Helping Families Achieve the Best Outcome for their Child with a Cochlear Implant

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Topics:
1. Maximally Using the Sound Processor
2. Empowering Parents to Promote Auditory Learning
3. Addressing Listening Needs in Group Settings
Collaborate with Child’s Mapping Audiologist

- Parents: Provide regular input regarding what child is consistently hearing or not hearing
- Educators/Therapists: Let parents or CI audiologist know what sounds or words child misses
- Does your child respond well to sounds in his/her environment? Can he/she consistently hear the 6 Ling sounds?
- CI Audiologist: Explain mapping changes
Other Information to Share

• Which program does child use most often?
• Has this changed over time?
• What settings does he/she use?
  – Are there times you think child needs more volume?
  – Are there times the program seems too loud?
• Does child ever use the other programs?
  – If yes, how often and in what situations?
Resources on Mapping

- HOPE Online: Audiologists and Therapists (or Teachers) Working Together (Brooks, Aaron)
- HOPE Online: Partnering with Your CI Audiologist: How to Get the Best Map Possible for Your Child (Zwolan)
- HOPE Online: How to Read a Child’s Map (Popp, Clark)
- Team Tracking Form (Moog Center)
Make Full Use of Sound Processor Options

- Depending on age of child and ability to determine benefit, explore use of program options in sound processor
- **ADRO™** especially helpful in dynamic environments typical of what children experience
  - Makes automatic adjustments as sound environment changes
  - Divides sound spectrum into 22 channels and adjusts gain of each channel independently
  - Maximizes sounds recipient wants to hear and softens unwanted noise
ADRO™ for Changing Environments
Resources

- HOPE Online “FM and Nucleus Freedom” (includes explanation of ADRO)
- HOPE Online “Maximizing Outcomes with SmartSound™: How, When, Why”
- SmartSound™ materials on the Cochlear Americas website: www.cochlearamericas.com/products/22.asp
3 Determine Best Telephone Options

• Telecoil or not?
• Telephone setting louder?
• Help child determine best place to hold the telephone headset
• Mixing level
• Speaker phone?
• Phone preference or not? Identify which telephone works best (including mobile) in combination with above options
Resources

• “Using the telephone” support materials on the Cochlear Americas website:
  • http://www.cochlearamericas.com/Support/347.asp
• HOPE Online “Talk to me! Telephone Tips for Cochlear Implant Users”
Increasing Confidence on Phone

• Purpose: Increase confidence with understanding on the phone
• Call (800) 458-4999
• Acoustic ∙ Visual ∙ Acoustic
• [http://www.cochlearcommunity.com/rehab](http://www.cochlearcommunity.com/rehab) to check listening
• Listening available in English and Spanish
Practice Proactive Maintenance

• Perform daily equipment checks (look for breakage, loose connections)
• Know how to troubleshoot the sound processor (parents, daycare, other professionals)
• Have replacement parts on hand (not just batteries) at home, daycare, wherever the child is
• Parents: Use Dry and Store daily. Change “bricks” at appropriate time (especially important during humid summer months)
Resources

• HOPE Online seminar: “Troubleshooting the Cochlear Implant System”
• Troubleshooting Guide: www.cochlearamericas.com/support/44.asp
• Educator Guide: Chapter 6 (Troubleshooting) www.cochlearamericas.com/Support/2156.asp
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Acoustic Highlighting

- Bring child’s attention to spoken message
- After spoken message, ask child “What did you hear?” instead of “What did I say”? 
- Auditory Sandwich Technique: Acoustic · Visual · Acoustic
- Active Listening
Break Routine

• Children have predictable routines

• Break Routine to facilitate spoken speech and language
  – Ex. Snack Time, Getting Dressed, Washing Hands

• Children with more Advanced Listening and Language Skills use sequencing lessons
  – Making Peanut Butter and Jelly Sandwich
Active Participation of Family

- Practice, Practice, Practice
- Model Language Lesson to set Parent Up for Success: Everyone Learns through Models
- Ask Parent to give examples of implementing similar lesson in home environment
- Give Parent or Sibling turn to practice
- Encouraging waiting for response
- Give feedback (sandwich with positive, negative, positive)
Create Thematic Lessons

• Big picture teaching: language in everyday activities
• Carry over is stronger
• Increased participation of child
• Incorporate Strategies:
  – Increase wait time for response
  – Present information as Acoustic · Visual · Acoustic
  – Acoustic Highlighting
  – Note Taking to summarize session for carryover in home environment
HOPE Resources on Auditory Learning

- Variety of resources for parents in the HOPE area of the website: [www.cochlear.com/HOPE](http://www.cochlear.com/HOPE)
- HOPE Online Learning Module: “Parent Friendly” contains many one-hour seminars for parents on auditory learning
- *Speech Sounds*: guidance on everyday activities, games, song, books to promote a strong auditory foundation
- *Listen Learn & Talk*: 3 CDs and book covering birth-48 months
- *Start Listening - Parents* (free DVD and related brochure)
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Children with hearing loss need a higher signal to noise ratio (SNR) than normally hearing children (at least 15 dB).

Acoustics and FM are not either/or.

Pre-K and daycare spaces are often noisy & reverberant.

Even older children will not necessarily complain.

Spaces should be evaluated for acoustical improvements.
ANSI S12 Noise

• Covers background noise and reverberation:
  – Classrooms of Moderate Size
  – Core Learning Spaces
• Covers background noise but not reverberation:
  – Ancillary Space (hallways, locker rooms, cafeteria, gym)
• Specific guidance on the ideal ➔ strive for this but any space can be improved
• Online (free) http://asastore.aip.org
Evaluate for FM Use

• It is recommended that children using personal FM systems be capable of providing feedback about sound quality.

• The child should have the ability to perform some type of listening task so that optimal performance can be confirmed.
Benefits of Personal FM

- Using FM on the CI side provides 13.3 dB additional SNR
- Using FM on 2nd side (hearing aid or 2nd CI), adds 16.2 dB additional SNR (highest)
- Personal FM provides greatest benefit
- Soundfield improves listening but SNR benefit is not as great as personal FM
Relative Benefits of FM

Bilateral/Bimodal Study
Schafer and Thibodeau (2005)

*FM input to first or both sides allowed for best speech recognition in noise performance!*

Improvements in speech recognition relative to CI Alone!

Resources

• Educator Guide: Chapter 7 (ALDs)
  www.cochlearamericas.com/Support/2156.asp

• HOPE Online seminars:
  – FM and Nucleus Freedom
  – Back to School with Cochlear Implants

• www.access-board.gov/acoustic/index.htm
To Access HOPE Resources

• Go to: www.cochlear.com/HOPE
• There are many resources that can be downloaded
• Sign-up for HOPE Online seminars
• HOPE Online seminars are free, offer CEUs, can captioning (for live events) or scripts (for recorded events)
• There are over 70 recorded HOPE seminars and live seminars are offered 2-3x/month