



**HOPE** Cochlear™  
(Re)habilitation Resources

**Listen and Think I: The Younger the Better**  
Ashley S. Garber, M.S. CCC-SLP, LSLS Cert. AVT  
Listening and Language Connections, Ann Arbor MI

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**Introduction**

Cochlear America's Commitment  
to Educational Outreach

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**Our Presenter**

Ashley S. Garber, MS CCC-SLP, LSLS Cert. AVT

- Private practitioner specializing in auditory verbal therapy and aural habilitation services
- Fifteen years of experience with children and adults with hearing-impairment and cochlear implants in a variety of settings



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## Auditory Learning



- The term “auditory training” is often used to refer to services children receive to improve their listening abilities with hearing aids or cochlear implants
- Implies a didactic, un-contextualized approach
- We should instead, strive for “Auditory Learning” where a focus on the *connection* between listening, cognition and language raises it above “auditory training”

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## Agenda



- Thinking and Listening?
- Cognitive development frameworks
  - Piaget
- Auditory development
- Thinking strategies
- Thinking activities for Little Listeners
- Discussion and Idea Sharing

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- “An individual learns to use and understand in relation to (or as a representation of) the ideas or mental concepts that have been formed through experience”

Bloom and Lahey (1978)

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- In this context “thinking and listening” is all about helping the child to make connections
  - At an early age, these are connections between what a child is hearing and what he is doing, seeing, touching. We stimulate language and cognition concurrently
  - As language grows, these are connections between what he is hearing and how it relates to the greater world around him and his experience. We use language as the bridge to higher level thinking skills

Join us October 19<sup>th</sup> for Listen and Think II: Take it to Another Level




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## Piaget

- Theories centered on development of knowledge through biological processes
- Believed intelligence came through action
- Believed children learn through interacting with their environment; learning happens *after* development
- Proposed a two-part theory: the processes of coming into knowledge and the *stages of that development*




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## Piaget's Stages of Cognitive Development

- Sensory Motor Period (0-24months)
  - Reflexive Stage (0-2mo)
    - Simple reflex actions e.g. sucking, grasping
  - Primary Circular Reactions (2-4mo)
    - Reflexive behaviors occur in stereotyped repetition e.g. opening/closing fingers
  - Secondary Circular Reactions (4-8mo)
    - Repetition of actions to reproduce interesting consequences e.g. kicking feet to move a mobile
  - Coordination of Secondary Reactions (8-12mo)
    - Actions take on more intention, responses are coordinated into complex sequences e.g. child reaches behind a screen for a toy




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## Sensory Motor Skills



- Vocal Imitation
- Gestural Imitation
- Object Permanence
- Means-Ends Relationships
- Causality
- Space Relationships
- Schemes in Relation to Objects

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## Piaget's Stages cont.



- Tertiary Circular Reactions (12-18mo)
  - Discovery of new ways to produce the same consequence e.g. baby may pull a pillow toward him to get the toy sitting on it
- Invention of New Means Through Mental Combination (18-24mo)
  - Evidence of an internal representational system, deferred imitation

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## Piaget's Stages cont.



- Preoperational Period (2-7years)
  - Preoperational Phase (2-4yrs)
    - Increased use of verbal representation, beginnings of symbolic motor play
  - Intuitive Phase (4-7yrs)
    - Speech more social, less egocentric. Developing grasp of logical concepts in some areas, although still a tendency to focus on one aspect of an object while ignoring others. Perceptions dominate judgments

Piaget's Stages continued in Listen and Think II

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### Development of a Listening Function The 1<sup>st</sup> Year

- Auditory Awareness and Perception
- Auditory Attention and Inhibition
- Distance Hearing
- Localization
- Discrimination
- Auditory Feedback and Monitoring
- Auditory Memory
- Auditory Memory Span and Sequencing
- Auditory Processing

(Pollack et al, 1997)



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9 to 12 Months

### Auditory Processing

- Cognitive development now brings child toward symbolic stage
- Child puts auditory repetition together with contextual information to associate meaning
- experience + motivation + auditory feedback = auditory memory



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### Listening + Learning = Language

- Object Permanence: "ball", "mommy", "bottle", "cookie"
- Means-Ends: "push", "pull", "open"
- Causality: "more", "again", "stop"
- Spatial relations: "up", "down", "in", "out"
- Schemes in relation to Objects: "pull", "throw", "that one", "this", "pat"



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## Thinking Strategies

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The single most important strategy for encouraging thinking together with listening....

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## Auditory First

- In analysis of AV Therapy there is often much discussion of “Auditory Only” approaches
- More important; however, is ensuring that we provide “Auditory First” stimulation
- The key is to get the auditory information into the child’s brain so that they can start to process/think about it BEFORE their eyes take over

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## Running a Close Second...



