RESOURCES FOR AUDIOLOGISTS AND STAKEHOLDERS WHEN WORKING WITH PEDIATRIC PATIENTS

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BACKGROUND

When a doctorate became the accepted degree for audiologists, the divide between audiologists and speech-language pathologists grew, and more professionals started entering the workforce without the training needed to care for children with hearing loss.[1]

Two areas in which this disconnect can be lessened is in report writing and in opening the line of communication between a child's audiologist, caregiver(s), and other stakeholders on that child's team. Drs. Donald and Kelly-Campbell conducted a study assessing the readability of pediatric audiology reports.[2] Incomprehensible reports do not:

- support health literacy
- promote caregivers' and outside professionals' understanding
- offer emotional support
- empower shared decision making.

Clear communication is important for both caregivers and providers to improve outcomes and the quality of care a child experiences.[2]

Data collected from audiologic reports by Bargen et al. between 2017-2020 revealed a need to reinforce positive behaviors and strengthen pediatric care in both evaluation and report writing.[3] From these analyses, best practices and inconsistencies in report writing were compared in order to design a report template and companion resource to support pediatric audiologists and stakeholders in their interdisciplinary care of D/HH patients.

METHODS

Audiologic reports (N=102) were evaluated between 2017-2020 for patients age 0-3 years. Ninety-seven questions were posed when assessing the reports such as "Was otoscopy completed at the appointment?" and "What is the degree of hearing loss in the right ear? Left ear?" Each report was broken down and evaluated by topic. Consistency in reporting varied by question. For example, 89% of reports stated whether or not a child had a hearing loss but only 42% of reports shared results of otoscopy.

After assessing this data, a template was designed to provide audiologists support in both reporting information and completing certain tasks (e.g. tympanometry, otoacoustic emissions). This template incorporates areas of best practice as well as information gathered through parent interviews.[4] A companion resource was also designed to provide caregivers and other stakeholders support when reading a child's report.

REPORT TEMPLATE & RESOURCE

Case History For:

Appointment: Initial / Follow-up / Annual
Evaluation Method: VRA / CPA / Standard

Otoscopy	
Clear	L / R
Occluded: unable to visualize eardrum due to earwax, foreign body, or small ear canals	L / R
Non-occluding Cerumen: earwax present, but not blocking any visualization	L / R

Tympanometry		
Peak Pressure	L:	R:
Static Admittance	L:	R:
Ear Canal Volume	L:	R:
Tympanometric Width	L:	R:
Tympanogram Type	L:	R:

Acoustic Reflexes	.5kHz	1kHz	2kHz	4kHz
Right Ipsi				
Left Contra				
Left Ipsi				
Right Contra				

Otoacoustic Emissions	
Frequency Range Tested	
Frequencies Reduced/Absent in Left	
Frequencies Reduced/ Absent in Right	

Audiometric Results

Air Conduction using _____ transducer:

Bone Conduction:

Reliability:

Speech:

	Left	Right	Binaural
SRT / SDT			
Word Recognition	___% ___dB List:	___% ___dB List:	___% ___dB List:
Word Recognition	___% ___dB List:	___% ___dB List:	___% ___dB List:
Word Recognition	___% ___dB List:	___% ___dB List:	___% ___dB List:

Devices Worn:

Data-logging:

Speech Intelligibility Index:

Results and Follow-up:

Contact Information

Caregivers' Guide to Audiology Reports

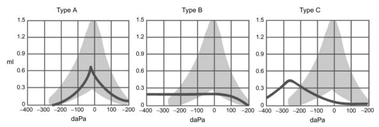
Otoacoustic Emissions
Putting soft sounds into the ear and measuring the echo back to determine the health of the hair cells in the ear. This test doesn't rely a child's response.

Acoustic Reflexes
Using loud sounds to test beyond the inner ear.

Otoscopy
Looking at the outer ear and ear drum to check the physical health.

Bone Osccilator
A headband like this tests how the child's cochlea (hearing organ) hears by bypassing the middle ear space (the eardrum and tiny ear bones called the ossicles).

Tympanometry
Test using pressure to assess movement and health of the eardrum



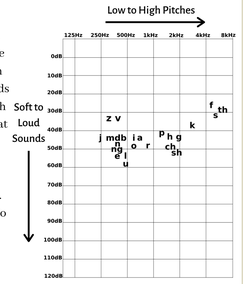
Type A: The eardrum is healthy and moving as it should. Notice the black tracing is following the shape of the normed grey-shaded area.

Type B: The eardrum is not moving as it should. There may be an open tube or fluid present.

Type C: There is negative pressure keeping the eardrum from moving as it should. Sometimes this happens with a head cold.

Headphones
Headphones like these (right), or foam inserts that go inside the ear canal, test how the child hears from the outer to the inner ear.

Audiogram
Your child's hearing will be plotted on a graph called an audiogram similar to the one on the right. This audiogram has each of the speech sounds plotted by their general pitch and loudness. Any sound that falls above (quieter) than your child's hearing loss cannot be heard by them without their technology on. If there is information you do not understand on your child's report, please reach out to your audiologist.



CONCLUSIONS

Best practices in family-centered care state that professionals should be engaging in partnerships with their families and providing competent, interdisciplinary care for children who are D/HH.[5] Interdisciplinary teams offer the potential to achieve higher levels of holistic care, increasing outcomes for individuals on the receiving end.[6] As specialties continue to diversify it is important to include providers who can share certain expertise on behalf of patients and their caregivers, especially when other team members may be unaware of specific information.[6] Teamwork and collaboration are directly associated with quality, safe care for patients, and can help contribute to solving larger societal challenges.[7] This project aimed to help bridge the gap between pediatric audiologists and other stakeholders.

FUTURE RESEARCH

Future directions for this project include making these materials more accessible for individuals with lower health literacy rates. Health literacy is the degree to which an individual can understand and act upon information and decisions related to their well-being.[8] In order to provide resources that are at an appropriate level, information should be written at a 5th grade reading level or lower, use larger fonts, use second-person pronouns, and caption or label all graphics. Providing information that meets these criteria is a major problem within our heath care system and particularly effects speakers who do not use English as a primary language, minorities, and people with speech, language, hearing, vision, and intellectual disorders to name a few.[9] Low health literacy is statistically linked to poorer health and quality of life.[8]

Additional ideas include:

- Creating a website accessible by QR code with additional information for caregivers and other stakeholders
- Creating a comprehensive handout or website with caregiver-friendly resources on topics of interest

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