

IMPROVING THE PATIENT EXPERIENCE THROUGH THE HEARING AID TRIAL

2018 CAA Conference

Kelsey Krueger, Au.D.
Cleveland, Ohio

LEARNER OUTCOMES

- After this course learners will be able to identify how the pre-purchase hearing aid trial enhanced the fitting protocol.
- After this course learners will be able to identify the impact the hearing aid trial had on the level of technology purchased.
- After this course learners will be able to identify the impact of the hearing aid trial on the patient decision to purchase.

INVESTIGATORS

■ Lead Investigators

- Kelsey Krueger, Au.D.
- Sarah Curtis, Au.D.
- Gail Murray, Ph.D.



■ Participating Audiologists

- Sarah Curtis, Au.D.
- Andrew DeLong, Au.D.
- Danielle Hoenig, Au.D.
- Kelsey Krueger, Au.D.
- Rebecca Standley, Au.D.
- Allyson Valentine, Au.D.



AUDIOLOGY AT UH

■ Staff

- 14 Audiologists
- 2 Audiology Assistants for UNHS
- 5 Administrative Staff Members
- 2 Audiology Externs

■ Services

- 7 clinical sites in NE Ohio
- Support neurotology, pediatric otolaryngology, and craniofacial clinics
- Implantable technology, traditional amplification, electrophysiologic assessments, vestibular assessments, (C)APD testing

CHALLENGES

- Poor reimbursement rates
 - Large Medicaid population
 - Small private pay population
- Limited/absent budget for marketing
 - Many patients don't realize that we sell/dispense hearing aids
- Non-profit hospital-wide budgets, initiatives and targets which must be met
- Balancing a challenging healthcare landscape with consumer expectations



POTENTIAL SOLUTION

- Hearing aid sales is one area where our department looked for potential increase to volume and profitability
 - Hospital-based services focused on diagnostics and medical rehabilitation
 - Sales of hearing aids were not a main focus
 - Audiologists salaried with no sales obligation
 - Heavy insurance population

INSPIRATION

- Large organizational push to improve the patient experience
- Increase revenue
- Reach a group of patients with hearing loss who would otherwise go untreated
 - Director approved pilot study using Flex:Trials in hearing aid consultations with a small group of audiologists



PROGRAM GOALS

- Improve patient satisfaction and patient outcomes
- Have evidence-based reasons for recommending/selecting technology tiers for our patients
- Use data-logging information to drive thoughtful conversations with our patients
- Help patients who are borderline candidates to decide if hearing aids are right for them
- Decrease the number of patients tested but not treated

TRIAL HEARING AIDS

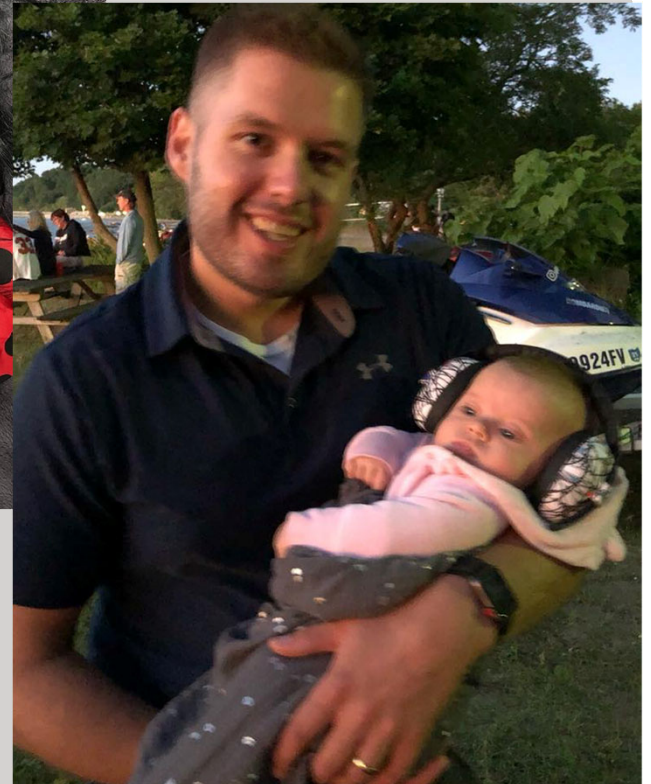
- Unitron Flex: Trial used for our study
 - “Low risk” loaner/trial hearing aids
 - Low initial cost
 - Designed for limited use (beep after trial ends)
 - Can be programmed as traditional hearing aid or CROS/BiCROS system
 - Allow for in-depth data-logging information, even if trial is at lower technology level
 - Hours, VC use, program changes, environmental analysis

TRIAL HEARING AIDS

- Trials could be completed with any manufacturer's devices
- Would need devices of varying technology levels and abilities (CROS, BICROS, entry, mid, advanced technology)
- Wireless accessories?
- Risk = unreturned hearing aids, aids damaged beyond repair, lack of stock
 - Utilization of a loaner agreement, damage/repair fees
 - Clinic should determine procedure if aids are not returned



PICTURE BREAK



BENEFITS OF USING TRIAL HEARING AIDS

- The technology level recommendation is less subjective and evidence-based
- Patient-Centered Consultations
 - Baby Boomers are our new target generation
 - Customization and individualization of their devices and services
 - Patients feel involved in the decision-making process
- “Test driving” a pair of hearing aids may give on-the-fence patients, the confidence to invest in their hearing health
 - Some patients in our trial didn’t want to return the hearing aids!

