

Achieving Effective Hearing Aid Use in Early Childhood



**Guidance for Families and Professionals of Children
with Hearing Loss from Infancy to Preschool**

Karen L. Anderson, PhD

A Supporting Success for Children with Hearing Loss Publication

<http://successforkidswithhearingloss.com>

A GUIDE TO ACHIEVING FULL-TIME HEARING AID USE IN EARLY CHILDHOOD

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from Infancy to Preschool**

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Supporting Success for Children with Hearing Loss Publications

Plymouth, MN USA

**24 Downloadable Files are included at no extra cost for purchasers of this publication.
Refer to last page for more information on downloadable files.**

Information in this guide is designed to assist families of young children in accomplishing consistent, full-time hearing aid wear, monitoring hearing aid function, and training their toddlers to handle hearing aids appropriately.

This guide is for parents to read and for early intervention professionals to use to assist families in understanding these concepts.

A Guide to Achieving Full-Time Hearing Aid Use in Early Childhood

Karen L. Anderson, PhD

For information on qualifications go to <http://successforkidswithhearingloss.com/about>

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Introduction – Why is this Guide Important?



INTRODUCTION

The combination of early identification of hearing loss and vastly improved hearing technology has resulted in the promise of better language, school and lifelong outcomes for children with hearing loss. Yet, those outcomes will not be realized unless the child's hearing is enhanced by consistent use of hearing devices to allow the best possible perception of speech.

Simply identifying the hearing loss early and providing hearing aids to families will do little to improve lifelong learning.

The families of these children need to understand the importance of consistent hearing for brain development. But knowing how important hearing is to growing a child's brain is still not enough.

Fitting hearing aids to meet the hearing needs of an infant or toddler is only the first step. It takes much patience, persistence, love and understanding by the child's family to reach the goal of full-time hearing aid wear.

As the child moves through developmental stages toward becoming an independent person, his or her complacency with hearing aid wear is very likely to change. This does not mean that the child is rejecting the hearing aids because he does not like them. It means that he or she is learning new skills towards body control and independence.

The purpose of this guide is to further understanding of child development, how it will affect hearing aid wear, and what families and early intervention teachers can do to achieve full-time hearing aid wear. By using the information in this guide, hearing aid retention accessories and specific age-appropriate strategies, it is hoped that families will be better prepared to manage their child's hearing aid wear.



Why should we be concerned about consistent hearing aid wear in young children?

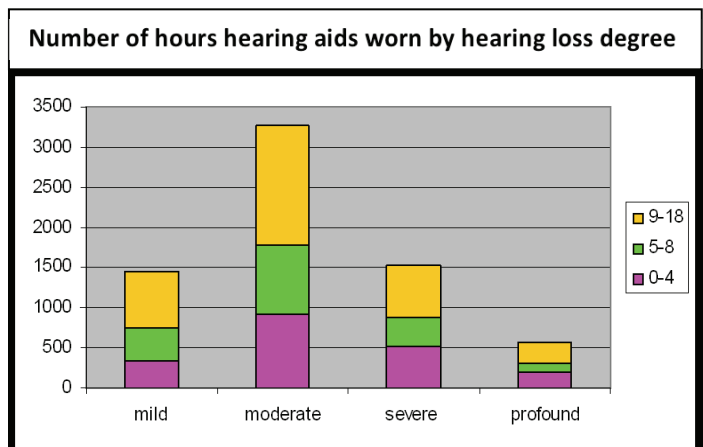
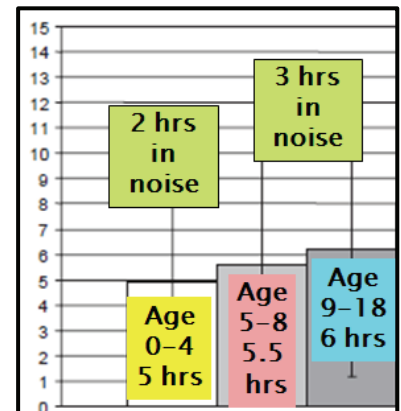
One of the byproducts of newborn hearing screening and early identification of infants with hearing loss is that we know it isn't *necessary* for these children to develop language and learning delays. The single most effective action we can take to improve the development of spoken language and resulting social and academic skills of children with hearing loss is to provide them with well-fit amplification worn all waking hours. This is the primary *preventative* action we can take.

There are challenges regarding using hearing aids all waking hours on active little people's heads!

