of Success:
 - Speech Recognition Threshold (SRT)
 - Word and sentence recognition testing
 - Speech-in-noise testing

Selecting Speech Materials

- What is the client's auditory skill level?
 - Be wary of ceiling and floor effects
 - Too simple: patronizing; misrepresents their progress
 - Too hard: leads to frustration and discouragement
 - Monitored Live Voice (MLV) vs recorded materials

Norm Erber's Auditory Hierarchy



Detection

- Speech Awareness Threshold (SAT)
- Soundfield audiogram
- Ling Sound Detection
- Early Speech Perception (ESP) – Detection subtask

Discrimination

- Ling Sound Discrimination
- Minimal Pairs Discrimination

Identification

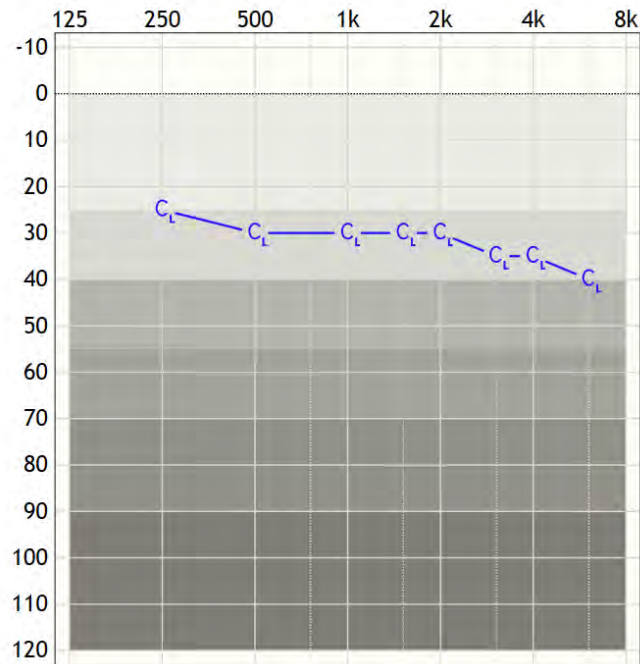
- Closed Set Words
 - Four Choice Spondees
- Open Set Words
 - CID W-22 word lists
 - NU-6 word lists
 - CNC word lists
- Sentence Recognition
 - CID Everyday Sentences
 - Hearing-in-Noise-Test (quiet and noise)
 - Az-Bio Sentences (quiet and noise)

Case Study: MO

- 37-year-old alumnus with a long-standing history of severe-to-profound hearing loss and bilateral hearing aid use
- Communicated using simultaneous communication (sign-supported speech)
- Underwent CI surgery at another clinic approximately 7 years prior to being seen at NTID, but did not feel he was benefiting from the CI and was considering ceasing use
- Goal: improved speech discrimination

✓ Case Study

MO: Outcomes



- SAT: 25 dB HL
- SAT with Ling 6 sounds ranged from 20-40 dB HL
- Open set SRT: 60 dB HL
- Select-6 SRT: 35 dB HL
- CID Everyday Sentences: 40% at 60 dB HL

Limitations of Speech Scores

- Measure a narrow skill set
- May not reflect real-world communication success
- May not be relevant to the client

Reframing “Success”

- Client-Centered Care
 - Why it matters: Avoiding assumptions ensures culturally respectful, goal-aligned care
- “Success” is not one-size-fits-all
 - What are the client’s goals?

Reframing “Success”

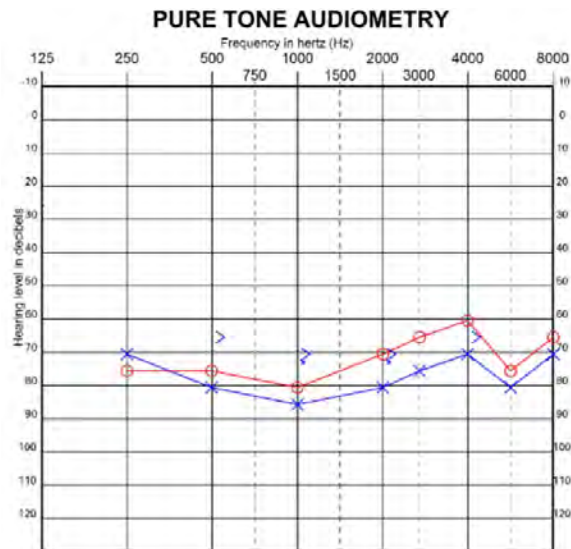
- Safety
 - Environmental sound awareness
 - Improved sound localization
- Enjoyment
 - Music/rhythm; spoken language
- Social connection
 - Improved speechreading
 - Improved voice pitch control
 - Confidence
- Independence

