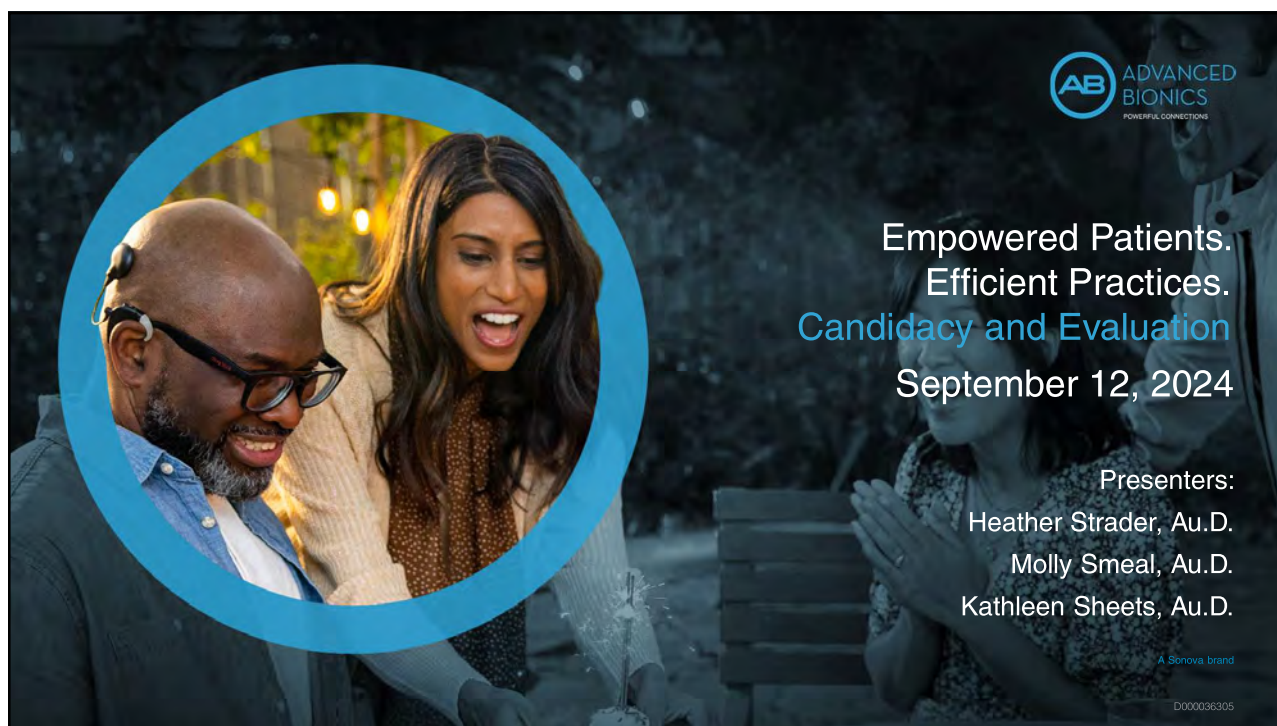




Empowered Patients. Efficient Practices.

Candidacy and Evaluation



Course goals and objectives

After this course, participants will be able to:

- Identify one change that they could implement to improve clinical efficiency
- Explain the value of the MSTB-3
- Identify two ways in which AB staff can provide support to CI candidates

Empowered Patients. Efficient Practices.

Candidacy and Evaluation



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Heather Strader, Molly Smeal, and Kathleen Sheets are consultants for Advanced Bionics, LLC.
The comments provided by them are their own opinions and do not reflect the opinion of Advanced Bionics.

ICIT Minimum Speech Test Battery (MSTB-3)

- Updated and streamlined test battery for pre-operative determination of candidacy and post-operative assessment of cochlear implant performance



MSTB-3 Team

Co-Leads: Camille Dunn, PhD and Terry Zwolan, PhD

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Disclaimer: The CI Manufacturers provided partial funding for this project. They do not endorse any off-label use of their products, and it is not their intent to promote off-label use. For information on the indications for an implant, refer to the relevant Instructions for Use.