- 1) **Using hearing aids:** Understanding the necessity of using hearing aids to facilitate auditory brain development, and therefore listening and spoken language skills.
- 2) **All waking hours:** Providing auditory stimulation all the child's waking hours (and knowing why this is critical).
- 3) **On active little people's heads!:** Keeping the hearing aids on their child's head consistently throughout the active infant and toddler years.

Research (2010) on the number of hours that children's hearing aids were used (worn and turned on) was collected using hearing aid data logging. Data were collected from 60 pediatric clinics and schools in the US for a period of 9 months on nearly 5000 children from early infancy through age 18. The results found that 40% of the children wear their hearing aids 4 hours or less per day with only 10% achieving full-time wear (12+ hours). The primary years for brain development and early language are birth through age 3 years, during which the data indicated children wear their hearing aids, on average, 5 hours a day, with 2 hours being in the presence of noise. Children under the age of approximately 20 months have not yet acquired the brain development to attend to speech in the presence of noise, thereby negating almost half of their opportunity for language development. School-age children did not fare much better with ages 5-8 averaging 5.5 hours and ages 9-18 averaging 6 hours. Hours of use also varied by degree of hearing loss. **In short, the average child with hearing aids receives only 1/3 to 1/4 the amount of auditory stimulation as their typically hearing peers.**

Typically hearing infants can't 'turn off' their ears. Their brains are being stimulated with auditory stimuli 24/7. If a baby only wears hearing aids 4 hours a day then it will take six years for his brain to receive as much auditory stimulation as a typically hearing child does in one year.

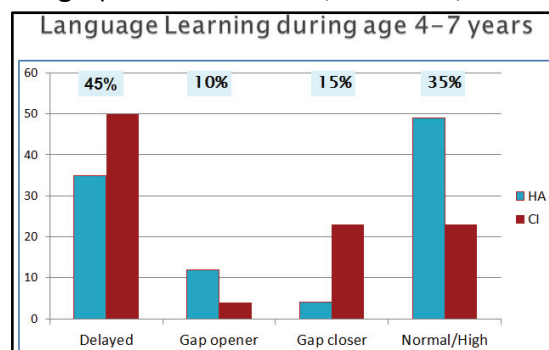


http://www.phonakpro.com/content/dam/phonak/gc_hq/b2b/en/events/2010/Proceedings/Pho_Chap_12_Jones_Final.pdf

Clearly, we need to do more to support families toward full-time hearing aid wear for their children.

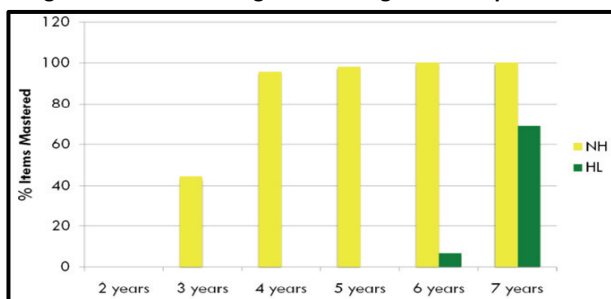
Evidence of Poor Outcomes from Early Childhood

The “promise” of early hearing loss detection has improved early childhood outcomes, with age-appropriate developmental skills and typical cognitive development being attainable by 3 years for children with hearing loss. As the data logging research shows, typical young children with hearing loss are receiving substantially less than full time wear. The resulting developmental effect of this hearing aid wear issue can be observed in 2010 results of research that assessed the language development of 135 children 3-4 times from 48-84 months of age (tests used: MCDI, EOWPVT, TACL). All children were cognitively normal from English speaking families with hearing parents. There were 49 cochlear implant users and 38 children with hearing aids (mild-profound loss). The vertical scale is the percent of the total number of all children. The percentages along the top are for the percent of children with hearing aids and with cochlear implants added together for each of the four categories. [Reference: Yoshinaga-Itano, C. (2010). The longitudinal language learning of infants and children with hearing loss. ASHA Virtual EHD Conference, October.]



