

Agenda



- Overview of Adult Rehabilitation
- Benefits, Use and Demonstration of Home Practice Tools
- Additional Resources for Adults
- Discussion



Rehabilitation for Adults After a Cochlear Implant Cochlear HOPE (Re)Habitation Resources

Who might benefit from using listening tools?



- Adults of all ages benefit from a period of rehabilitation post cochlear implantation
- Amount and type of therapy will vary according to the person's hearing history
- Tools reviewed here are used at home though it's a good idea to have oversight by your CI audiologist or a hearing rehabilitation specialist if just to ensure you're practicing correctly

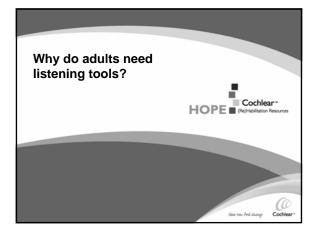


Is it too late to start?



- Starting immediately following activation will speed up your progress
- Never too late to start
- Even "old-timers" may have weak areas which can be addressed by specific exercises or tools
- Telephone practice is a classic example: "I can't talk on the phone"





Comprehension: It's not just about the ears



- Often assumed that better technology = better hearing
- Matching the right technology to a person's hearing loss is critical but comprehension is not just about technology
- People rely on many skills when listening with a cochlear implant
- Most skills can be improved with training and practice



Benefits of Rehabilitation



- With progressive loss, adult may have been without full access to sound for years
- May need assistance learning to recognize speech and environmental sounds again (if progressive loss)
- Break old habits and integrate new sound
- With prelingual deafness, CI may provide greater access to sound than the recipient ever had
- If binaural hearing, maximize outcomes and integrate sound on both sides
- Regardless of hearing history, rehab should be considered



What is auditory therapy for adults?



- Utilizing listening activities to help recipient adjust to the new signal
- May involve working on parts of speech or typical words or phrases that the recipient encounters
- Integrating new hearing into a previously established communication system
- Breaking old habits to encourage full use of the auditory signal and less dependence on visual information

What are some tools I can use?



Skill Building Areas and Tools

- Listening exercises with a friend or family member
- Use of Interactive Computer Software
- Music Rehabilitation
- Audio Books (or Tapes)
- Telephone Training

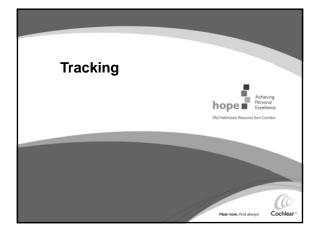


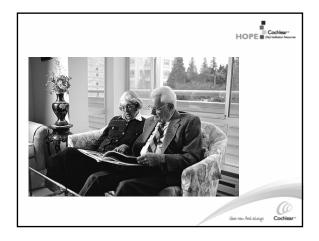
Repetition and Redundancy

- Practice makes perfect—just as it does with golf, tennis, skiing, dancing
- Repetition and redundancy provide the opportunity for the brain to learn new sounds
- Working with a rehabilitation professional can help ensure you are practicing correctly and not reinforcing bad habits
- All of the suggested tools should be used repeatedly and if possible, every day over a designated period of









Tracking



- Great for newly activated recipients
- Involve family and friends who are supportive
- Start out easy and work up
- Have the person assisting, sit beside you on the side of the implanted ear
- Use regular volume (do not use a raised voice)
- Minimize background noise
- Use speech that is full of expression and natural rhythm

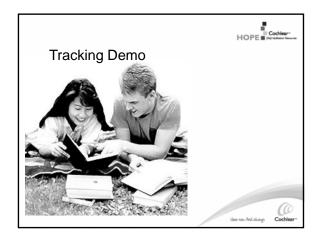


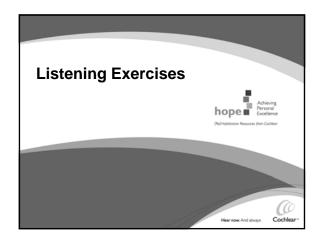
Corbinus

Tracking Tips

- Start out slow and add speed to provide challenge
- Initially stop in a natural breaking point (end of sentence or paragraph)
- Rotate back and forth between recipient and assistant, reading and stopping
- To add difficulty, stop mid-sentence AND add speed