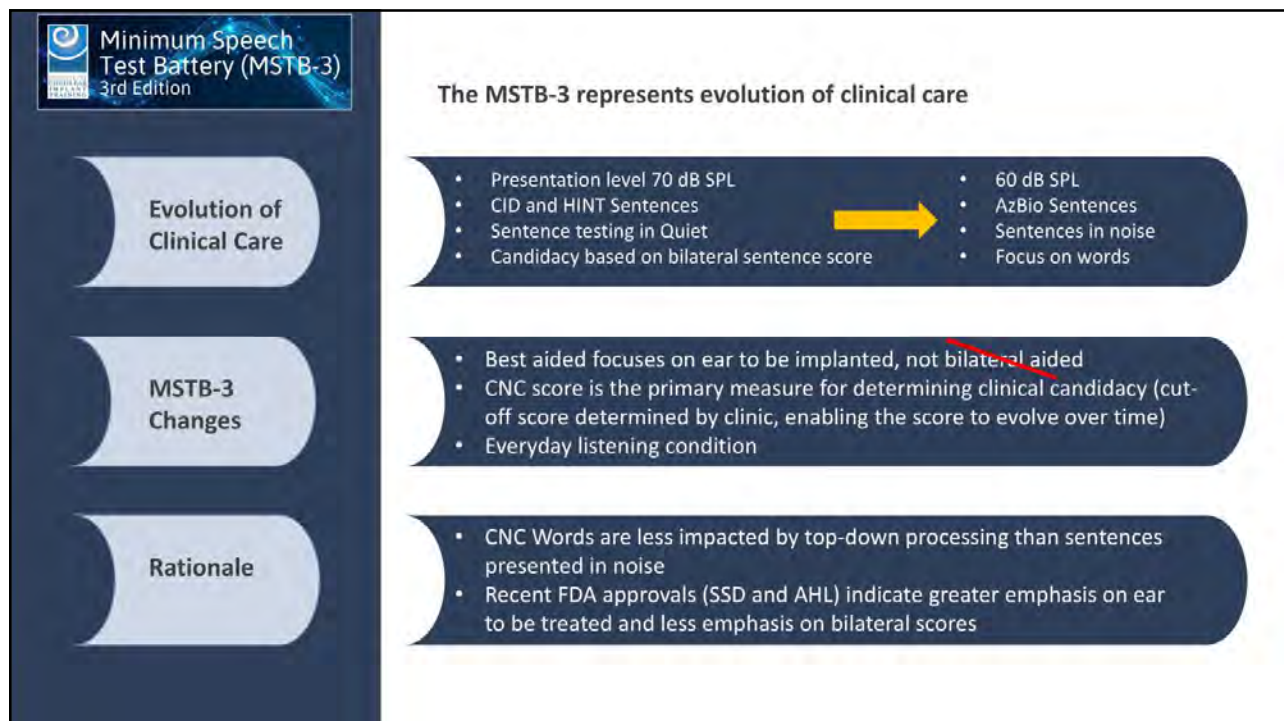
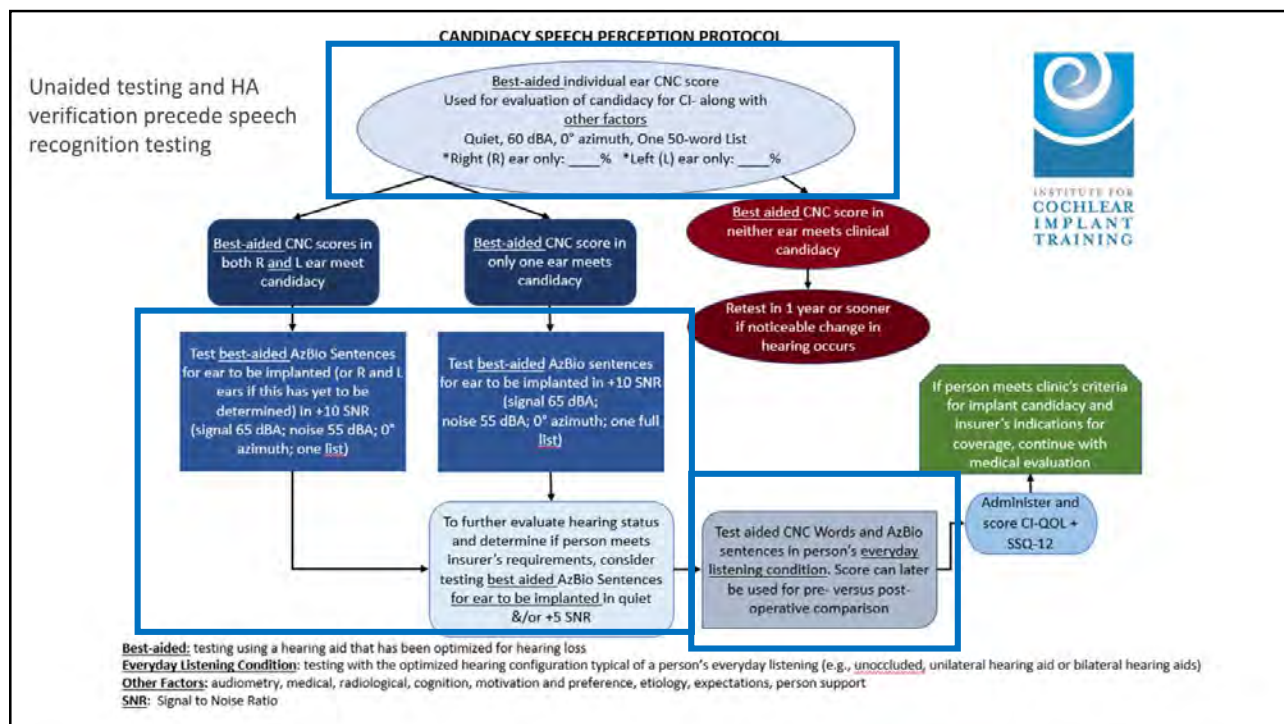
2