PROGRAM OVERVIEW: STEPS OF TRIAL PROCESS

1. Diagnostic Hearing Evaluation

2. Fitting of Flex: Trial instruments

- At evaluation or at separate appointment
- Aids are set based on audiogram and patient feedback
- Fitting may be binaural, unilateral, or CROS*/BiCROS*

*Must be manual program = data not kept in Patient Insights

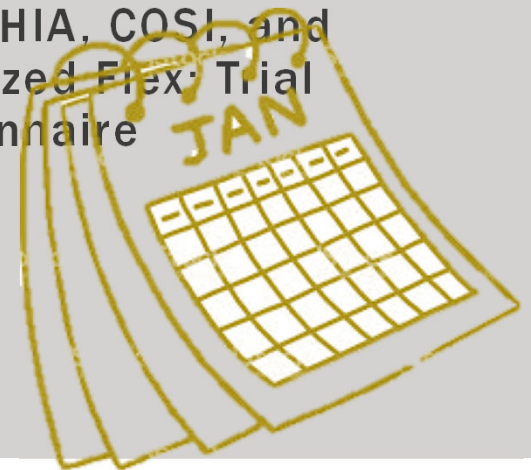
3. Hearing aid evaluation occurs 1-2 weeks later

- Review Datalogging
- Make purchasing decision; may select any brand of hearing aid

4. Patient returns for fitting and follow up appointments

5. At 6 week follow-up/when acclimated

- Aided HHIA, COSI, and customized Flex: Trial Questionnaire



MEASUREMENT TOOLS

- Pre- and Post-Trial Data
 - Abbreviated HHIA pre- and post-fitting (6-week follow-up)
 - COSI completed pre- and post-fitting (6-week follow up)
 - Used more to drive conversations and not for data analysis
 - Customized post-trial questionnaire
- As a group we also compared pre- and post-pilot data related to distribution if technology tiers

ABBREVIATED HHIA

	No	Sometimes	Yes
1. Does a hearing problem cause you to feel embarrassed when you meet new people?	0	2	4
2. Does a hearing problem cause you to feel frustrated when talking to members of your family?	0	2	4
3. Do you have difficulty hearing / understanding co-workers, clients or customers?	0	2	4
4. Do you feel handicapped by a hearing problem?	0	2	4
5. Does a hearing problem cause you difficulty when visiting friends, relatives or neighbors?	0	2	4
6. Does a hearing problem cause you difficulty in the movies or in the theater?	0	2	4
7. Does a hearing problem cause you to have arguments with family members?	0	2	4
8. Does a hearing problem cause you difficulty when listening to TV or radio?	0	2	4
9. Do you feel that any difficulty with your hearing limits or hampers your personal or social life?	0	2	4
10. Does a hearing problem cause you difficulty when in a restaurant with relatives or friends?	0	2	4

“No”, “Sometimes”, or “Yes”

- **0-8 = No handicap**
- **10-24 = Mild to moderate handicap**
- **26-40 = Severe handicap**

Adapted from: Ventry, I., Weinstein, B. “Identification of elderly people with hearing problems” American Speech-Language-Hearing Association. 1983, 25, 37-42.

COSI



NAL CLIENT ORIENTED SCALE OF IMPROVEMENT

Name : _____ Category. _____ New _____
 Audiologist : _____ Return _____
 Date : 1. Needs Established _____
 2. Outcome Assessed _____

Degree of Change

Final Ability (with hearing aid)

Person can hear
 10% 25% 50% 75% 95%

SPECIFIC NEEDS

Indicate Order of Significance

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

Worse	No Difference	Slightly Better	Better	Much Better	CATEGORY	Hardly Ever	Occasionally	Half the Time	Most of Time	Almost Always

- | | | | | |
|-------------------|--------------------------------------|---|----------------------------------|----------------------------|
| Categories | 1. Conversation with 1 or 2 in quiet | 5. Television/Radio @ normal volume | 9. Hear front door bell or knock | 13. Feeling left out |
| | 2. Conversation with 1 or 2 in noise | 6. Familiar speaker on phone | 10. Hear traffic | 14. Feeling upset or angry |
| | 3. Conversation with group in quiet | 7. Unfamiliar speaker on phone | 11. Increased social contact | 15. Church or meeting |
| | 4. Conversation with group in noise | 8. Hearing phone ring from another room | 12. Feel embarrassed or stupid | 16. Other |
| | | | | |

FLEX TRIAL QUESTIONNAIRE

1. Did having the option to trial hearing aids, prior to purchasing them, influence your decision to purchase them?
 - a. Yes
 - b. No
2. Did having the option to trial these hearing aids influence your decision on which technology level to purchase?
 - a. Yes
 - b. No
3. If not given this opportunity, would you have purchased hearing aids without trialing them first?
 - a. Yes
 - b. No
4. Would you recommend this trial to friends/family?
 - a. Yes
 - b. No
5. Were you a borderline hearing aid candidate? (feel free to ask your audiologist if unsure)
 - a. Yes
 - b. No
6. What guided your decision to purchase amplification?
 - a. Family members
 - b. Audiologist's counseling/recommendations
 - c. Hearing aid trial
 - d. Other: _____
7. If you were a borderline hearing aid candidate, and did not purchase amplification, what guided your decision?
 - a. Family members
 - b. Audiologists' counseling/recommendations
 - c. Hearing aid trial
 - d. Other: _____