Analytic Training Speech is understood by recognizing the smallest distinguishing linguistic features and applying these to higher-level units of speech Analytic training alone is of limited value Typically administered as part of a treatment plan that incorporates analytic with other training Source: Pedlez K et al. 2006. Adult Aural Rehabilitation: A Guide for CI Professionals. Cochlear, Ltd., page 11.

Examples of Analytic Training



- Syllable counting
- Word stress
- Vowel and consonant phonemes
- High-and low frequency identification
- Over-learned speech tasks
- Text following



Phonemes: Common Consonant Confusions



I will say two words, pointing to each word as I say it, then randomly repeat one word. Please identify the repeated word.

F and Sh		F and P		
fail	shale	fat	pat	
fought	short	fill	pill	
few	shoe	fry	pry	
frill	shrill			
fell	shell			
				00
			Hear now And always	Cochlear

Synthetic Training

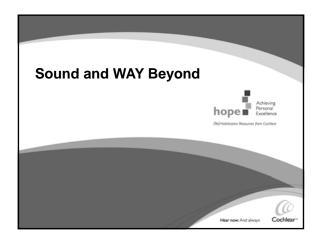


- Provides an approximation of the speech perception tasks found in everyday communication
- For example, clarification strategies would be considered one type of synthetic training



Examples of synthetic exercises Continuous discourse tracking for speech and in noise Topic of conversation using word, phrase, related sentence and unrelated sentence clues Information transfer activities Variations on open-set tasks Seeking information Seeking information Open-set sentences Comprehension tasks Scripted conversation Games and interactive activities

Topic of conversation — unrelated sentences with clue • A clue word will be introduced that is intended to help the person repeat the sentence though the clue word does not appear in the sentence. Say the clue word to the recipient with visual cues, or provide the recipient with a written list. • Say the sentence slowly, but with normal intonation and expression. • Ask the recipient to repeat the sentence. • Encourage the recipient to guess, and give feedback about any correct words. • If the recipient is having difficulty, give one or two key words from the sentence with visual cues, and try again. Clue word Sentence Music She plays the piano and the violin. Weather There was a thunderstorm last week. Bird There was a nest in the tree. Food You should eat a big breakfast. Scenery Tall buildings often ruin beautiful places.





Interactive Computer Software

- Tool to build listening skills in your own home and at your own pace
- Research has shown that moderate training on targeted phonemes can improve speech perception by as much as 15-20%*
- Great for the new CI recipient as well as someone who wants to improve

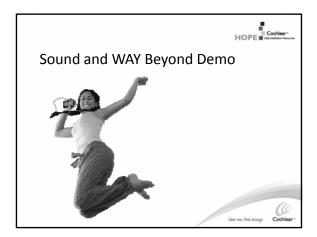
*Fu QJ et al ARLO (Acoustical Research Letters Online, ASA, 4/22/2005; Fu QJ Maximizing cochlear implant patients' performance, Hearing Research 2008 doi:10.1016/j.heares2007,11.010.

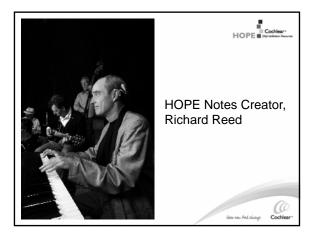


Sound and WAY Beyond

- Self directed, interactive software program that allows user to move at his/her own pace
- · Adjustable levels of difficulty
- Comprehensive: pure tones, vowels, consonants, environmental sounds, monosyllabic words, sentences, musical instruments, and familiar tunes
- Advanced modules: melodic contour (music) and telephone training, listening in noise, open set
- Printable reports to share with professionals