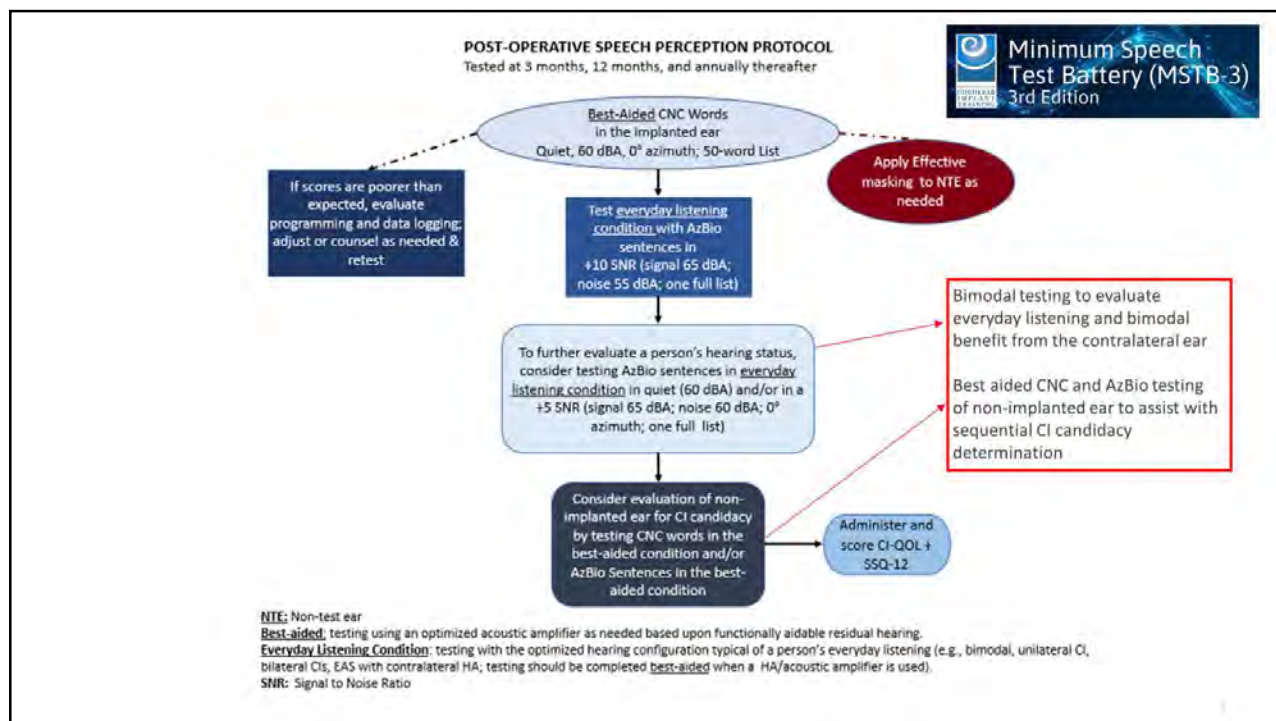


Why a new test battery?

- CI Candidacy has changed since the last MSTB was released in 2011
- Clinics are inconsistent regarding test measures used to evaluate candidacy, leading to confusion amongst referral sources, CI professionals, patients, and payers
- Greater consistency leads to improved collection of real- world evidence









<https://www.cochlearimplanttraining.com>

ICIT MSTB-3 Suite

FOR AUDIOLOGISTS

For a limited time, the full test suite is available at no cost thanks to the generous support of the MSTB sponsors.