PROGRAM OVERVIEW: TRIAL & CONSULTATION

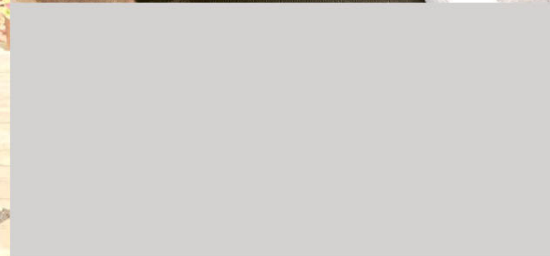
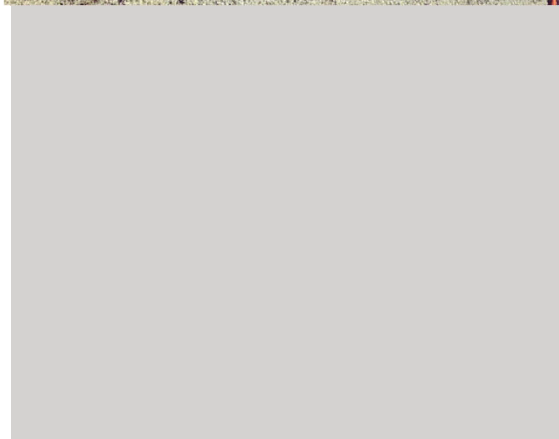
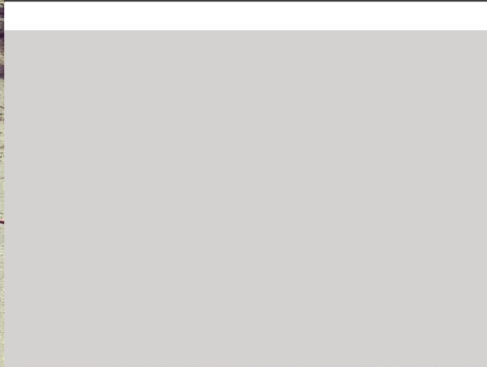
- 1-2 week at-home trial period
 - Encouraged to wear full time → more data, more helpful
- Review Patient Insights (advanced datalogging) feature at consultation
 - Provides the audiologist valuable information for the consultation appointment
 - Confirms the types of listening environments in which the patient participates
 - Drives the conversation for technology tiers, what patient might gain/lose going from one level to another
 - Eases connection with the patient by utilizing the data to tie to real-life experiences

FEES FOR SERVICE

- It is to the provider's discretion whether or not to charge a fee for the process
- Our hospital bills a consultation fee based on one hour of service
 - This is clearly stated in the trial agreement (signed at initial consultation)
 - Charged only if they go through trial but do not order
 - Described as “Fee for service” to patient
 - Patients have been very receptive towards the trial and potential consultation fee



PICTURE BREAK



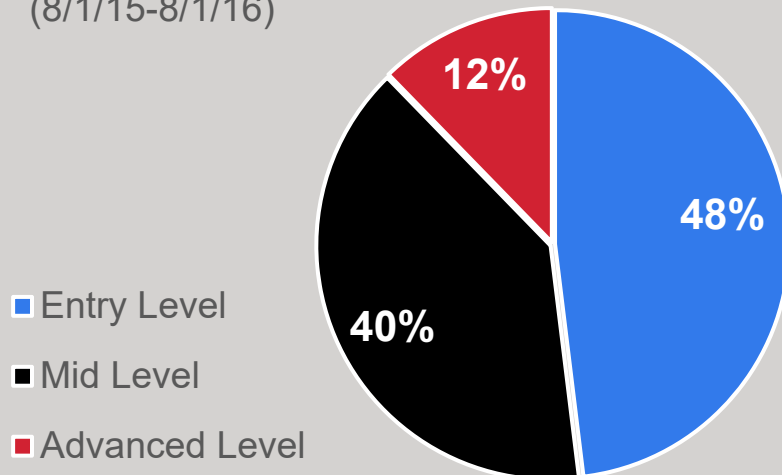
RESULTS

- N = 93 participants completed the trial
- Purchase Rate of 71%
- 84% of study participants were new users
 - Of those new users, 85% pursued amplification
- HHIA Outcomes:
 - Average Score Pre-Trial = 20 points
 - Average Score Post-Trial = 5 points
 - Average decrease in HHIA score = 15 points

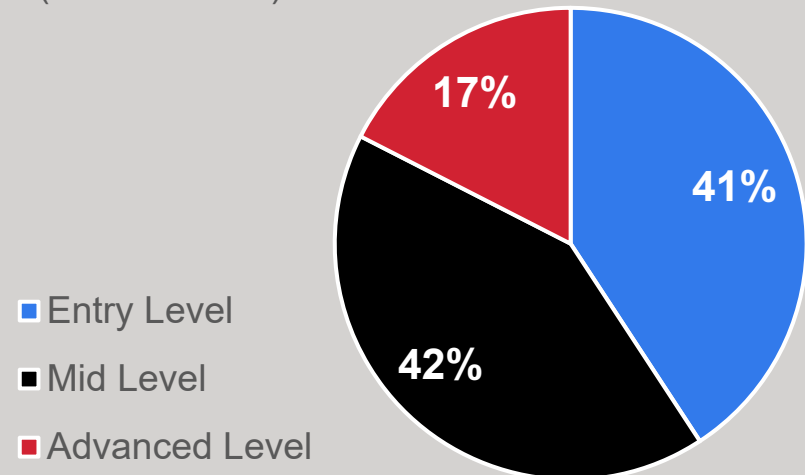
RESULTS

- Decreased entry level aids by 7%
- Increased mid level aids by 2%
- Increased advanced level aids by 5%

Hearing Aid Sales 2016
(8/1/15-8/1/16)

