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Grand Rounds at USD

- Lindsey Jorgensen AuD PhD
- Jessica Messersmith PhD
- Marni Johnson Martin AuD
- Agelia Stout AuD
- Michelle Novak BS
- Ashely Price BS

Learning Outcomes

- Describe the difference between fitting the audiogram and fitting the patient.
- Describe the impact of hearing aid choice on patient outcomes.
- Describe potential plans of action for clinicians who are unsure of what to do without seeming unqualified.
Disclosures

- The views expressed here are that of the authors and not
  - The Department of Veterans Affairs
  - The United States Government
  - The South Dakota Board of Regents
  - The State of South Dakota

Format

- Each clinician will present their case
- Discussion will follow about concerns that they have/had
Lindsey Jorgensen

**History**

- 25 year old nurse
- Primary complaint – hearing loss right ear
- Primary concern – hearing stethoscope
- Mom has same hearing loss
- Has seen ENT – otosclerosis
  - Declined surgery
- Went to another clinic
- Fit with RIC with power dome – within the last month or so
Concerns

- Started with a power dome?
- Gave her a RIC? – concerns were stethoscope
- How listen to stethoscope
  - Stethoscope options
    - Traditional
    - Traditional with different tip
    - Amplified

What Happened

- She contacted first clinic
  - Attempted to trade
  - Attempted to return
  - DENIED
- Returned to our clinic
  - Contacted company
  - Trade – RIC for CIC
  - Fit with new aid
    - Verified and Validated
    - Gave new tips for stethoscope
Questions

- How to explain to patient my concerns without undermining
  - Profession
  - Other professionals
- How to do this all without causing discord with our colleagues

Michelle Novak
Meet Colonel Mustard

- 58 y/o male; referred to the USD Speech and Hearing clinic from VA Healthcare Center for a CAPD evaluation
- Primary Concern: Feels socially isolated due to hearing difficulties
- Medical History of TBIs
- Otoscopy: WNL Bilaterally
- WIN: Mild difficulty As, Ad, & Au

Colonel Mustard’s CAPD Results

- Competing Sentences & Dichotic Digits
  - Not WNL and left ear deficit noted
- Dichotic Rhyme, Time-Compressed Speech, and Frequency Patters
  - WNL

- Dx: Weakness in areas of binaural separation and binaural integration
Dichotic Listening Therapy

- Plan
  - Home-based dichotic listening therapy
    - 30-45 minutes for 6-8 weeks
    - Alternating target ear every two weeks

- Follow Up:
  - No improvement on behavioral tests
  - Colonel Mustard reported little benefit
  - Referred to Dr. Jorgensen

Low Gain Hearing Aids

- Counseled on current research at USD where other former military personnel have reported benefit from low gain hearing aids.
- Fit hearing aids to provide extra high frequency cues.
  - Thin tube BTEs
    - Phone Clip
    - Remote Mic
  - Verified and Validated
Hearing Aid Follow Up

- Colonel Mustard returned to the clinic for a two week follow up after the fitting.
  - Highly satisfied with the aids.
  - Wife reports reduced frustration.
  - Overall improvement in quality of life.

Ashley Price
Patient A

- Background
  - HA user bilaterally
    - Diagnosis of Early On-set Alzheimer Disease in 2017, but have experienced mixed diagnosis from different specialists
  - Diagnosis
    - Bilateral moderately severe to severe SNHL

- Being a new clinician
  - This is an established patient, just new to you

- Arrived to appointment with spouse and daughter
  - When considering cognitive impairment, and its confounds on hearing, who is my patient?

- Treatment
  - Daughter & spouse report dictated appointment.
  - Pt was not aware of anything going on in the appointment. She could not report if the changes in the sounds were beneficial or made situations worse.
  - No difference in communication with devices vs. without devices
  - Cognition impairment limits benefit we expect to gain from hearing devices
Patient A

- How do new clinicians develop rapport with a pre-existing patient
- How does a clinician develop rapport with a patient that has cognitive impairment?
  - Is it the patient, the family, or both?
- When we provide services until end of life, we ultimately provide services for caregiver burden.
  - How much of caregiver burden services are our responsibility?