SPONSORS





MINIMUM SPEECH TEST BATTERY, VERSION 3
FOR ADULT COCHLEAR IMPLANTATION

Dashboard Settings Log out

MSTB-3 MANUAL

PROTOCOLS

RECORDED MATERIALS

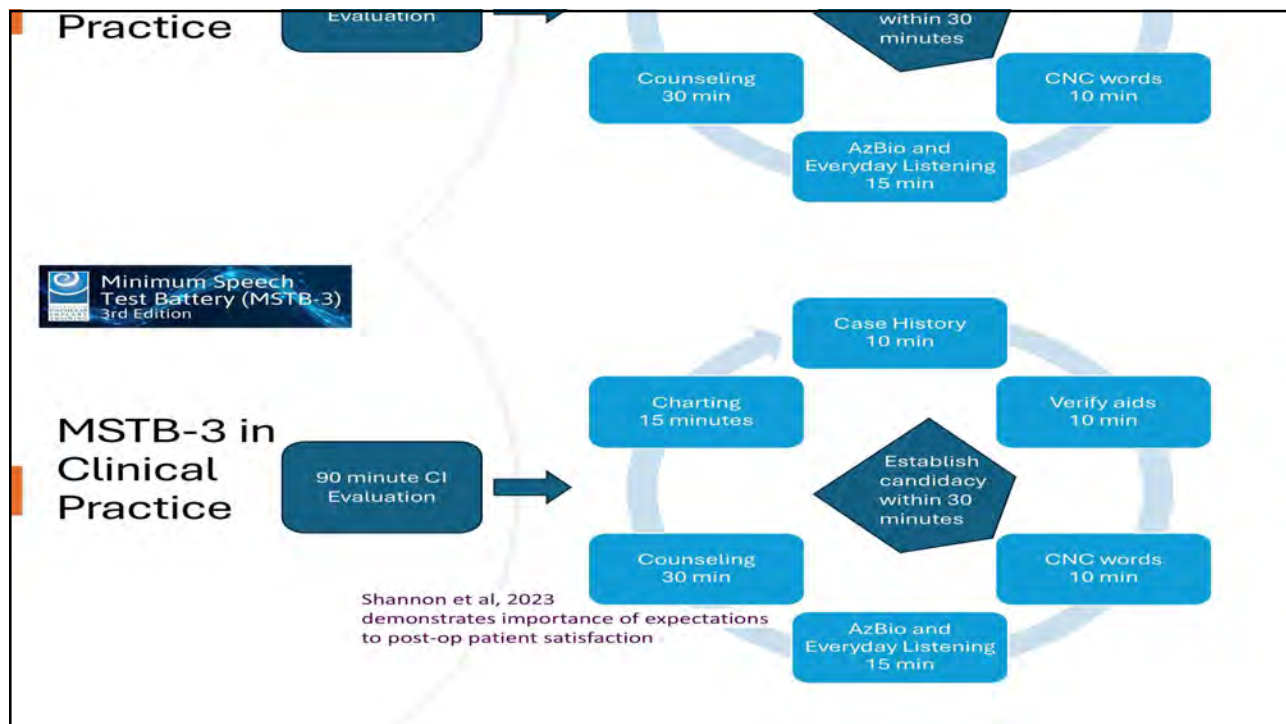
SCORESHEETS

REPORT TEMPLATES

PROMS

MSTB-3 MANUSCRIPT

INSTRUCTION VIDEO



Minimum Speech Test Battery (MSTB-3) 3rd Edition

Shannon et al, 2023 demonstrates importance of expectations to post-op patient satisfaction

COCHLEAR IMPLANTS

Determinants of Cochlear Implant Satisfaction and Decisional Regret in Adult Cochlear Implant Users

Shannon, Christian M.; Schwartz-Leyzac, Kara C.; Dubno, Judy R.; McRackan, Theodore R.

Author Information

Otology & Neurotology 44(10):e722-e728, December 2023. | DOI: 10.1097/MAQ.0000000000000428

BUY | SEE

Full Text

Abstract

Objective
Determine associations expected and actual cochlear implant (CI) outcomes, decisional regret, and satisfaction in experienced adult CI users.

Study Design
Cross-sectional cohort study.

Setting
Tertiary medical center.

Patients
Thirty-nine adult CI users meeting traditional bilateral hearing loss indications with ≥12 months CI experience.

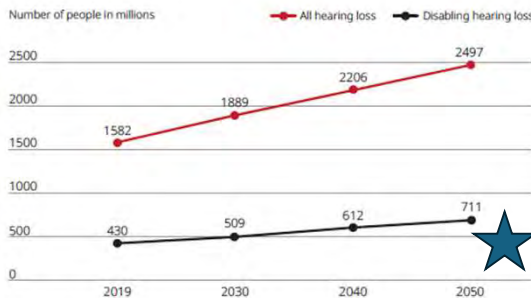
Interventions/Main Outcome Measures
Patients completed the validated Satisfaction with Amplification in Daily Living and Decisional Regret instruments. Pre- and post-CI outcomes (CI Quality of Life [CQOL]-Expectations; CQOL-35 Profile; CNC words, AzBio Sentences) were obtained from a prospectively maintained clinical database.

Results
Using established cutoff scores, 29% of patients reported a substantial degree of post-CI decisional regret. For each CQOL domain, patients without decisional regret obtained post-CI outcome scores closer to pre-CI expectations compared with patients with decisional regret ($d = 0.34$ to 0.91); similar results were observed with higher CI user satisfaction ($d = 0.37$ to 0.83). Notably, the degree of pre- to post-CI improvement in CNC or AzBio scores did not differ between patients with and without decisional regret or with lower and higher satisfaction. Finally, greater pre-/postimprovement in CQOL-35 Profile domain scores demonstrated far stronger associations

What is the problem?