Considerations: Hearing Aids

- Real Ear may not meet targets
- Aided audiogram may show responses at the level of a moderate hearing loss
 - Likely no audibility in the high frequencies
- Consider using DSL fitting methods and Real Ear targets

✓ Case Study

Case Study: AP

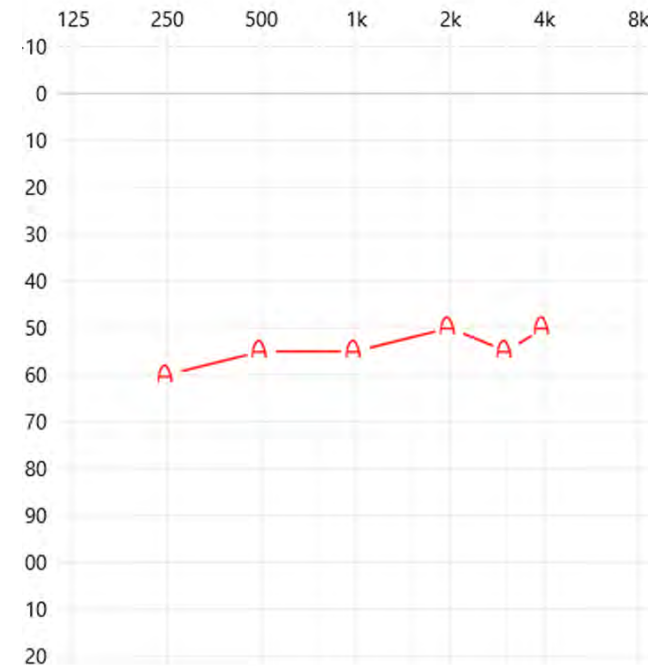
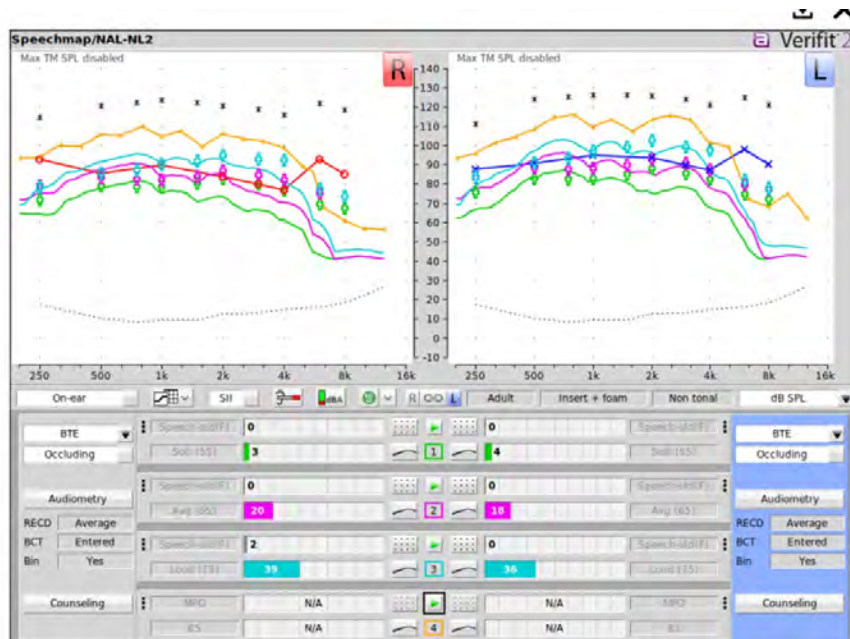


- 18-year-old ASL-user from a Deaf family who had stopped using hearing aids in middle school
- SRT – could not establish
- Four-Choice Spondee Test:
 - Right: 100%
 - Left: 90%