Of the children with hearing aids studied, almost 50% were in the Normal/High category at age 4 and continued to remain in this category by age 7. Recognizing that the typical child with hearing loss only wears hearing aids 5 to 6 hours per day, it is not surprising that 35% of the hearing aid group studied had language delays and that they were unable to improve to typical skill levels by the age of 7. Assuming that consistent hearing aid wear was established with the children by age 4 and continued through age 7 it is very disappointing to see that only about 15% closed their language delay gaps by age 7. **The takeaway message is that inconsistent or limited hearing aid wear may result in poor outcomes for 1/3 or more of young children with hearing loss in terms of basic language (vocabulary) skills.**

Percentage of Pragmatic Language Items Mastered by Age for Normal Hearing and Hearing Loss Groups



Amplification increases the size of the child’s ‘listening bubble’ allowing him access to more

incidental language occurring around him. In addition to new words learned from exposure to language, children also learn to use language for social communication, or pragmatics. Similar to the findings above, 2012 research has indicated that children with hearing loss are woefully delayed in pragmatic language skills. Again, if only approximately 1/3 of incidental language is

perceived, and that is at a lower volume and only occurring within 6 feet or so of the child (depending upon hearing ability), it is not surprising that delays in social communication are one of the results. [Reference: <https://www.thieme-connect.de/ejournals/pdf/10.1055/s-0032-1326916.pdf>]

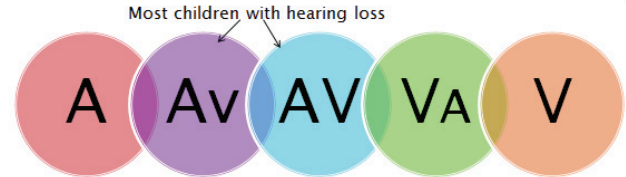
Inconsistent or limited hearing aid wear in early childhood has long-term consequences.

Need for Independence with Hearing Technology

The widespread implementation of newborn hearing screening and improvements in hearing technology have resulted in children being identified with hearing loss at a very young age who are fit with hearing technology that provides them with greatly improved **access** to speech as compared to previous generations. In addition, approximately 1/3 to 1/2 of children who are candidates are receiving cochlear implants (unilateral or bilateral), usually between the ages of one and two years.

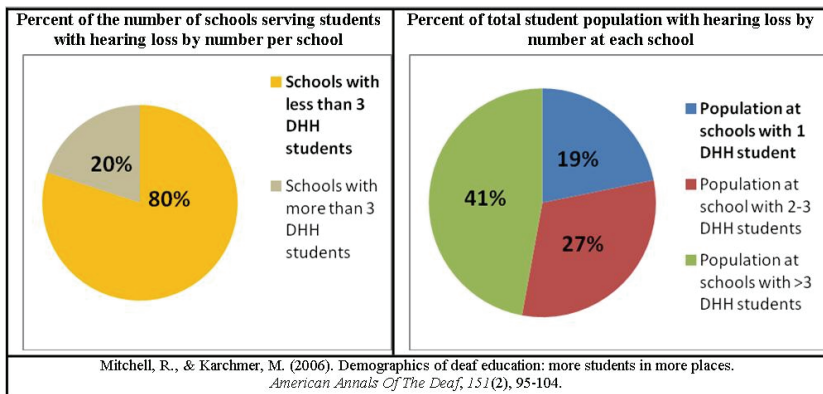
The result of these phenomena has changed the complexion of deaf education. More children use auditory input primarily (A or Av) or equally with visual input (AV) for learning. There are fewer children who are deaf visual communicators (VA or V). Of those that use sign language, an increasing proportion have additional disabilities and/or are from non-native English speaking families who require a more intensive level of services.

Continuum of communication modality



Increasingly, students with hearing loss are being educated in their neighborhood schools.

Research from 2006 indicates that 80% of students with IEPs for hearing loss are in schools with only 1-2 students who are deaf or hard of hearing. Of the total number of students with IEPs due to hearing loss, just under 50% are in schools with 1-3 students and 19% of the total are 'one and only' students with hearing loss in their school. Although some school districts have educational



audiologist and/or itinerant teachers of the deaf/hard of hearing, in most situations there will NOT be a professional with a hearing loss background readily available to the school staff/student every school day. Therefore, it is increasingly important for the student, who may well be the only person at the school with hearing devices, to be

as independent as possible in the use of the hearing technology.

Hearing technology is the key component to providing **access** to spoken communication for verbal language learning and also as a primary **access** to verbal instruction for most students with hearing loss. It is assumed that cognitively typical students will be fully independent with their hearing aids by the time they leave high school. They are usually resistant to having someone monitor their amplification on a daily basis long before they complete the 12th grade. **When the technology is not working the student needs to be able to recognize this access barrier and respond to it appropriately. To achieve true independence, the student needs to be taught the skills and practice under supervision before he can be expected to be fully responsible. This needs to start early.**

Brain Development and Hearing Loss



How the brain develops

Baby's brains are "pre-wired" to accept and process sound. Babies with typical hearing, begin to "hear" before they are born - at 20 weeks gestation. At birth, babies already prefer listening to their mother's voice, to their native language, to people talking rather than noise, and to songs or stories heard before they were born.