The World Health Organization (WHO) predicts that hearing loss (HL) prevalence will continue to rise

PROJECTED INCREASE IN PREVALENCE OF HEARING LOSS, 2019-2050

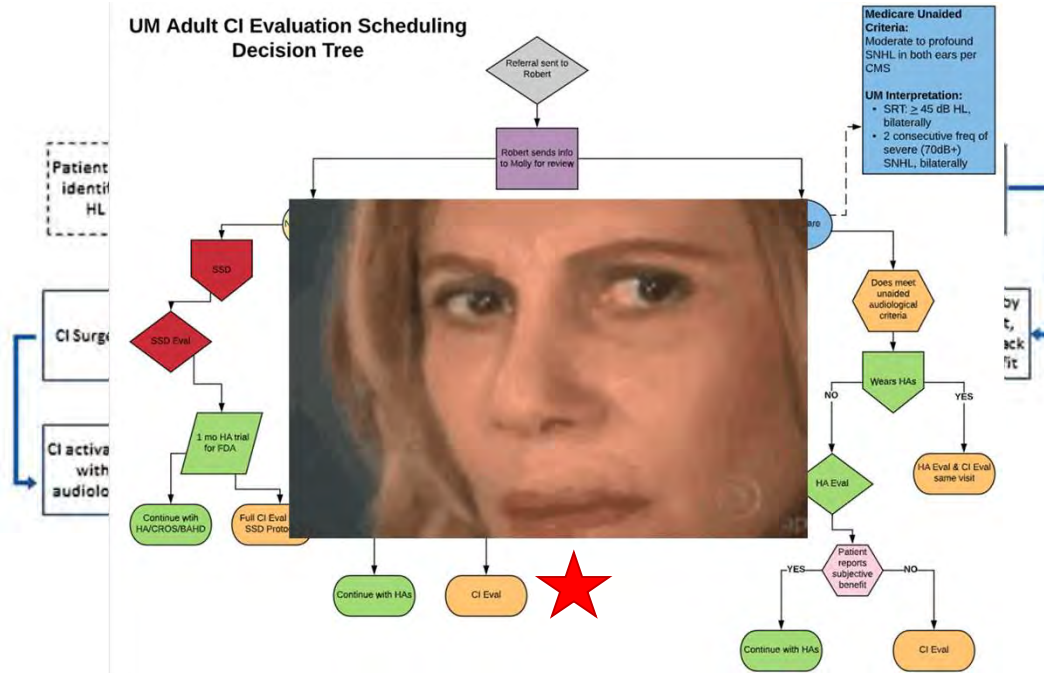


Hearing loss treatment options are globally under-utilized



WHO, 2021; ACIA

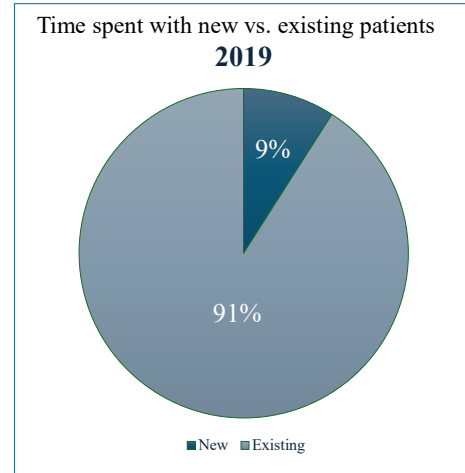
UM Adult CI Evaluation Scheduling Decision Tree



