Best practice for the CI patient with Residual Hearing
Disclosures

- Salary from NIH/NIDCD grant
- Consultant for Cochlear Americas
- Advisory Board for Med-EL Corporation
- Advisory Board for Earlens

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Times have changed

Word Scores By Implanted Year

- Monaural CNC
- Binaural CNC
- Hybrid CNC
- Monaural NU6

Implanted Year

Percent Correct

0 10 20 30 40 50 60 70 80 90 100

80~85 86~90 91~95 96~00 01~05 06~10 11~14
Why are scores better?

- More residual hearing
- Shorter duration of deafness
- Younger age at implantation
What does that mean for me (the audiologist)?

Patient with no residual hearing

Patient with residual hearing
What is Best practice?

- Survey to Learn how CI programs care for patients with Hybrid/EAS/Bimodal

- Future Goals:
  - best practice recommendations
  - improve clinic efficiency
  - Improve reimbursement for services
Questions

- Preoperative
- Postoperative
- Programming
- Billing

1. Eval process
2. Protocol for CI candidates

1. Activation process
2. Protocol for EAS
3. Contralateral ear

1. AC verification
2. Protocol for hearing loss
3. Cut-off frequency

1. What do you bill for?
2. Reimbursement
3. Self Pay
Questionnaire

- Sent link out through ACIA, MED-EL, Cochlear
  - 59 questions
  - 191 responses
    - 148 finished
  - Anonymous
  - Avg 16 minutes to complete
Work Environment

- Hospital/ENT: 46%
- Hospital/University/Research: 23%
- ENT Private Practice: 8%
- School/University: 11%
- Hearing Aid Center: 2%
- Research: 2%
- Other (please explain): 2%

N=192
Years of Experience

- Less than 1 year: 7%
- 1-2 years: 18%
- 20+ years: 23%
- 3-5 years: 19%
- 6-10 years: 25%
- 11-20 years: 8%

N=191
N=191

Primary Duties

- Audio, HA & CI evals/prog, other: 5%
- Audio, CI evals/prog: 9%
- Audio, CI evals/prog, Other: 16%
- Audio, HA evals/prog, other: 23%
- Other: 47%
Postoperative
Time Scheduled for Initial Activation

- 1 hour: 55%
- 1.5 hours: 21%
- 2 hours: 10%
- 2.5 hours: 6%
- 3 hours: 8%

N=149
Fitting of the Acoustic Portion of Implanted Ear

- 63% at IA
- 20% 2 weeks post
- 7% 1 month post-activation
- 4% Depends on conductive component
- 5% Cochlear IA/Med-EL when Earmold arrives
- 1% N/A

N=149
AC Verification Methodology

- **33%**: RE, SF, Manufacturer default
- **38%**: RE, Manufacturer default
- **18%**: SF, Manufacturer default
- **5%**: Manufacturer default
- **5%**: N/A
- **1%**: Other

N=149
Number of Appointments First 6 mos (All providers -- Audiologist, SLP, MD)

- 52%: 6-8
- 33%: 5 or fewer
- 8%: 9-10
- 6%: >10
- 1%: Depends

Huge commitment for a patient! Are there visits we could cut?
Time Scheduled for Post-Op Appointments

- 1 hour: 38%
- 1.5 hours: 5%
- 2 hours: 29%
- 2.5 hours: 1%
- 3 hours: 1%
- >3 hours: 1%
- Depends: 1%

N=146
When is PostOp Unaided Audiogram Completed?

- Every visit: 71%
- Only when there's a perceived change: 15%
- Annually: 3%
- 6 months and then annually: 4%
- Other: 3%
- Do Not Test: 3%
- N/A: 3%

N=149
PostOp Speech Perception

- 1, 3, 6, Annually: 42%
- 1, 3, Annually: 16%
- 1, 6, Annually: 5%
- 1, Annually: 4%
- 3, 6, Annually: 4%
- 3, Annually: 1%
- 6, Annually: 1%
- Annually: 3%
- Other: 1%

N=149
PostOp Speech Perception

- CNC, AzBio in +5, AzBio in quiet: 19%
- CNC, AzBio in +5: 10%
- CNC, AzBio +10, AzBio in quiet: 6%
- CNC, AzBio +10, AzBio +5, AzBio in quiet: 4%
- AzBio +10, AzBio +5, AzBio in quiet: 4%
- AzBio +10, AzBio in quiet: 3%
- AzBio +5, AzBio in quiet: 24%
- AzBio in quiet: 27%
- CNC words: 1%
- CNC, AzBio in quiet: 1%
- Depends: 1%

N=149
My initial thoughts?

still

THIS LOOKS LIKE A SH*T SHOW
Testing PostOp - Digested

- Words/sentences in quiet & sentences in noise: 70%
- Sentences in quiet & noise: 18%
- Words in quiet & sentences in noise: 6%
- Words in quiet & sentences in quiet: 5%
- Depends: 1%

N=148
Do you manage the contralateral ear?

- Yes: 82%
- No: 18%

N=149
How do you manage the contralateral ear?

- Additional time (45%)
- Separate appt (24%)
- Both during same time slot (23%)
- Depends (8%)

Is the additional time or separate appointment reimbursable? Self pay?

N=120
PostOpt Testing in the Same Visit?

- Yes: 84%
- No: 10%
- Depends: 6%

N=149
Total Time Post Op Appt

- Audiogram
- HA Verification
- CI Programming
- Speech Perception Testing

6 minutes:
- Soundfield Testing
- Troubleshooting
- Accessory Educ.
- Report writing
- Contra hearing aid
Validation Measures

- COSI: 60%
- SSQ, IOI, HHIE etc.: 14%
- Other: 13%
- None: 13%

N=148
Challenges

- Time management
- Billing/low reimbursement
- Sharing and scheduling booths, verifit, and CI programming equipment
- Earmold fit
- Probe Mic vs RECD fitting differences
- Recognition of hybrid candidacy by referring providers
- Monitoring and managing the hearing in implanted ear
Conclusion

- Little consistency among clinics
- Most challenging is time management
- All Understandable
Thank You to all who have answered the questions in this survey.

To take the survey, if you haven’t:
  ◦ https://uiowa.qualtrics.com/jfe/form/SV_41TPxOwKBqJe1G5