Following birth, the brain of the newborn is flooded with information from the baby's sense organs – their eyes, ears, skin, mouth, nose. This sensory information needs to get to the brain where it can be processed. To do so, maturing nerve cells make connections with one another, sending out multiple branches ("axons", which send out information, and "dendrites", which take in information). Each of these connections is a "synaptic contact" – where the branches of different nerves contact each other. At birth, each neuron in the brain has approximately 2,500 synapses, or connections. As a result of constant sensory stimulation and experiences with the world, the number of synapses grows to 15,000 synapses per neuron by the time an infant is 2-3 years old. This amount is about twice that of the average adult brain! Then something called "synaptic pruning" starts to happen and the weaker synaptic contacts are eliminated while stronger connections are kept and strengthened. A baby's experiences determine which connections in the brain will be strengthened and which will be pruned away. The connections that have been activated most often by the baby's repeated experiences are preserved. Ineffective, unused or weak connections are "pruned" in much the same way a gardener would prune away parts of a tree or bush, to encourage the plant to grow into the desired shape. Neuroplasticity enables this process of developing and pruning neural connections, allowing the brain to adapt itself to its environment and allowing the baby to *learn*.

Brain development and hearing loss from birth

The brain is the true organ of hearing – the ears only transmit sounds to the brain. Babies born with hearing loss are not starting from the same point as babies with typical hearing:

- (1) they have missed out on 20 weeks of typical development of their auditory brain pathways before birth
- (2) they have missed out on auditory neural development that could have occurred after birth, before their hearing loss was diagnosed, and
- (3) they have missed the typical development of the auditory brain pathways that could have occurred after birth up until the time a child hears sound consistently by wearing hearing aids during all waking hours.

Hearing loss in babies has been called a "neurodevelopmental emergency." This is because there is an optimal time in a baby's brain development for important, meaningful auditory neural connections to form – and that time is during the first three years of life (especially the first year). The baby's brain must be exposed to meaningful sounds consistently in order for these auditory neural pathways in the brain to develop. If a baby does not hear sounds well, or is only exposed to just a little bit of sound or speech during his/her early years of life, the brain will permanently reassign the child's auditory brain cells to function for visual processing. In other words, if the brain is not stimulated by sound it will reorganize itself through synaptic pruning to maximize processing through other senses – primarily vision. The visual centers of the brain will compete for "real estate", eventually also using the space of the auditory brain centers unless consistent auditory stimulation is received by the auditory brain

pathways. In other words, the baby's brain continues to develop and use the meaningful sensory information that it gets. However, if there is no sound information getting to the brain, those auditory neural branches will be pruned away and the neural branches that support the available vision information will be strengthened. This competition continues throughout the first three years of life. After about 3 ½ years of age, the brain has considerably less flexibility to develop effective skills to process auditory information. This is why children who have hearing loss that is identified late have a much harder time learning to listen and speak proficiently.

How brains develop directly relates to a child's development of communication skills. The "pre-wiring" in the brain for listening and spoken language learning will be reassigned – or changed – for other functions over time, until the auditory brain centers are no longer readily available to receive and use sound stimulation. Those neural connections and "brain space" are then typically used for processing the available and meaningful visual information.

Babies that are identified with hearing loss in the first weeks of life and who begin hearing optimally through amplification by 2-3 months (no later than 6 months) have a good chance of being able to develop the neural connections in their auditory brain pathways that are necessary to lay the foundation for spoken language development. This is especially true if they are provided with enhanced listening experiences. The best predictors of verbal language skill development are the child's age when full time hearing aid use started, the degree of the child's hearing loss and the amount of his/her exposure to meaningful listening experiences. Hearing aids, FM systems and cochlear implants are "brain access" tools. To take advantage of the critical period of optimal auditory brain development, the ability of the brain to perceive sound must be provided as soon as possible after birth.

