Teleaudiology
Infant Hearing Assessment
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Agenda
- Practical approaches to teleaudiology for infant hearing programs
- Establishing a standard ABR assessment protocol
- Risk monitoring via teleaudiology for delayed onset hearing loss
- Remote ABR assessment protocol demonstration

Infant Hearing Diagnostic Centers
Number of Centers
Hub site:
- This is where the assessing audiologist is located.
- Equipment necessary for establishing the telemedicine and data connection.

Spoke site:
- This is where the infant is located.
- ABR, otoscope, OAE equipment location
- Trained technician and intake staff

TERMINOLOGY
Loss to follow up

- Infants missed at hospital before discharge
- Infant who refer at Stage I and do not return for Stage II
- Infants who refer from Stage II and do not return for assessment

Practical approaches to tele-audiology for infant hearing programs

Probability of HL

- Prevalence in General Population
- Prevalence in WBN refer population
- Prevalence in NICU refer population

Reimbursement?

- How will you get paid for this service?
- Private providers vs funded providers

HOW TO: A Guide

Are you ready?

- Be sure it’s right for your program/clinic
- Agency mission/vision, goals
- Capital expenses
- Key people
- Identify challenges

HOW TO: A Guide

Ballachanda, B., 2017

Hyde, Campbell, 2010
IT

Audio/Video solution
Desktop Sharing solution

200 telemedicine networks serving 3500 sites

HOW TO: Equipment
- EHDI program standard protocols
- Webcam, mic, audio
- Flexibility, technology changes!
- Shipping equipment to spoke sites
- Test, test, test

HOW TO: Hub site:
- Audiologist
- HIPAA compliant space
- PC, preferably with dual monitors
- Webcam, mic, headset
- Teamviewer
- Videoconference solution

HOW TO: Assessment
- Audiologist
- HIPAA compliant space
- PC, preferably with dual monitors
- Webcam, mic, headset
- Teamviewer
- Videoconference solution
HOW TO: Spoke site:
- Trained technician
- HIPAA compliant space
- Laptop or PC for ABR, with dual monitor
- Webcam, speakers, mic
- Sufficient internet connection
- Videoconference solution
- Ambient noise

Ambient Noise:
- Electrical and Acoustic

Minimum Permissible Ambient Noise Levels for ABR testing with insert earphones.

<table>
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<tr>
<th>Frequency (Hz)</th>
<th>0 dB HL</th>
<th>25 dB HL</th>
<th>50 dB HL</th>
<th>75 dB HL</th>
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</table>

Maximum Permissible Ambient Noise Levels (MPANL) if Testing to 0 dB HL (ANSI S3.1)

MPANL if Testing to 25 dB eHL
Ears not covered
Insert earphones

HOW TO: Spoke site Technician:
- IHP uses AABR screeners
- RN, CDA, other related professional
- In person session to setup equipment and prep infant
- Training support and videos

Working with a standard ABR assessment protocol in remote infant diagnostics

Standard Protocol

ONTARIO IHP:
- ABR protocol
- Very specific steps – efficiency
- No identifying data on ABR equip.
- Results stored in infants “home” file
- Kept as screenshots, or exported data file
Communication of Results
- Telemedicine model allows for immediate or delayed communication
- IHP protocol prefers delayed communication, but at clinician’s discretion

Data, Data, Data
- Central database capable of tracking infant from screening to discharge

Next Steps:

Questions?

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