

Babies with Minimal and Unilateral Hearing Loss



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Kim Hamren, MEd, CED, LSLS Cert. AVT

Maura Berndsen, MA, CED, LSLS Cert. AVT





Plan for the Day

- Background and Definitions
- Incidence and Trends
- Impact and Challenges
- Listening Fatigue and Self-Concept
- Service Delivery and Strategies



Background and Definitions



Key Points

- Distinctions between listening and speaking are noted across many cultures.
- Historically, children with unilateral and minimal hearing loss were not identified early.
- Minimal Hearing Loss: 15-25 dB loss for children.
- Unilateral Hearing Loss: Normal hearing in one ear and a permanent hearing loss in the other ear.



Eligibility for Services

- Eligibility criteria for early intervention services through the *Individuals with Disabilities Education Improvement Act of 2004* vary from state to state.
- Specifics regarding hearing loss vary in state regulations.



In WA...

- Two of three early intervention programs for children who are d/hh in Seattle serve families impacted by UHL.
- Amplification is typically offered to the families when children's unaided responses are in the severe range or better.



Incidence and Trends



Incidence of UHL& Minimal HL

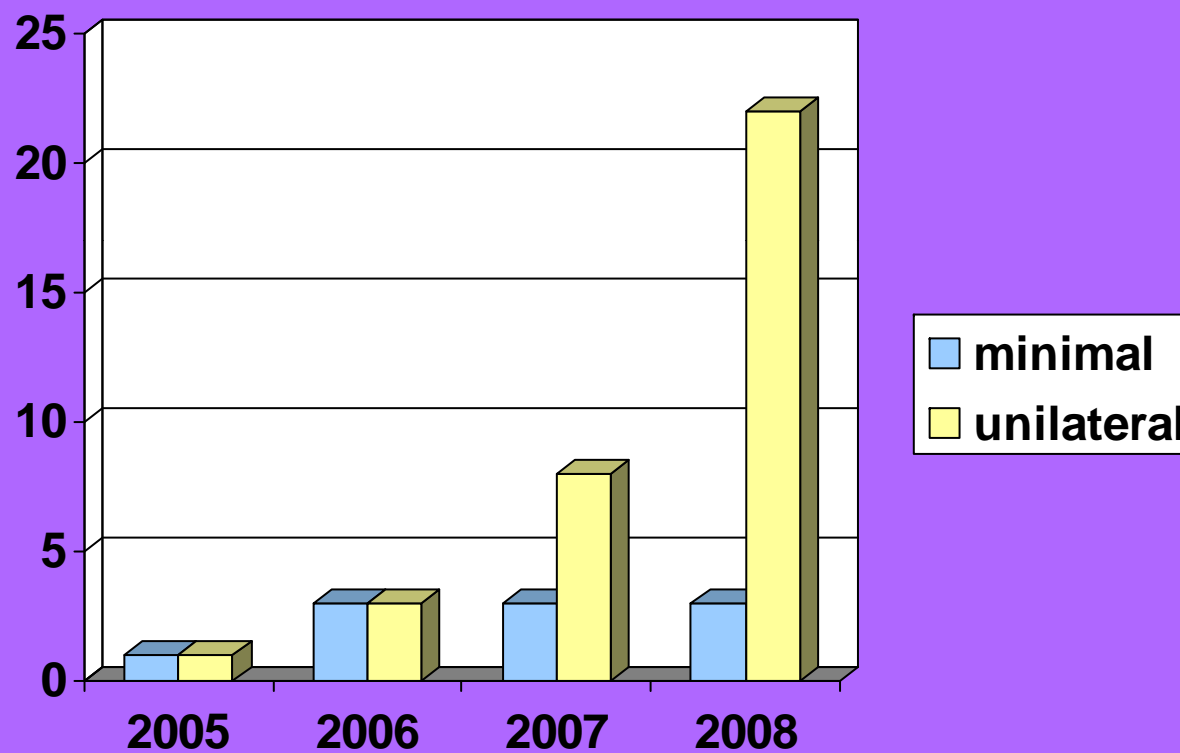
- Definition: “loss in one ear of any degree (mild to profound)

(ASHA, 2006)

- .83/1000 (Prieve et al., 2000)
- Babies in neonatal ICU= 3.2/1000
- Well-baby nursery=.41/1000



Enrollment Trends at Listen and Talk



*As of 02-2009, UHL represents 44%
of early intervention enrollment*





...At Listen and Talk



- As NHS has increased, enrollment trends reflect:
 - Increased number of families impacted by UHL.
 - Increased number of families who are English language learners.
 - Increased number of children who are dual-language learners with UHL and bilateral HL.
 - UHL has generally been stable over time.
 - Children without additional special needs developing meeting developmental milestones over the course of early intervention.





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 - UHL has generally been stable over time.
 - Children without additional special needs developing meeting developmental milestones over the course of early intervention.
 - Most families do not pursue amplification
 - Growing interest in use of personal FM systems.



Impact and Challenges



Difficulties Associated with UHL

- Localization
- Speech understanding
 - In noise
 - At a distance
 - When speech is presented to the ear with a loss.
- Loss of binaural summation
- Difficulties are magnified in children due to their developing language and inability to “fill in the blanks”
- Parent observations are consistent with the above.

Challenges Noted in Early Childhood Literature



- Poor acoustics and reverberation can distort messages (Petry, McClellan, & Myler 2001).
- Physical distance from the speaker can vary greatly for each child...making the speaker difficult to hear.
- Background noise inside the classroom
- Background noise outside the classroom
- Frequent interruptions breaking a child's focus.



Caution...

- The more severe the UHL the greater the likelihood of academic failure
- Right-ear UHL appear to be more problematic than left-ear UHL.
- UHL can be progressive, ultimately resulting in a bilateral loss.