What the family can do to "grow" the auditory brain centers

- Ensure that your child is hearing as well as possible. If your child has permanent hearing loss, aim to have him wear his hearing aid(s) or cochlear implant(s) 12 hours a day, or all the time that they are awake. Check his or her hearing technology at least once a day to be sure it is working appropriately. Praise your child when he lets you know when he is having trouble hearing as well as usual.
- Minimize the background noise in your home and the child's other daily learning environments. Young children can't effectively separate noise from speech and this interference can slow language learning.
- Language is learned from meaningful interactions with the family and caregivers (not TV). Call your child's attention to sounds heard in the environment. Use complete sentences, talk about everything you and your child do and see, name objects using as many varied vocabulary words as possible as you care for your child and spend time with him or her daily.
- Play and have fun with your child. Sign songs to him or her often. Strive to read 10 books a day!

Resources and information:

- Brain Plasticity: What Is It? Erin Hoiland. <http://faculty.washington.edu/chudler/plast.html>
- Hearing Loss in Babies is a Neurological Emergency. Dimity Dorman. <http://agbell.org/NetCommunity/Document.Doc?id=356>
- Auditory Brain Development and How it Affects Listening, Language and Literacy. Carol Flexor. http://www.txsha.org/_pdf/Convention/2011Convention/2011SpeakerHandouts/Flexor,%20Carol%20-%20Auditory%20Brain%20Development%20and%20How%20it%20Affects%20Listening,%20Language,%20and%20Literacy.pdf

Excerpts of material developed by Karen L. Anderson, PhD (2011) for (<http://parentsknow.state.mn.us>).

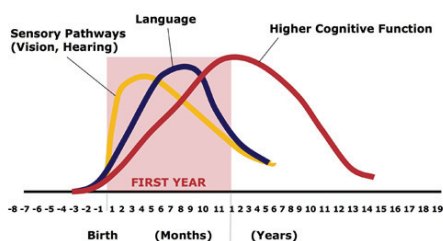
Hearing Grows Your Child's Brain

Brain Development & Hearing Loss

Hearing typically starts at 4 months gestation. It contributes to the early foundation of development of neurons – the basis of language and future learning.

Human Brain Development

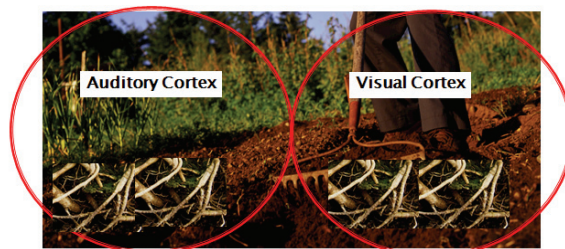
Neural Connections for Different Functions Develop Sequentially



http://developingchild.harvard.edu/index.php/resources/briefs/inbrief_series/inbrief_the_science_of_ecd

Brain Development – why hearing aids can't wait

- Due to prenatal development, each neuron in the brain has approximately 2,500 synapses, or connections.
- Consider the auditory / visual cortex as early roots in a spring garden, ready to grow.



Brain Development – why hearing aids can't wait

- As a result of **constant sensory stimulation** and experiences, the number of synapses grows to 15,000 synapses per neuron by the time a child is 2–3 years old.
- Think of this stimulation as rain, nutrients, sunshine – all needed for a garden to grow
- Consistent amplification wear, meaningful communication, experiences grow the brain



Hearing loss is a drought – limited auditory stimulation = little growth!



Brain Development – why hearing aids can't wait

- Consider the auditory and visual cortex as neighboring gardens in the same yard.
- The stimulation will drive the growth of the neurons and synapses
- Without constant stimulation, the auditory cortex is minimized and visual cortex enhanced.



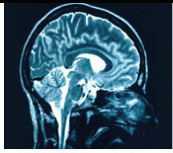
Brain Development – why hearing aids can't wait

- At age 2–3 “synaptic pruning” starts to happen. The weaker synaptic contacts are eliminated while stronger connections are kept and strengthened.
- A baby's experiences determine which connections in the brain will be strengthened and which will be pruned away. Ineffective, unused or weak connections are “pruned” away.
- Sensory cortex matures by age 6. Our ‘window’



Our ears work 24/7. If your baby wears hearing aids only 4 hours each day, it will take 6 years to give him or her as much listening experience as a normally hearing infant accumulates in one year.

Consistent Auditory Input – Step 1 for Growing Your Child's Brain



Brain access tools

- ▶ The best predictors of verbal language skill development are the child's age when full time hearing aid use started, the degree of the child's hearing loss and the amount of his/her exposure to meaningful listening experiences.
- ▶ Using technology, hearing ability must be provided as close to the typical hearing level as possible if the family wants the child to learn to listen and use spoken language.