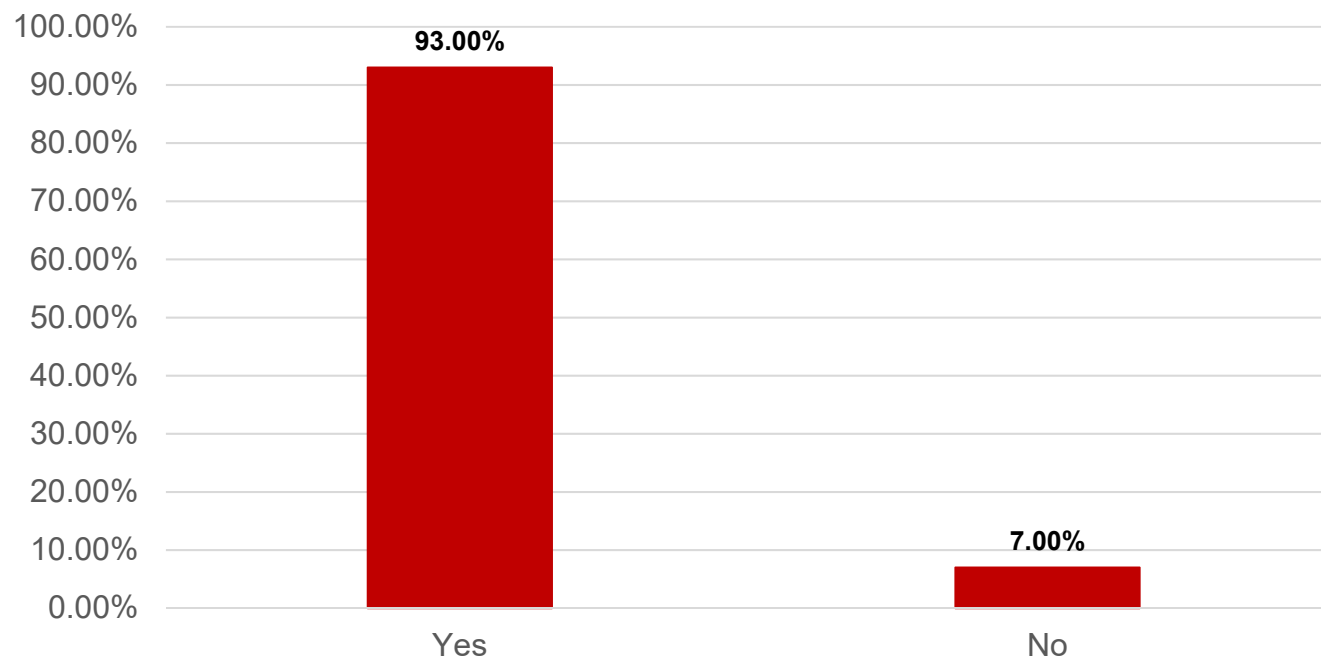


Hearing Aid Sales 2017
(8/1/16-8/1/17)



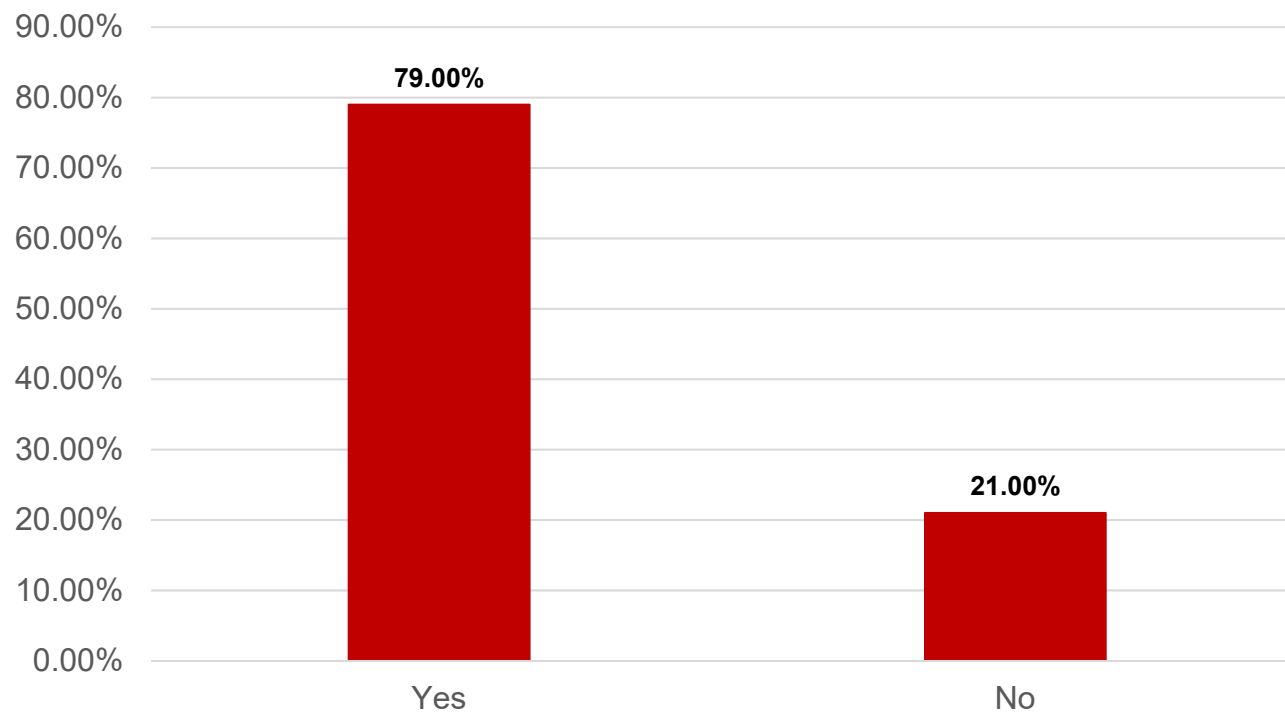
SURVEY RESPONSES

Did having the option to trial hearing aids, prior to purchasing them, influence your decision to purchase them?