Cole & Flexer, p. 41, 2007



Listening Fatigue and Self-Concept



Appearances

- Children with minimal/ULH appear inattentive and disinterested.
- Rated lower in areas of dependence and independence, attention to task, emotional ability, peer relations and social confidence.
- Negative perceptions affect social relationships.
- Children may lack self-confidence.

Bess et al, 1998; McKay, 2006



Promoting Self-Advocacy

- Developing self-awareness and the ability to judge listening environments, even with infants and toddlers, is critical in our experience.
- If children and families understand their needs and can self-advocate, will a child's self-image be negatively affected by the presence of a hearing loss?



Service Delivery and Strategies



Service Delivery at Listen and Talk



- **Prior to July 2008**
 - Weekly home visits reducing in frequency over time
 - Communication with audiologist/team
 - Participation in Parent Toddler Groups
 - Networking with Other Families
- **Current**
 - Family Group meetings to address key topics and allow for networking.
 - Home visit schedule to monitor child's progress and family's implementation of strategies
 - Communication with audiologist/team





Parent Reflections



- “...We were devastated. The best advice we received was to “mourn the loss of your child’s hearing”. That is what we needed to do. There were times we felt like we shouldn’t have as much grief as other parents with babies who had more serious issues...”
- “...Another great piece of advice was ‘Mourning doesn’t come in degrees. You can’t say you need to mourn less because you lost something different – a loss is a loss.’ Really the most important thing, aside from getting on top of treatment and intervention, was allowing ourselves to grieve...”





Take Home Message

- Regardless of the degree and nature of the hearing loss, services need to recognize and respond to the emotional needs of the family as well as the developmental needs of the child.



What Can Parents Do?

Tips from NAEYC Literature

- Understand the basics of child language development
- Teach your child from infancy to listen
- Set an example of careful listening
- Make time for listening
- Expect story sharing to be different with a very young child
- Set the stage for your child to listen
- Make your verbal directions easy to follow
- Prepare your child for listening at school.

Jalongo, pp. 96-97, 2008



What Can Parents Do? An Auditory Perspective



Strategies for Infants with Unilateral Hearing Loss

- When you are holding or feeding your baby, try to make sure your child's normal hearing ear is facing you.
- Always be aware of where your child's better ear is facing. It should always be facing you or those talking to your child. Think about this when your child is at dinner, in the car or in their stroller, etc.
- Try to avoid letting your child's normal hearing ear face a noise source, such as a dishwasher.
- Get your child's attention before talking to them.
- Talk about what you are doing within your daily routine.
- Start conversations and take turns talking.
- Help your child localize sound by using visual cues (After listening, you can point to your ear).
- Use repetition.
- Look for cues that your child understands what you are saying.
- Expand your child's vocabulary by using other adjectives and adverbs.
- Play listening games ("I hear that", auditory version of "I spy")
- Raise your voice slightly and face them when you are at a greater distance (walking your baby in the stroller).

Adapted from article, "Management of Young Children with Unilateral Hearing Loss", Sarah Mc Kay, Au.D. 2006



From Techniques to Tools



Relationship Between Auditory-Verbal Therapy Techniques and Communication Repair Strategies

Technique used by therapist/parent/teacher	Corresponding skill to develop with the child
1. Change the rate of presentation -use of pausing	-child requests, "Please speak slower, louder...."
2. Move closer to the child	-child places him/herself nearer to the speaker
3. Provide repetition	-child says " Huh, what, pardon me, please repeat." -child asks for repetition -NON -SPECIFIC LEVEL OF REQUEST
4. Provide visual clues	-child asks, " Please look at me; can you show me", or moves to see speaker's face.
5. Rewording/rephrasing	-child asks, " Please say that in a different way".
6. Change the complexity	-child asks, " What does (word) mean?"
7. Asking "What did you hear?"	-child says, "I didn't hear you; I heard...; Did you say...; You said...."
8. Reduce background noise	-child says, "That's too noisy, That noise bothers me because...; Can we talk over there where it is quiet?"
9. Waiting	-child says, "I'm thinking".
10. Others Label by category Provide a definition Provide a rhyming word Suggest an opposite Repeat part of the message containing the answer	-child makes a SPECIFIC LEVEL REQUEST -the request is for repetition of a specific item -the request is for confirmation -tell the speaker HOW to assist

-adapted from Communication Repair Strategies by Wendy DeJeu and Auditory-Verbal Techniques and Acoustic Highlighting, Warren Estabrooks in The Listener, Summer 2000.

Margaret Louwerse, April 2002, Communication Repair Strategies and Social Skills.



Amplification

- In McKay's review of amplification use for children with UHL:
 - Retrospective survey in children with mild to moderately severe UHL.
 - Overall improvements in auditory abilities.
 - Most families wished they had obtained amplification sooner.



More on Amplification

- (Lack of) “research to identify if hearing aid fitting before 12 months of age is better than waiting until that time, because it is possible to create a good signal-to-noise ration by physical positioning of the baby close to the talker before 12 months.”

(Cole and Flexer, 2007)

- “After 12 months of age, amplify a mild to moderately severe (UHL) Use a hearing aid loaner bank initially to determine if a hearing aid is helpful before requiring parents to purchase a hearing aid.”

(Cole and Flexer, 2007)

- “The goal of amplification for a (UHL) loss is to create more equal binaural hearing, with confidence in the results and evidence to justify the fitting.”

(Cole and Flexer, 2007)



What's Next?



Questions?

- How do we help young children avoid or minimize some of the negative effects associated with minimal/UHL hearing loss?
- Does aggressive early intervention reduce children's risk of later educational difficulties?
- How do we know which children are going to experience difficulties?
- Can we justify changing early intervention policy based on evidence seen in the school-age population?



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