Marni Johnson Martin
History

- Male, 55 years old, moderate intellectual disability
- Referred on multiple hearing screenings performed at the center supporting him
- No staff concerns re: hearing
- Ready to pursue a comprehensive hearing evaluation

Diagnosis

- Mild to moderate SNHL w/ cookie bite configuration in the right ear and a mild SNHL in the left ear

Recommendations/Treatment

- Discussed with patient
- Full-shell ITE for right ear
- Staff and individual counseling. Encourage independence, but ease anxiety.
- Video modeling
- Collaboration

Considerations

- How do you get buy-in from non-familial caregivers or direct support professionals?
- How do you convince people that communication is as important if not more important than other “medical” needs?
Aggie Stout
Izzy 66yr old Female

- Medical Hx
  - Head Trauma- 11/2009
    - Stood up too quickly, got “fuzzy” and passed out. She has a concussion with subsequent vomiting, diarrhea, and true vertigo
  - Head Trauma- 11/2017
    - Stood up too quickly got “fuzzy”, passed out. Hit the left side of her head. Vomiting, diarrhea and true vertigo
  - Continues to have severe dizziness on a daily basis.
    - Is unable to drive, scan items when shopping, socialize, or go out to eat at restaurants
  - Short term memory loss

- Audiologic Hx
  - Tinnitus  Au (buzzing). Started with the onset of first concussion 4 years ago. Tinnitus does get worse during dizzy episodes.
  - Reports some intermittent left ear pain.
  - Audiogram from 01/04/2010 indicated an asymmetric mild to moderate mixed hearing loss in the left ear and a mild high frequency SNHL in the right ear.
  - Audiogram from 06/27/2018 shows a general shift in hearing, specifically in the left ear from 4000-8000Hz
    - WRS 100% on NU-6 Au
    - WIN shows moderate difficulty Au
  - Denies concerns for hearing- understands she struggles - more focused on resolving her dizziness.
Other Medical Evals

- ER - Multiple ER visits that did not resolve issues
  - Was taught the at home Epley maneuver
- ENT - Saw ENT in conjunction with Audiology
  - ENT recommended VNG and imagining
  - Previous imagining normal CT and MRI
  - New imaging (including integrity of ossicular chain) suggested normal findings
  - VNG: completed out of house, indicated normal central and peripheral vestibular function.
- Neurology
  - Neurology suggests normal findings, and attributes her tinnitus and dizziness to her Hx of concussions
- Additional Referrals?

Hearing Aid Fitting

- RIC bilaterally
- Patient goals: Tinnitus relief and the sensation of feeling more balanced
- Originally fit to NAL-NL 2 targets
- Patient has complaints of sound being “overwhelming”.
  - Hearing aid adjustments
    - Adjusted attack and release times
    - Acceptance Manager
- Volume control?
- Tinnitus Management?
Where is she now?

- Aided for 2 months
- Victories
  - She is regaining control of her dizziness
  - She recognizes she was missing out on a lot prior to hearing aids
  - Tinnitus has subsided when wearing aids
- Take away
  - Empathy goes along way
  - Celebrate the little victories
  - Did her hearing aids solve all of her problems?
  - What more could I have done?

Jessica Messersmith
History

- Male, 67 years old
- History of hearing loss since birth
- Previous CI work up at a different center in 2006
  - Hybrid CI was recommended
- Currently utilizes BiCros
  - Fit in July 2016
  - Occasionally prefers not to wear devices, especially in noisy situations
  - Discontinued use of right hearing aid ~5 years ago due to headaches
- Rupture of left tympanic membrane ~1 year ago
  - Noticeable change in hearing afterwards that never recovered

Audiogram

### Audiogram Results

- **Test Type**: Word List
- **Ear**: L
- **Word List**: Speech
- **% dB HL dB EM**: 25

- **Test Type**: Word List
- **Ear**: L
- **Word List**: NHL-6 LIST 2A
- **% dB HL dB EM**: 92 55

### Added Test Results

- **Test Type**: Acceptance
  - **Ear**: Right (Aa)
  - **% dB HL dB EM**: 26.3%
  - **Ear**: Left (Aa)
  - **% dB HL dB EM**: 38%
  - **Ear**: Binaural (Aa)
  - **% dB HL dB EM**: 34.3%

- **Test Type**: Speech
  - **Ear**: Right (Aa)
  - **% dB HL dB EM**: --
  - **Ear**: Left (Aa)
  - **% dB HL dB EM**: --

- **Test Type**: CNC Word List
  - **Ear**: Right (Aa)
  - **% dB HL dB EM**: 56%
Recommendations

- Discussed appropriate expectations of right ear implantation
  - Concern regarding viability of auditory nerve
- Look at online resources such as hearingjourney.com

Post Appointment Communication

- Will a cochlear implant aid in ability to use phone effectively?
- Would a OID be an option?

Thank You