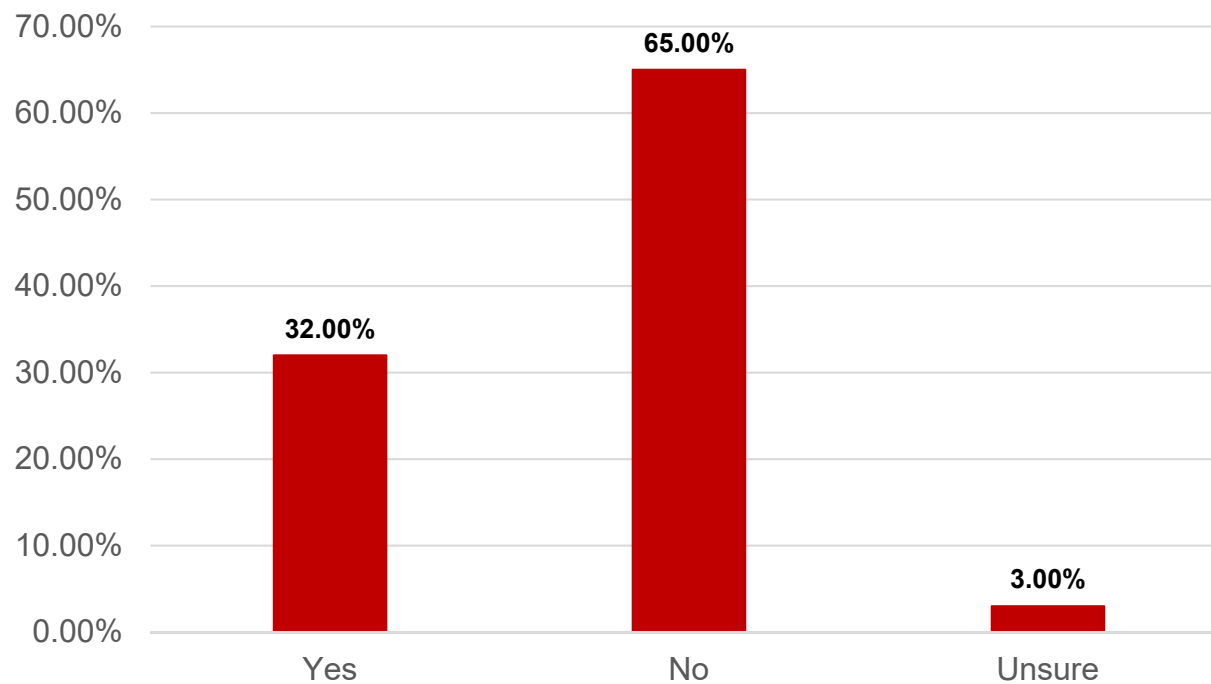
SURVEY RESPONSES

Did having the option to trial these hearing aids influence your decision on which technology level to purchase?



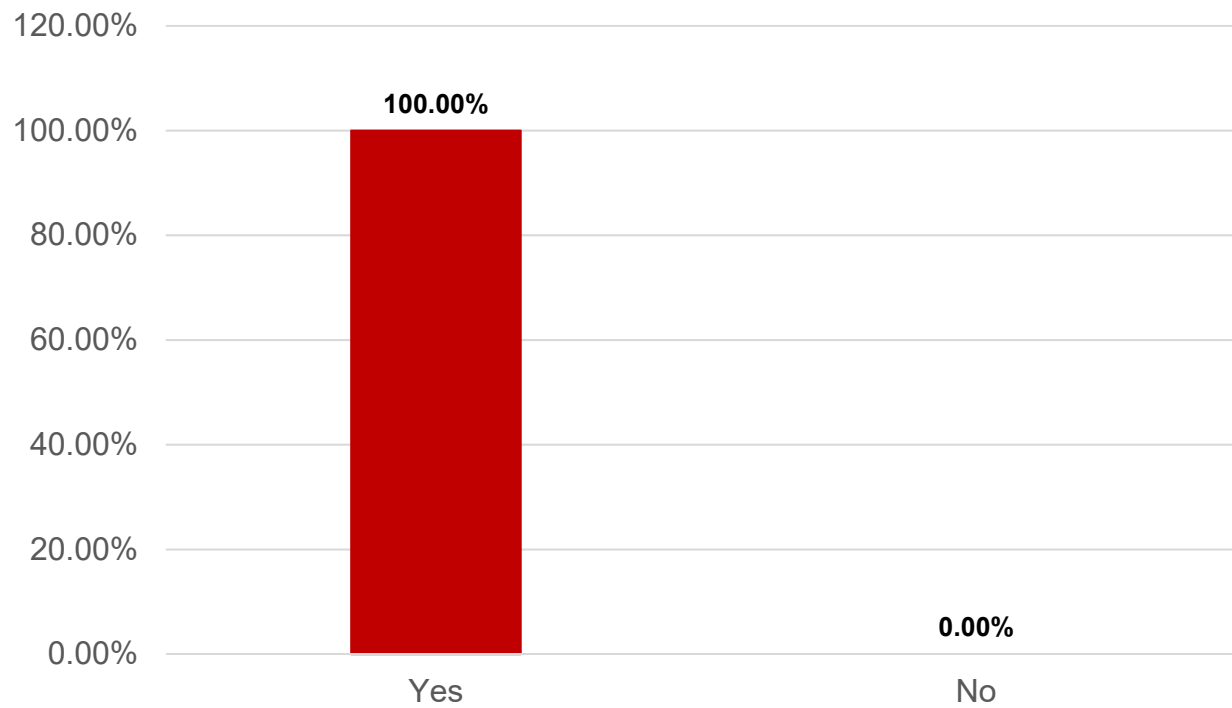
SURVEY RESPONSES

If not given this opportunity, would you have purchased hearing aids without trialing them first?



SURVEY RESPONSES

Would you recommend this trial to family/friends?



PATIENT COMMENTS

- “I would have continued to delay and delay had it not been for the hearing aid trial.”
- “If I knew hearing aids could do this for my tinnitus, I would have worn them a long time ago.”
- “Without this trial, I would have continued to put off hearing aids for years.”