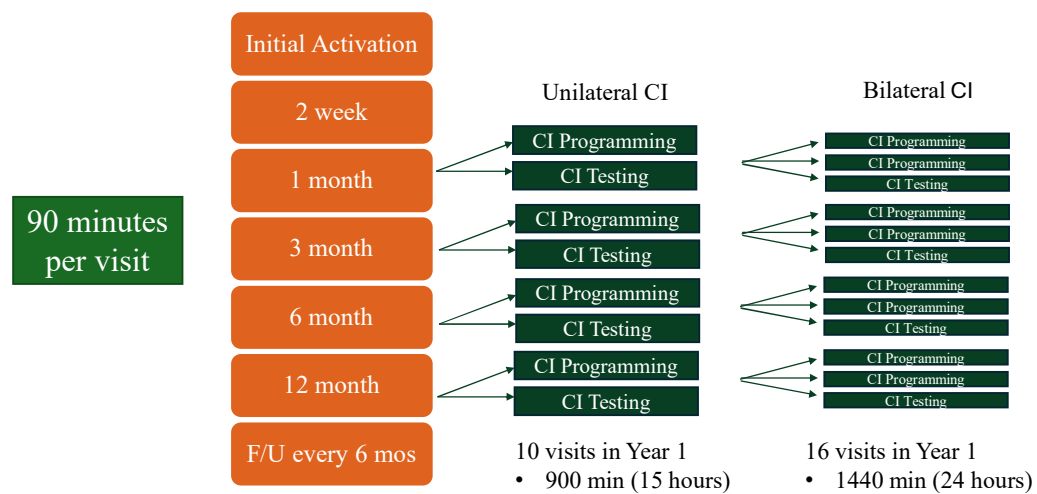
Nassiri et al., 2021

Clinical FTE & Time Allocation

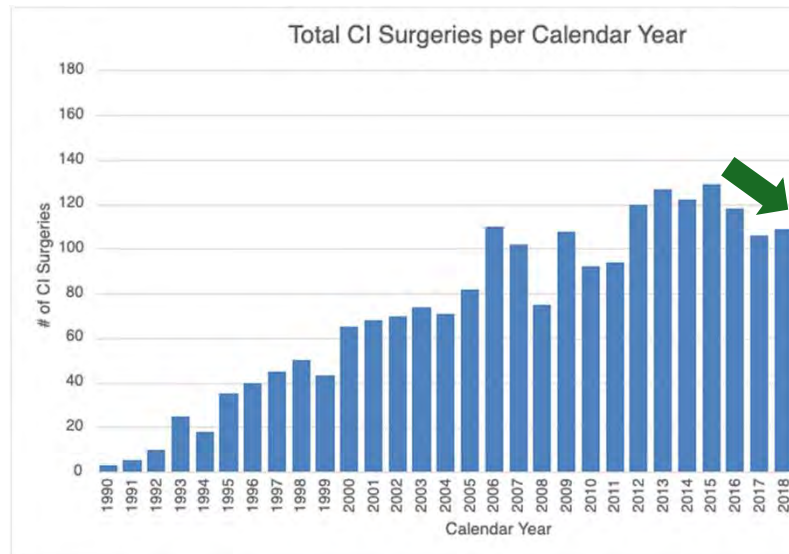
CI Clinic	Annual CI surgeries	CI FTE	2019 ratio
U Miami ★	110	4.2 FTE	1FTE / 26 CI
Clinic A	300+	5 FTE	1FTE / 60 CI
Clinic B	200	4.6 FTE	1 FTE / 43 CI
Clinic C	150	3 FTE	1 FTE / 50 CI
Clinic D	140	2.8 FTE	1 FTE / 50 CI
Clinic E ★	120	1.5 FTE	1 FTE / 80 CI



2019 CI Appointment Schedule



CI Surgeries per Year



CI Evaluations

Long wait times for appointments

High FTE of CI providers



Not accepting new CI evaluations

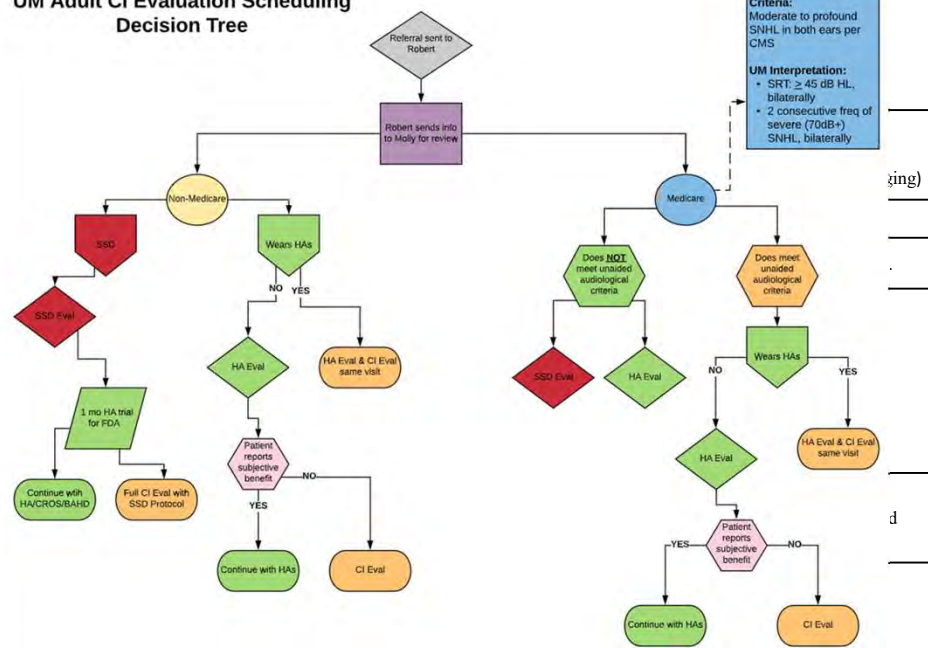
Reduced surgical numbers overall

We needed to “clean up our house” before inviting the guests in!

1. Improved internal triage and referral system
2. Implementation of telehealth ★
3. Modified appointment schedule ★



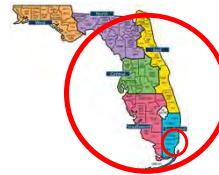
UM Adult CI Evaluation Scheduling Decision Tree



Telehealth Counseling

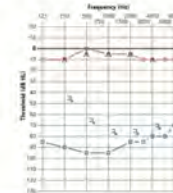
Prompted by the pandemic to reduce patient backlog

- Appropriate for all ages
 - Pediatrics/ parents → 94 years old!
- Allows the whole family to join and engage
 - Expands geographic reach
- Everything is in writing with captions
- Increases likelihood of decision making at in-person CI evaluation



Single Sided Deafness

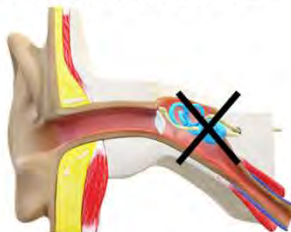
Deafness/ significant hearing loss in one ear and normal hearing in the other ear



This is a copy of your most recent hearing

How we hear with SENSORINEURAL hearing loss

1. Sound will reach the cochlea, which is damaged
 - a. Hair cells may be broken or missing
2. Sound will pass through the damaged cochlea to the hearing nerve
3. Sound is **distorted** or **unclear**



Expectation for activation of device

Most patients **do not understand speech on the first day**. This will take time and practice to develop.