- **Wait Time!**

- A child needs time to process incoming auditory information before it is repeated, altered or expanded
- This time allows the child to perceive the sounds/words/sentences as well as compare to known information, attach to familiar experiences etc.

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## Increasing Attention



- Motherese and animated facial expressions
  - Add natural gestures to extend attention
- Increase suspense
  - Hold toys for an extra second
  - Hide things partially from view
- Use sounds as an attention grabber
  - Learning to listen sounds fit naturally here
  - “vrrrrrrroom”
  - “Oh! ...Listen!”

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## Modeling



- Utilize teacher and/or parent turns to show child *how* to think and remember
- Even at a young age, you can work to develop meta-cognitive skills
  - Rehearsal strategies: repeating, highlighting important facts, physical cues (e.g. counting on fingers)
  - Elaboration strategies: creating mental images, paraphrasing
  - Organizational strategies: grouping, classifying

(Duncan, 2007)

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## For Example



- "I heard Mommy say she wants a red (tick on fingers) ball (tick on fingers)"
- "This box has red toys.....Here's the ball...Red ball!"

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## Prompting



- With so many forms of prompting, the clinician has a myriad of ways to get a child thinking
- These might include:
  - Choices
    - Should we give the doggy an apple...or a bone?
  - Completing a phrase or sentence
    - "the wiper's on the bus go ..."
  - Giving clues
    - "It has wheels. And it goes beep beep"
- For the youngest children, prepare to provide both the prompt and the answer (don't forget wait time!)
  - "A bunny goes.....hop hop hop"

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## Sabotage



- Those little tricks designed to create teachable moments
- These sticky/silly situations keep kids thinking as well
- Examples for the littlest children:
  - Toys kept in zipper bags, sliding match boxes
  - Interesting toys placed on high shelves
  - Empty containers instead of full

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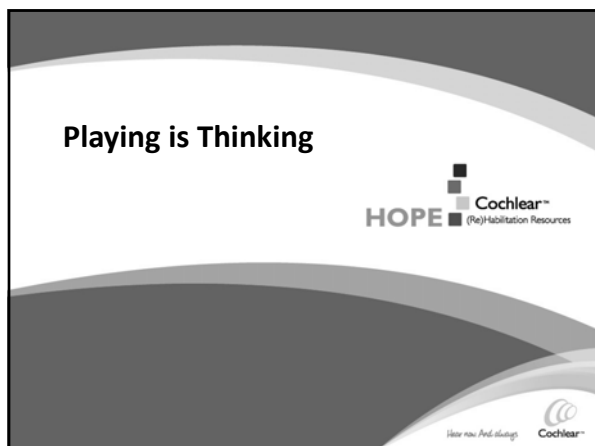
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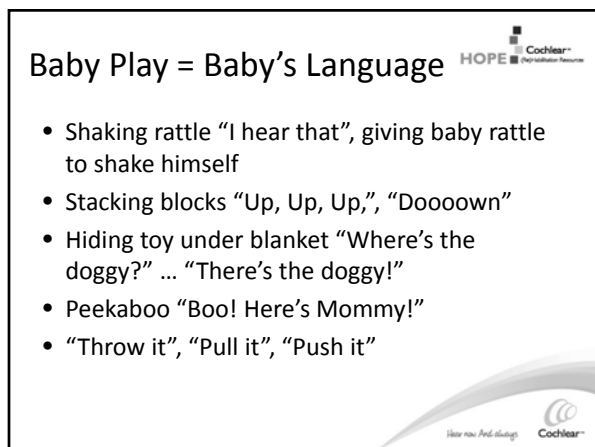
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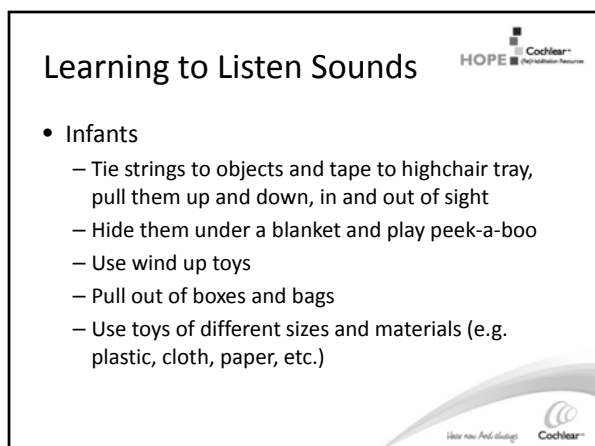
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## Learning to Listen Sounds