Music Appreciation

- A relatively new interest area
- Cl's are designed for speech perception
- Speech and music share some acoustic characteristics but there are differences also
- Pitch and tone quality are harder to convey
- Research suggests practice helps



Music and Cochlear Implants HOPE Cochlear



- Variability in CI users music perception abilities—just as there is in the general population of people with normal hearing
- Pitch perception is the hardest for CI users
- CI users perceive rhythm and tone duration as well as normally hearing people 75-90% of the time*
- · Having the lyrics helps
- Using the special program for music (or a noise program) may help make melody "less noisy"

*Drennan WR, Rubinstein JT. Music Perception in cochlear implant users and its relationship with psychophysical capabilities. J Rehab Res Dev. 2008;5:779-790.







What helps us enjoy music?

- Listen in quiet environments with good acoustics
- Use direct-connect to your sound processor
- Keep the volume of the music down
- Start with music that is "simple" and build complexity
- Download the words to songs so you can track lyrics
- Some types of music may seem better than others
- Acknowledge that music may not ever be perfect but you can still enjoy it
- · Practice, practice, practice—train your brain!

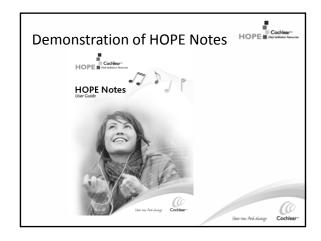


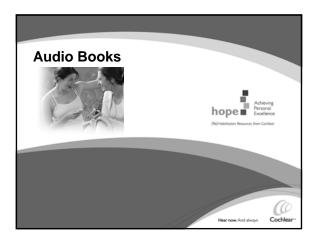
HOPE Notes



- · New music (re)habilitation resource from Cochlear™
- First of its kind a program developed for cochlear implant and hearing aid users. Designed to help improve music perception and appreciation using original songs, traditional Folk, Blues & Country styles and some familiar tunes played in unexpected ways
- · Includes a CD, DVD, and a detailed User Guide including lyrics to assist and enrich use of the program

HOPE Notes Cochlear-HOPE . Little Star Blues The Thing with Scales Middle C Melody Bayou Boys The Low Notes Waltzing Miranda Both Hands Now The Man Upstairs Stereo Melody on Right Someone Else's Heartache Stereo Melody on Left Songs Without Vocals Swing Both Hands Little Star Blues Full Song Surfer Elise ₁ Back to Main Menu Canciones en Español Guitar String Theory Blues Downtown Hear now And always Cochlear





An accessible and enjoyable form of rehab Some people like to begin with familiar children's books while others prefer adult books Pick books that are interesting to the recipient Start out easy with speakers that are comfortable for you (pick your gender preference), slow pace, clear speaker, no background music/noise May begin with tape + book initially (depending upon how hard it is for you) and work up Use unabridged tapes if you want to follow along with the book

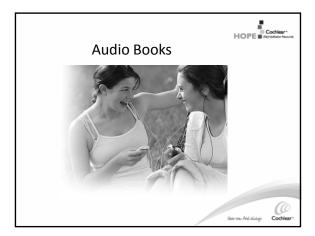


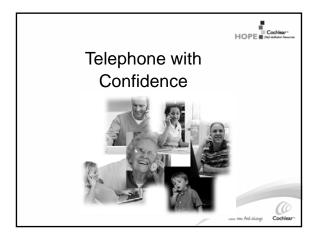
Audio Books continued

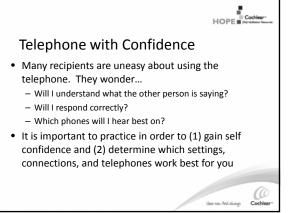
- Graduate to more difficult readings, speakers that are more difficult for you, faster pace
- Repeat phrases or words out loud, especially those that are difficult to understand for you → practice active listening (also called auditory feedback loop)
- Some people like using transit time to listen to tapes
- Easy to understand radio voices are also good
- Key: Dedicated time every day until the task becomes easy for you











