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Improving the Patient Experience Through the Hearing Aid Trial

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Learner Outcomes

1) After this course learners will be able to identify how the pre-purchase hearing aid trial enhances the fitting protocol.

2) After this course learners will be able to identify the impact the hearing aid trial has on the level of technology purchased.

3) 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
  - Sarah Curtis, Au.D.
  - Kelsey Krueger, 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 to for potential to increase 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:Trial aids 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 (compared with sending out high-end hearing aids)
  - 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

- Trials could be completed with any manufacturer’s devices
- Would need devices of varying technology levels and abilities (CROS, BICROS, entry, mid, advanced technology)
  - For CROS/BiCROS, aids need to have binaural phone or dedicated CROS/BiCROS unit
- Consider trialing wireless accessories to show range of possibilities
- Risk = unreturned hearing aids, aids damaged beyond repair, lack of stock
  - Utilization of a loaner/trial agreement making the patient responsible for loss, damage/repair fees
  - Clinic should determine procedure if aids are not returned
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
   - May be at evaluation or at separate appointment based on time
   - Aids are set based on audiogram, conservatively if new user
   - 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 Data logging
   - 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

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 (we would similarly bill this to someone who comes in for a consult-only appointment but does not order)
  - 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
Results

- N = 93 participants completed the trial up to this point
- 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 (8/15-8/16)

- Entry Level
- Mid Level
- Advanced Level

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

- Entry Level
- Mid Level
- Advanced Level
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 “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
Case Study #1 cntd.

- **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 \(\rightarrow\) No improvement in hearing sensitivity
- MRI = normal
- Was previously told “not a hearing aid candidate”
- HHIA = 30
- WRS = 100% bilaterally
Case Study #2 cntd.

- 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 Hearing Loss

- 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
Case Study #3 cntd.

- 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

- 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
Case Study # 4 cntd.

- 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
  - This would hopefully increase:
    - General knowledge
    - Referrals
    - Interest in and utilization of hearing health care services

Future 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 Audiology 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 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?
Case Study #5: “Cochlear Implant” Candidate

- P.U., female, age 65 years
- Chief complaints
  - Right “throbbing” tinnitus
  - Vertigo and nausea, poorly controlled by hydration and diet
  - Painful right ear cranial pressure.
- MRI = normal
- Previous hearing aid user with c/o distortion.
- WRS = 56% right; 58% left @ 90 dB HL

Case Study #5 cntd.

- Seen for cochlear implant evaluation 1/9/18 on a “bad” day.
  - Vertiginous
  - Pounding headache
  - No focus on hearing.
- Fit with clinic devices for the purpose of the evaluation.
  - Did not tolerate initial power devices.
  - Ultimately evaluated with moderate gain devices.
- Reported that hearing loss had dropped since late evaluation of 12/19/17.
  - Reassessment confirmed only a minimal change
- Patient’s performance with clinic devices suggests possible malingering.
Case Study #5 cntd.

- Right ear monaural assessment:
  - SRT = 45 dB HL
  - CNC words in quiet @ 60 dB HL = 0%
  - AzBio in quiet @ 60 dB HL = 0%
- Left ear monaural assessment:
  - SRT = 50 dB HL
  - CNC words in quiet @ 60 dB HL = 8%
  - AzBio in quiet @ 60 dB HL = 0%

- No apparent aided recruitment aided.
- Undergoing vestibular assessment
- Will undergo a Flex Trial to thoroughly assess benefit to be derived from amplification.

Conclusions

- Hearing Aid Trials can be used to assess:
- Suitability for amplification
  - Borderline normal hearing
  - Mild hearing loss
  - Significant hearing loss to determine cochlear implant candidacy.
- Subjective and objective benefit to be derived from amplification.
- User habits, life style, preferences and hearing environments.
- User motivation
- Appropriate level of technology.
- Facilitate patient engagement and retention in the audiology practice.
Questions?

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

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