- Toddlers
  - Wrap each in paper for your child to unwrap
  - Slide down a tube into a bucket of water
  - Make “Lift-the-flap” books
  - Use cartoon pictures, Black & White drawings etc.
  - Sort into categories
    - Farm animals into a barn, zoo animals into a cage
  - Pretend to be animals or objects

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## Making Connections



- Talk about known people and objects when they are not present
  - Talk about people before you see them
  - Recap events after they happen
    - In the car on the way home
    - At the end of the day
- Repeat actions and sequences at a later time with different materials
  - Dress the child, dress a doll, dress a bear

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## Making Connections



- Begin pretend play as early as possible
  - Use language as the connection between the real and the imaginary
- In books:
  - Take bites out of apples
  - Sniff flowers
  - Pat doggies
- With objects:
  - A slice of melon becomes a boat
  - Different shaped blocks become musical instruments
  - A washcloth becomes a hat, a coat, a shirt
  - Wear a bandana like a cowboy, a pirate, a little girl, a bandit

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## Making Connections



- Without toys
  - Recreate familiar scenarios without all the props
    - Make an imaginary sandwich when playing with dishes
    - Put on a seatbelt when driving a play car
  - Move to playing whole games without toys
    - “Read” from a blank book
    - Take “toys” out of a “magic bag”

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## Compare and Contrast



- Fast and slow
  - Row Row Your Boat
  - Clean up time
- Big and Little
  - Itsy Spider ( and Great Big Spider)
  - Spoons, cups, bowls
- Up/Down
  - Ring Around the Rosy
  - Slides and see saws

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## Remember to Up the Ante



- Continue to increase the cognitive component of your activities to keep thinking skills buzzing
  - Tie to larger language if appropriate
  - Or keep language targets steady if necessary
- Ex. Puzzles
  - Choose harder puzzles when ready
    - Knob puzzles – interlocking pieces
    - Few pieces – many pieces
    - Pictures in the spaces – blank spaces
    - Distinct connections – smooth joins
  - Put the pieces in a bag and identify by feel
  - Turn the pieces over and guess where they go before looking at the picture

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## Summary



- Children with hearing loss are at risk for developing language skills that stay in the concrete
- By pairing cognitive challenges with auditory stimulation activities, professionals will assist children in developing rich language abilities
- Even the youngest children will benefit from this integration of listening and thinking

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## Questions and Discussion



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## New Parent Resource

- Practical, applied guidance on specific topics
- Most recent HOPE booklet: *Time for School!*
  - *Moving into the Mainstream*
  - *Homework Help*
  - *Tips for Teachers*
  - *Assessments*
- Watch for it on the HOPE website




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## Upcoming Online Sessions

- Next Up:

**Thursday, September 23, 3:00pm ET**  
***Bilingual Spoken Language Development for Children Whose Home Language is Not English: Assessment and Intervention Considerations (Professionals)***  
 Michael Douglas, M.S. CCC-SLP, LSLS Cert. AVT  
 The Center for Hearing and Speech

**Tuesday, October 19th, 2:00 pm ET**  
***Listen and Think II: Take it to Another Level (Professionals)***  
 Ashley S. Garber, M.S. CCC-SLP, LSLS Cert. AVT  
 Listening and Language Connections, LLC




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## Contact Cochlear Americas

- For questions about this seminar, contact [agarber@cochlear.com](mailto:agarber@cochlear.com)
- For inquiries and comments regarding HOPE programming, please contact: [dsorkin@cochlear.com](mailto:dsorkin@cochlear.com)
- For a Certificate of Participation, please send your completed Feedback Form to: [hopefeedback@cochlear.com](mailto:hopefeedback@cochlear.com)




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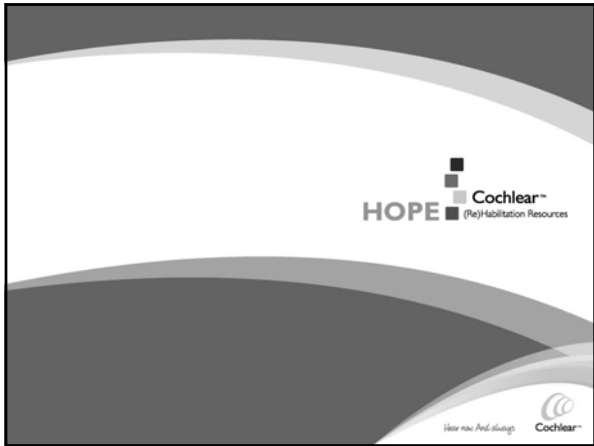
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