GOALS: Music, video games, and sports

✓ Case Study

AP: Objective Measures



AP: Subjective Measures

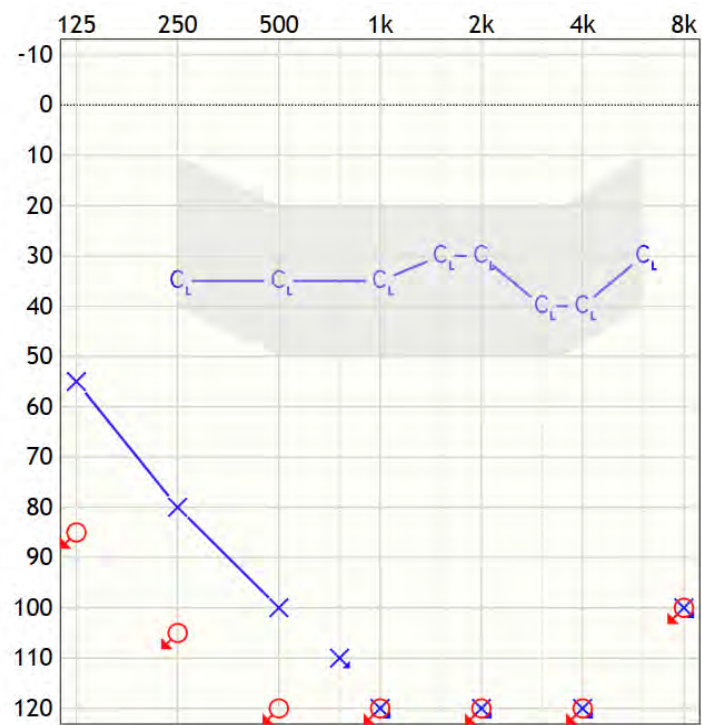
- International Outcome Inventory – Hearing Aids (IOI-HA) score of 34/35
- Consistent daily use
- Perceived very helpful
- Enjoyment of life increased
- Very much worth the trouble

Considerations: Cochlear Implants

- Soundfield thresholds may be higher (louder) than expected
- Frequency allocation table may be adjusted
- Consider acoustic component, even if not an ideal candidate

✓ Special Considerations - CI
& Bimodal Configurations

EAS User?



Considerations: Bimodal Listening

- Adjustment to acoustic stimulation
 - Clients may initially find HA stimulation unpleasant or vibratory, requiring underfitting
- Subjective benefits
 - Improved localization
 - Reduced listening effort
 - "Richness" of sound

Speechreading

- NTID Speechreading: CID Everyday Sentences Test on DVD
 - Available through Auditec, Inc
 - 10 test lists of sentences
 - Assesses:
 - Speechreading alone
 - Speechreading and listening combined
 - Listening alone

NTID Speechreading Test

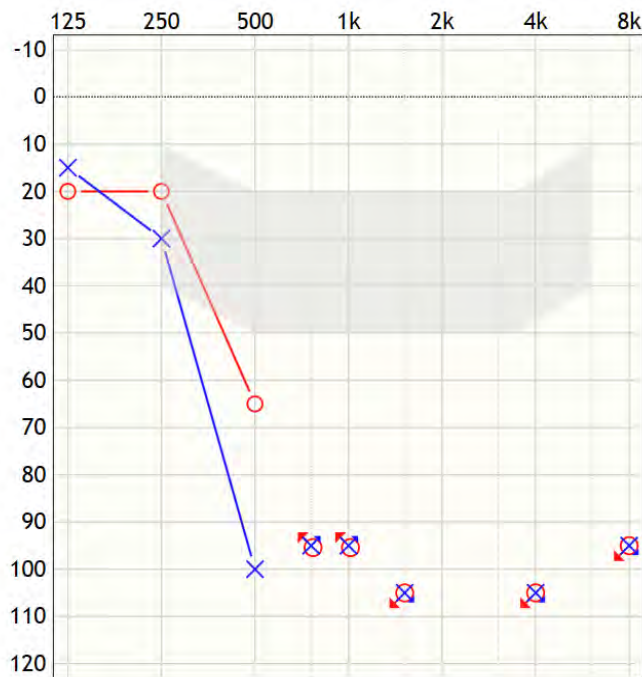


Beyond Language and Audition

- Quality of Life
 - Interviews
 - Questionnaires
 - Client Oriented Scale of Improvement (COSI)
 - Hearing Implant Sound Quality Index (HISQUI19)
 - International Outcome Inventory – Hearing Aids (IOI-HA)