CASE STUDY 1: “NORMAL HEARING”

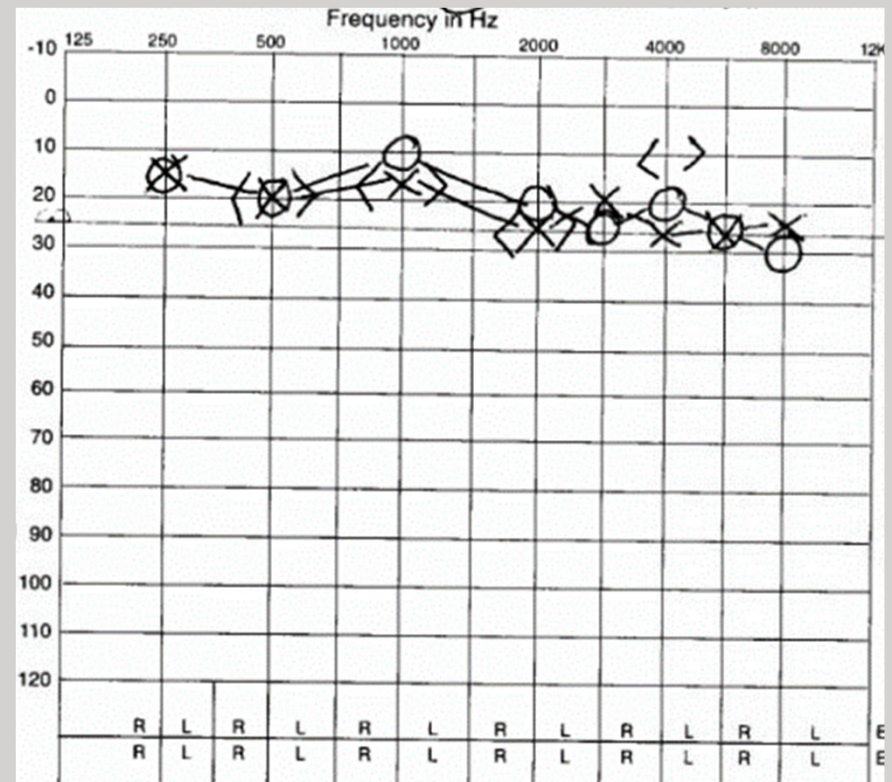
■ History:

■ 51 year old woman

- Long perceived hearing difficulty
- Previously told she was “not a hearing aid candidate”
- Strong family history of hearing loss

■ Results:

- Essentially normal hearing with excellent word recognition in quiet
- Normal tympanometry
- Absent DPOAEs 750-8000 Hz, bilaterally
- HHIA score = 34



“NORMAL HEARING” CONT.

■ Process

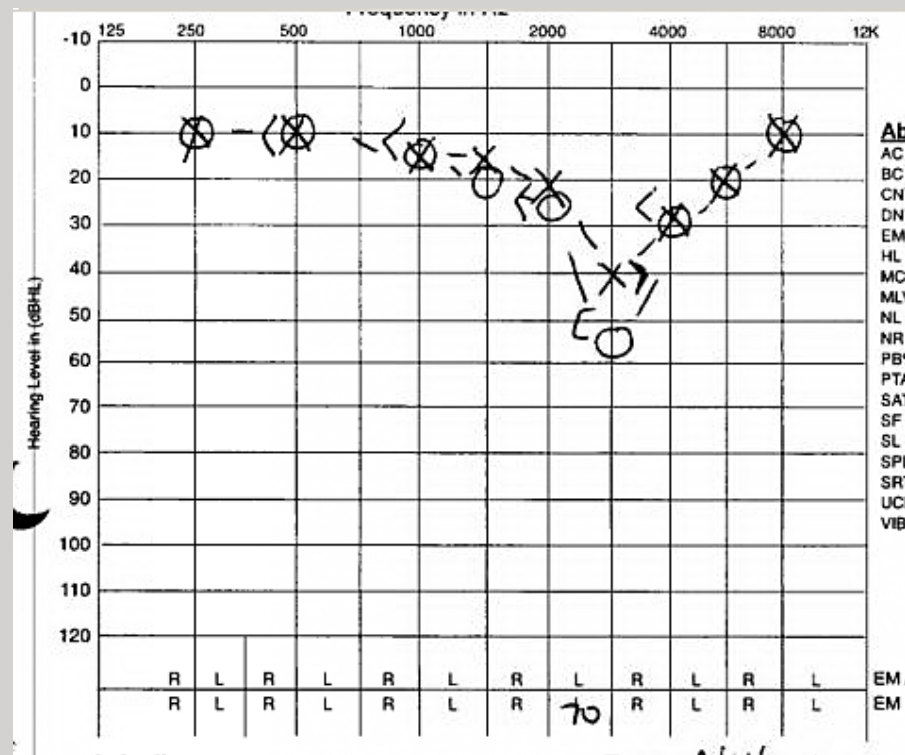
- 2 week trial in the Pro-level
- Unsure whether she could afford the price of the Pro, so the aids were “Flexed” to the 700 level
- Ultimately purchased binaural mid-range devices

■ Outcomes

- Feels that this has changed her life
- Quality of life greatly improved
- Felt included in the process, like we were listening to her complaints
- HHIA score (aided) is 2!
 - Improvement of 32
- Very little follow-up required
- Ease of use, flexibility

CASE STUDY 2: “BORDERLINE CANDIDATE”

- J.D., female, age 46 years
- Chief complaints
 - Speech hasn't been clear lately
 - Tinnitus described as “whooshing”
 - Binaural fullness
 - Concerns for noise-induced hearing loss following attendance at a concert
- Steroid taper to treat possible noise induced hearing loss → No improvement in hearing sensitivity
- MRI = normal
- Was previously told “not a hearing aid candidate”