On activation, many patients say that the implant sounds like...

- Beeping
- Whistling
- Chirping
- Mickey Mouse
- Alvin and the Chipmunks
- Aliens



Cochlear implant parts

The outside device is called the **sound processor**.

Sound processors come in a variety of styles, but they all connect to the internal device through the skin using a **magnet**.

The sound processor has **microphones** that pick up the sound, which is sent through the skin to the internal device. The sound processor is powered by **batteries**.



How to train your brain

Listening practice is critical to success with a cochlear implant!

You must be willing to participate in these exercises to receive maximum benefit from the cochlear implant.

2022 CI Appointment Schedule

Initial Activation

2 week

1 month

3 month

6 month

12 month

F/U every 6 months

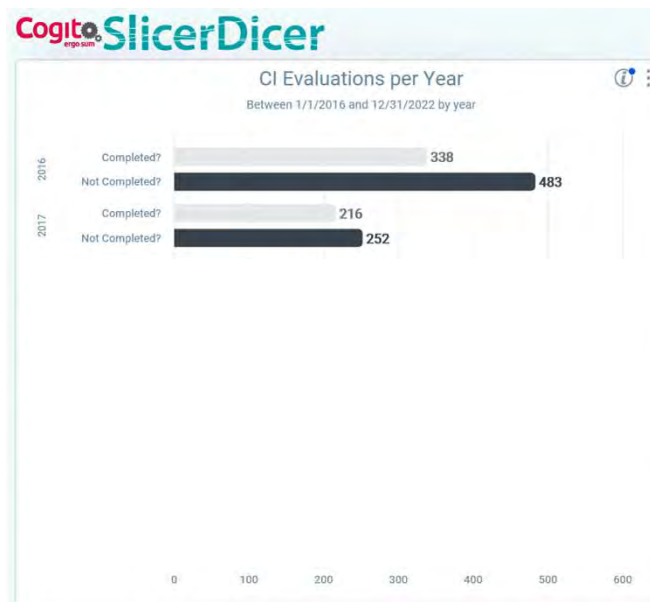
AB Success Team Appointments

SELECT A SERVICE

Initial Device Orientation ☐ <i>Are you getting ready for your activation or... Read more</i> Free - 1 hour	Orientación Inicial del Dispositivo ☐ <i>¿Le está preparando para su activación o le... Read more</i> Free - 1 hour
Follow Up Appt - 30 min ☐ <i>If you have already had a full-on-on check... Read more</i> Free - 30 minutes	Cita de seguimiento - 30 min ☐ <i>Si ya ha tenido una revisión de una hora y ha... Read more</i> Free - 30 minutes
Troubleshooting - 40 min ☐ <i>Having trouble with your equipment. (help)... Read more</i> Free - 40 minutes	Solución de problemas - 40 min ☐ <i>¿Tiene problemas con su equipo, conexión... Read more</i> Free - 40 minutes

MAPs shouldn't change significantly over time!

CI Evaluations



Telehealth- Time to Surgery (days)

n = 582 patients (2015-2022)

Telehealth
n=148 patients

Initial Assessment and
Referral

Telehealth
Counseling

CI Evaluation

Surgery

Faster ($p<0.03$)

Median 147 days

No Telehealth
n=334 patients

Initial Assessment and
Referral

CI Evaluation and
Counseling

Surgery

Median 169 days

Telehealth- Decision to Pursue CI

n = 582 patients (2015-2022)