✓ Case Study

Case Study: BS



- 46-year-old Master's student
- Hx of profound high frequency hearing loss, likely progressive
- Minimal hx of hearing aid use; felt hearing aids were not helpful
- Depended entirely on speechreading and captioning for communication

BS Outcomes

- Underwent CI surgery on the right ear
 - Fit with Rondo 3 sound processor
 - Initially reported no perception of "sound"
 - Goals:
 - Improve ability to identify sounds/understand common phrases
 - Improve communication confidence and socialization

BS Outcomes

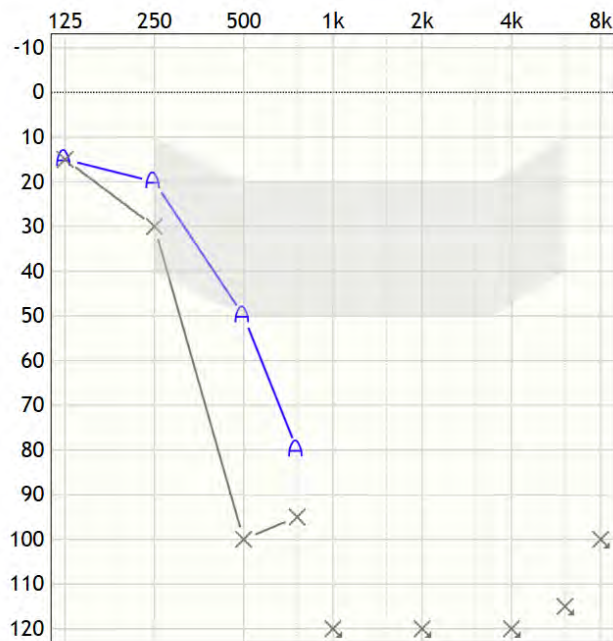
- NTID Speechreading Test
 - Audition Only – 0%
 - Vision Only – 68%
 - Audition + Vision – 90%
- HISQUI19 - "moderate sound quality"
- Self-Report: could hear blinker and other noises in his car, could identify environmental sounds, could distinguish between voices

BS Outcomes

- COSI Goals:
 - Identify and distinguish between sounds
 - BETTER
 - Improve understanding of common words/phrases
 - SLIGHTLY BETTER
 - Increased social contact/confidence
 - NO CHANGE

✓ Case Study

BS Outcomes



- Hearing aid demo and purchase – Phonak Audeo L30-RT with mold
- No high frequency gain/SoundRecover disabled
- Attended Yoga and meditation classes more frequently
- Joined a D&D group

Clinical Strategies

- Start with an open-ended goals interview
- Use shared decision-making to select measures
- Revisit goals periodically
- Initial discomfort and lack of auditory experience should not deter trials of hearing aids
- Educate clients and families about realistic expectations

Ethical Considerations

- Relying solely on speech scores risks over- or underestimating benefit, especially for clients who communicate visually or in multimodal ways
- Respect autonomy in technology use

Summary

Client-centered care is essential

- Success is personal
- Subjective outcomes are valid
- Clinical strategies should be flexible

Survey: Please provide feedback

A secondary mission of RIT/NTID is preparing professionals to work with the deaf/hard of hearing population. Your completion of this 5-question survey will help us monitor our impact and bring you the content you want and need!

Course Title: Measuring What Matters: Success with Hearing Aids and Cochlear Implants for Adults with Severe-to-Profound Hearing Loss

Survey Link:

https://rit.az1.qualtrics.com/jfe/form/SV_3jSsLz8ViyPZDsqq



Thank you!

Rebecca Jackson, AuD, CCC-A





Congratulations!

- You've completed the course and can move on to the exam!
- From your account:
 - Go to pending Courses
 - Choose take exam