Phone Variables • Volume - Sound processor - Telephone receiver • Type of phone: LOTS OF VARIABILITY! - Landline - Wireless (How compatible is it with hearing technology?) - Phones designed for texting may not provide the best clarity • Sound Processor Setting - Acoustic coupling or Telecoil - If Telecoil, how much mixing is right? • Phone placement in relation to your "ear" • Other factors - Quality of the signal - Clarity of the speaker - Environmental noise

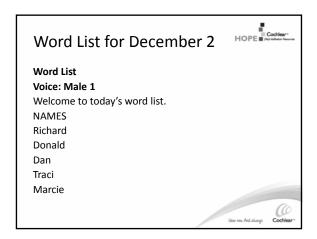
Wireless phones can be a Cl user's best phone but there are differences—try before buying in a phone store www.cochlearamericas.com/support/354.asp Phones designed for texting may not provide the best audio quality Wireless phones are rated for hearing aid (and Cl) compatibility (M4 is best) and for T-coil usage (T-4 is best) www.accesswireless.org/hearingaid/brochures.cfm (The Wireless Association) Accessories are available and may help: www.cochlearamericas.com/support/355.asp More information on FCC regulations on the HLAA website at: www.hearingloss.org

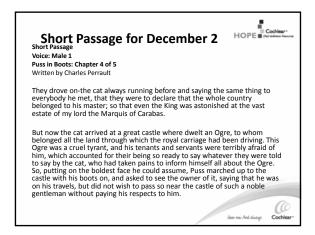


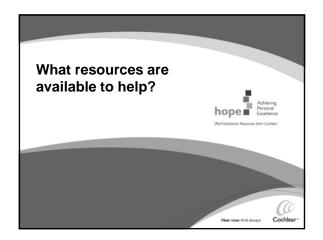
Phone with Confidence Free service from Cochlear to help recipients develop listening skills and confidence in ability to make calls Call in to free 800 number (800.458.4999) with word lists and reading accessible on website Great for young children with language in place post 2nd cochlear implant or any kid learning to use the phone

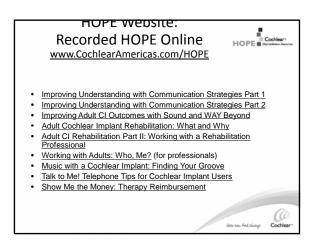
Hear now And always

• Accessible via HOPE website









Resources on HOPE Website
www.CochlearAmericas.com/HOP



• Reading Room

- CI Rehabilitation: It's Not Just for Kids
- Cochlear Implant Rehabilitation for Adults (web resource with links)

• Listening Tools (for purchase)

- Sound and WAY Beyond
- HOPE Notes
- Hear we go!
- Adult Aural Rehabilitation: A Guide for CI Professionals



Upcoming HOPE Online



Monday, December 13, 8:00 pm ET

Partnering with Your CI Audiologist: Tips for Getting the Most from your Programming Sessions (Professionals, Adults)

Teresa Zwolan, PhD., CCC-A University of Michigan CI Program



Hear now And always

Helping Adults and Children with Cochlear Implants Enjoy Music Workshop 2010-2011



- One day workshops for professionals; evening (or half) workshops for adults and parents
- Four sites scheduled so far (watch for more)
- Salt Lake City (Nov 19/20), Chicago (Jan 13/14), Toronto (Feb 11/12), Houston (April 26/27)
- For more information, go to: <u>www.regonline.com/hopeworkshops</u> or call Sarah Gard at 303.524.6848, <u>sgard@cochlear.com</u>



Contact Cochlear	HOPE	Cochlear*
 For questions about this seminar, contact: dsorkin@cochlear.com 		
 For inquiries and comments regarding HOP programming, please contact: <u>dsorkin@coc</u> 		<u>l</u>
 For a Certificate of Participation, please sen completed Feedback Form to: hopefeedback@cochlear.com 	d your	
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