Telehealth
n=148 patients

Initial Assessment and
Referral

Telehealth
Counseling

CI Evaluation

Surgery

YES 83%

No Telehealth
n=334 patients

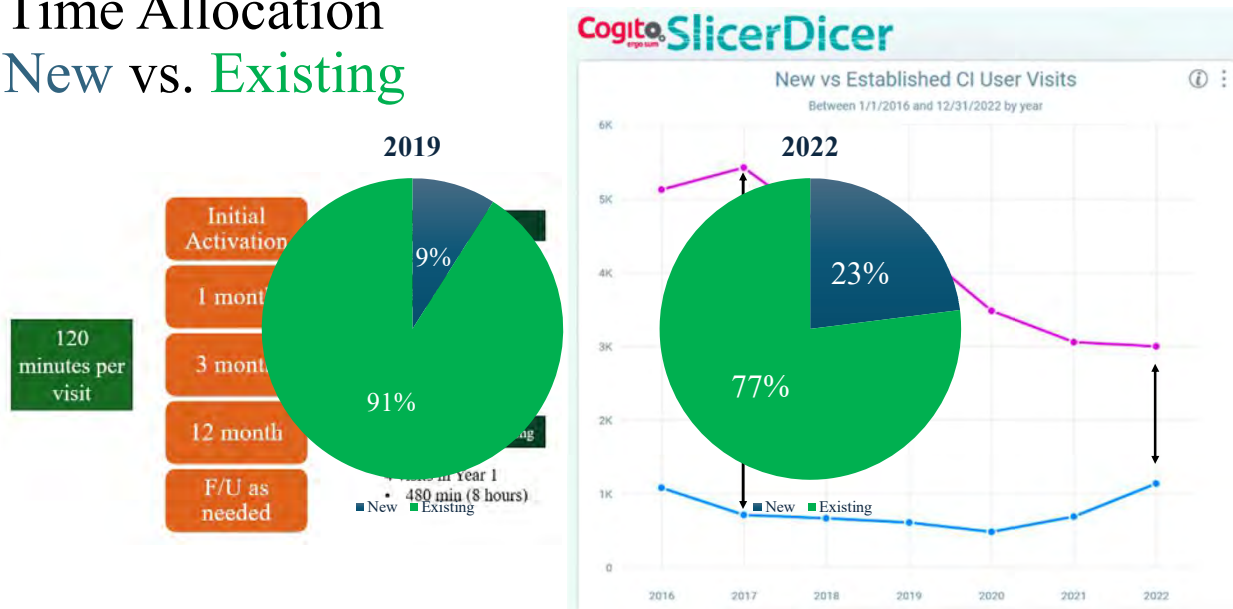
Initial Assessment and
Referral

CI Evaluation and
Counseling

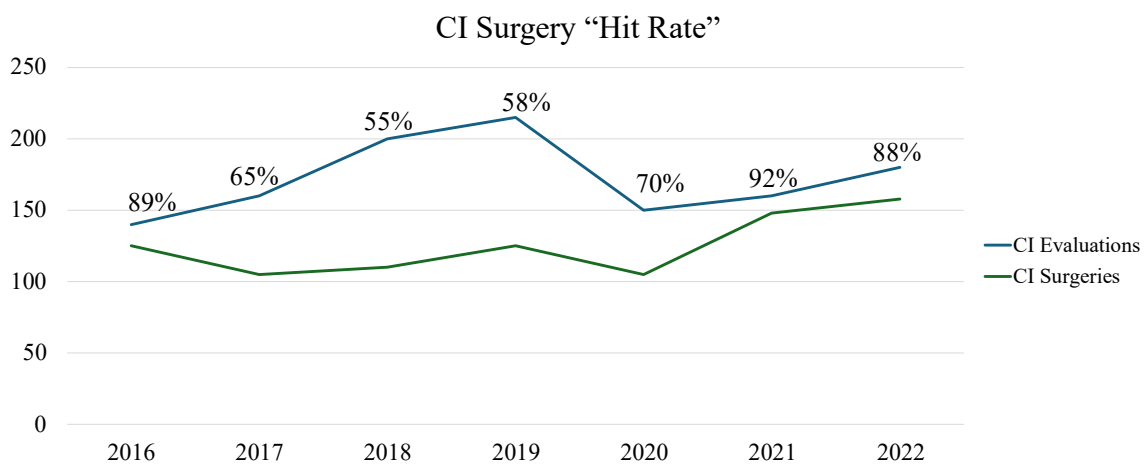
Surgery

YES 48%

Time Allocation New vs. Existing



Impact of Clinical Changes



Takeaways



Utilize your electronic medical record system



Telehealth is effective in increasing access



Consider restructuring follow-up series & implementing remote programming options



Patients appreciate remote resources, shorter wait times, and fewer trips to the clinic!



RESOURCES



Thank you!

Please complete a
short survey on today's
training session.



<https://forms.office.com/e/YCmLVuE05w>

Empowered Patients. Efficient Practices.

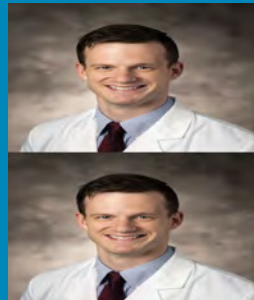


Surgery and Activation

Thursday, September 19, 2024
9 AM – 10 AM Pacific



Michael Harris M.D.



Scott Brown M.D.



Kristina Brendzel, Au.D.



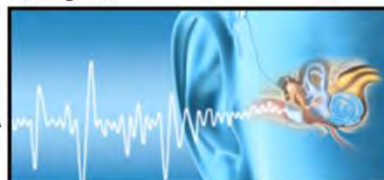
Advanced Training Opportunities for Cochlear Implant Professionals

CochlearImplantTraining.com



- **Foundational Audiology Course**
Director: Camille Dunn, PhD
University of Iowa
- **CI Clinic Efficiency Course**
Director: Sarah Sydlowski AuD, PhD, MBA
Cleveland Clinic

- **Advanced Surgeons Course**
Director: Daniel Zeitler, MD, FACS
Virginia Mason Medical Center
- **Advanced Audiology Course**
Director: René Gifford, PhD
Vanderbilt University
- **Auditory Verbal Practice Course**
Director: Tamera Elder MS, CCC-SLP, LSLS, AVT
Hearing First



- International Course Offerings:**
- International Audiology course
 - International Surgeons Course
 - International Auditory Verbal Practice Course