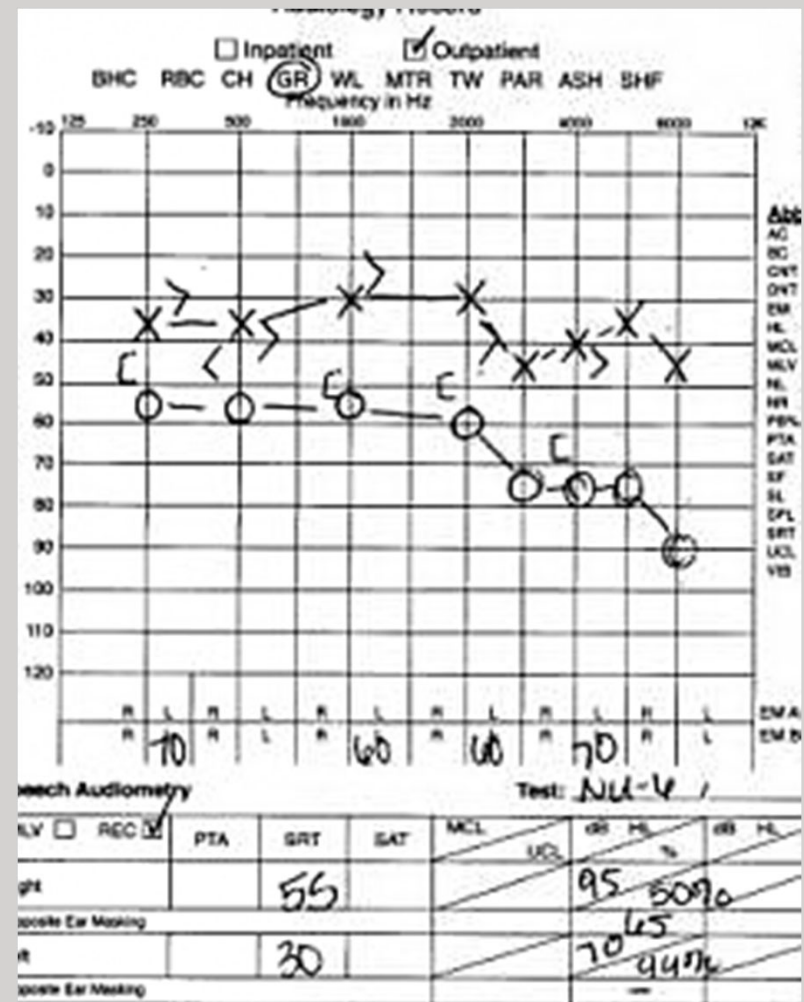
- HHIA = 30
- WRS = 100%, bilaterally

“BORDERLINE CANDIDATE” CONT.

- Fit with trial devices and consequently purchased hearing aids
- Post-Trial HHIA = 2 → 28 point improvement!
- Patient’s subjective reports:
 - “Yes, trialing hearing aids, prior to purchasing them, influenced my decision to purchase them. I probably would have continued to delay.”
- Prior to the trial patient reported the following impact of her loss:
 - Had a major influence on her relationship with family members
 - Often the source of fights with her children
- Since wearing hearing aids:
 - Her children perceive a significant improvement in her hearing sensitivity
 - Reduction in arguments between herself and her family members

CASE STUDY 3: “ASYMMETRIC”

- KP, 65 year old female
- Long-term history of asymmetrical hearing loss, told due to otosclerosis
- Previous hearing aid experience (RIC on worse ear), dissatisfied
- New to our facility
- Repeat evaluation found asymmetry to be sensorineural (thresholds and WRS (50% & 94%))
- Required medical evaluation and clearance prior to trial

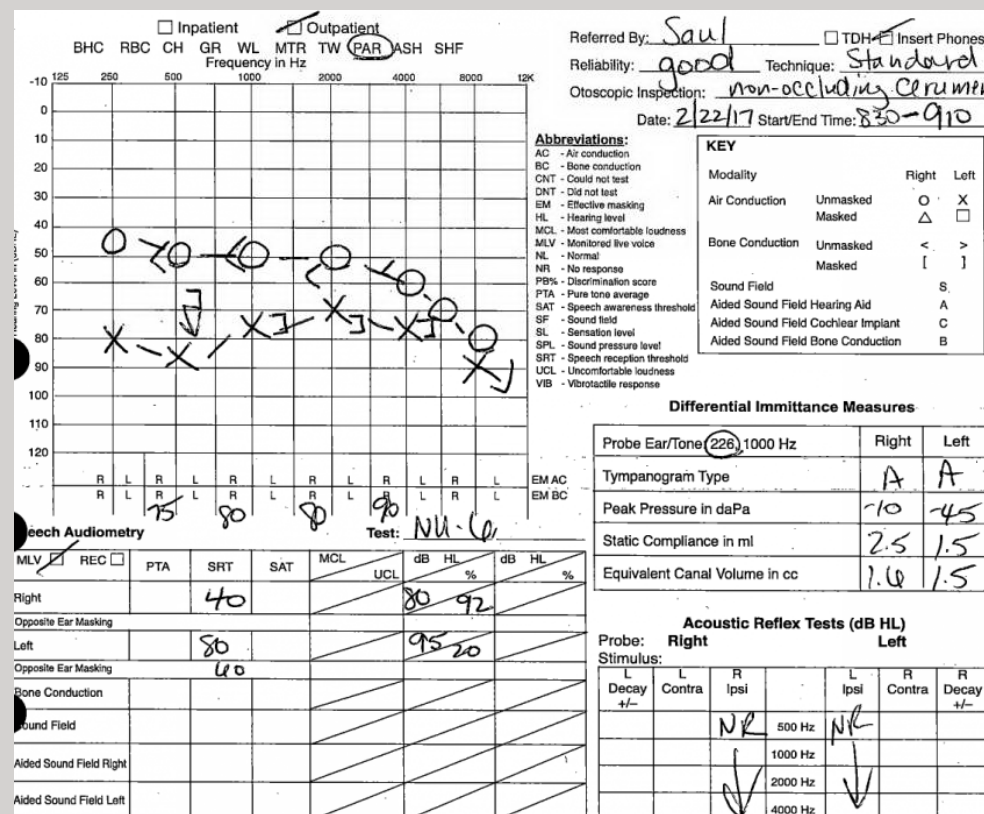


“ASYMMETRIC” CONT.

- Patient proceeded with trial
- Decided to try both conventional (binaural) and BiCROS during trial
 - Flex: Trial (and other wireless Unitron aids) can be configured in both ways
- Consult following trial completed on 9/29/17
- Patient reported clearer sound, especially speech, when in BiCROS
- Preferred binaural signal at times when omnidirectional experience (i.e. outdoors/environmental noise absent of speech)
- Decided to order binaural hearing aids with startup program in BiCROS mode and binaural automatic as manual program
- Allowed patient who was not clear-cut candidate for either option to try both and make informed and experienced decision

CASE STUDY 4: "BICROS"

- GB, 82 year old male
- Initially presented in 2015
- Noise exposure ~26 years
- Stapedectomy at the left ear in 1998
- Progressively worsened
- Bilateral tinnitus & aural fullness
- Difficulty in groups, restaurants, television
- Retreating from conversations



“BICROS” CONT.

- In 2015, patient was only interested in pursuing a hearing aid for his right ear.
 - Patient continues to report difficulty hearing due to significant hearing loss at his left ear.
 - He was interested in discussing his options (hearing aids, accessories, implants)
- Referred by his audiologist for a cochlear implant evaluation
 - Patient did not meet the Medicare guidelines for a cochlear implant at the left ear
 - Referred back to audiologist to discuss BICROS system
- Hearing aid trial with BICROS system
 - Pre-trial HHIA = 12
 - Post-trial HHIA = 8
 - Patient reported improvement in ability to hear the television and radio, his customers/co-workers, and his family members
 - Purchased a CROS hearing aid which will function with his current right aid

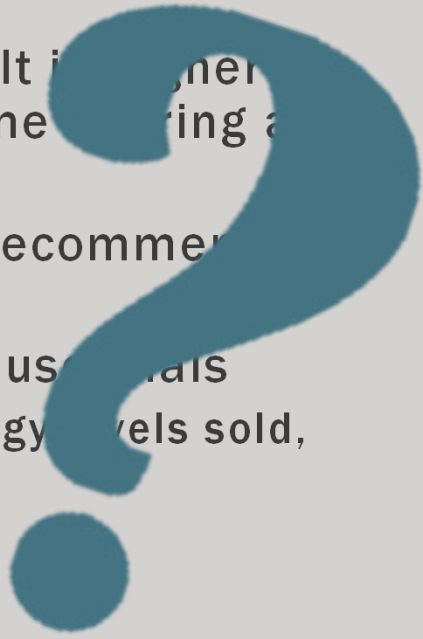
AUDIOLOGIST COMMENTS

- “It seems like a no-brainer now to have patients have that ‘trial’ process.”
- “The patients love it and are thrilled to have the opportunity to try hearing aids before investing thousands of dollars on something that they fear might not work.”
- “I like that the patient can be more involved in the hearing aid selection process and they feel more educated and confident in their hearing aid purchase.”
- “This has changed the way I will select and fit hearing aids!”

FUTURE OUTREACH

- Growth of program
 - Expanded the program to include additional audiologists
- In-house marketing campaign
 - Market to our primary care physicians that we are offering hearing aids and hearing aid trials
 - Open houses
 - This would hopefully increase:
 - General knowledge
 - Referrals
 - Interest in and utilization of hearing health care services
- Working on a research article for publication

REMAINING RESEARCH QUESTIONS

- Do patients who participate in trials have better outcomes than those who do not?
 - Are patients who participate in trials able to acclimate quicker than those who do not?
 - Do audiologists who utilize hearing aid trials in their practice have more highly satisfied patients?
 - Does the use of hearing aid trials ultimately result in higher hearing aid adoption rates? Higher rate of full-time hearing aid use?
 - Did a higher percentage of users purchased the recommended technology level? If not, why?
 - Compare data of audiologists who do and do not use trials
 - Hearing aid sales, “tested-not-sold” ratios, technology levels sold, HHIA scores, return rates, etc.
- 

CHANGING CLIMATE

- Provides a way to stand out amongst competition
 - Advertisements, word of mouth, increased referrals from PCPs
- Improves opportunities to establish strong relationships with patients
 - Making the experience about them, and not solely the product
- A way to move the profession forward and not backward
 - OTCs and PSAPs do not require a professional to purchase
 - Trials are a way to build and emphasize the importance of the patient-professional relationship
 - Even if PSAPs and OTC products are integrated into practice, this would allow the patient to trial hearing aids first, experiencing the benefits of rehabilitating their loss with customizable aids and professional services

Q&A

- Do you currently offer hearing aid trials, prior to purchase, in your clinic?
- Could you imagine yourself offering a trial program similar to this in your practice?
- Are there any challenges you foresee with offering this trial program to your patients?
- What improvements would a trial program bring to your practice?

THANK YOU!

We would like to thank Unitron for providing the amplification devices used for the completion of this research.



KelseyLeeKrueger@gmail.com

SECurtis2@gmail.com

Gail.Murray@Uhhospitals.org