We know..

For most children, the single most effective means to address learning and development issues associated with hearing loss is through the consistent use of hearing technology (hearing aids, cochlear implants, BAHA, FM)



Brain Development – why hearing aids can't wait

- ▶ At birth, each neuron in the brain has approximately 2,500 synapses, or connections.
- ▶ As a result of constant sensory stimulation and experiences with the world, the number of synapses grows to 15,000 synapses per neuron by the time an infant is 2–3 years old.
- ▶ This amount is about twice that of the average adult brain!
- ▶ Then something called “synaptic pruning” starts to happen. The weaker synaptic contacts are eliminated while stronger connections are kept and strengthened.
- ▶ A baby's experiences determine which connections in the brain will be strengthened and which will be pruned away. Ineffective, unused or weak connections are “pruned” away.



But he's Deaf, why use hearing aids?



- ▶ Families may choose to implant their child at a later date. It is a big decision and some families wait before they come to a decision that is right for them and their child.
- ▶ Even if a child has not shown any auditory response, encourage full-time use of appropriate amplification.
- ▶ Even if there is the slightest auditory stimulation it will keep the auditory pathway open in preparation for a cochlear implant.
- ▶ Compare this practice to preventing the pipes from freezing in winter by keeping the water dripping

More, and more, and more...

- About 90% of what very young children know about the world is learned incidentally, casually and passively.
- Children with hearing loss **require 3 times the exposure** to learn new words and concepts due to their reduced ability to easily overhear the language used around them.
- Only through the concerted effort of families, can children with hearing loss catch up and learn language at a rate similar to age peers.



First step to auditory brain access

- ▶ **Hearing aid wear for ALL waking hours**
- ▶ Provides consistent auditory input
- ▶ ‘Hearing the child (and family) can count on’
- ▶ ‘Bond’ with the hearing aids by age 1
- Concerns about loss, damage CAN be addressed
- ▶ Ear Gear – ‘mitten strings’
- ▶ Headbands, clips, tape, hats



By Karen L. Anderson, PhD, 2013. *Supporting Success for Children with Hearing Loss*. <https://successforkidswithhearingloss.com>

For more on Brain Development & Hearing Loss go to <http://successforkidswithhearingloss.com/resources-for-parents-of-children-with-hearing-loss/infants-and-toddlers-with-hearing-loss/ready-or-not-your-child-has-a-hearing-loss-explaining-the-urgency>

Importance of Family Involvement



Families are the First and Best Teachers

Young children are actively learning about their world, including what sounds in their environment mean. Typically hearing children begin to hear in the womb at about 20 weeks gestation, or about the time the mother starts to feel the baby move. This is why babies are born being able to recognize their mother's voice! Another way to look at this is that typically hearing babies are born with 5 months of first experiencing hearing.

Babies who are born with hearing loss already have missed out on substantial auditory stimulation and need consistent use of amplification to optimize development of the auditory center of the brain. Once a child is fit with hearing aids and is wearing them all waking hours we can begin to expect him to respond to sound. The date that full time hearing aid wear is established is considered the start of his 'hearing age'. The goal is to try to make up the time lost to early listening by providing intensive listening experiences and attention to language learning in the first two years to get the child's brain 'caught up' for the early hearing experience he missed.

In the first year of life the family has an important role to play in observing how the baby responds to sound and how she becomes more sophisticated in her responses with listening practice. In the first year families should also be providing modeling that will shape the baby's understanding of listening and hearing



aid wear expectations, which is an important foundation to learning to listen activities and early hearing aid independence skills in years 2-3.

Children with hearing loss now often enter learning environments where they are the only ones with hearing devices. The family is in the best position to prepare their child to be a confident and independent listener, communicator and hearing aid user.

Information in this guide is designed to assist families of young children in accomplishing consistent, full-time hearing aid wear, monitoring hearing aid function, and training their toddlers to handle hearing aids appropriately. This guide is for parents to read or for professionals to use to help families to understand the concepts.

Approx. Age	Auditory Development
0-28 days	Startles; attends to music/voice, soothed by parent's voice; may synchronize body movements to speech patterns; hears caregiver before being picked up.
1-3 months	Looks for sound source; associates sound with movement, enjoys parent's voice; attends to noise makers; imitates vowel sounds.
4-7 months	Uses toys/objects to make sounds; plays with noise makers; pays attention to music; enjoys rhythm games; responds to changes in tone of caregiver voice; notices toys that make sound; moves eyes in direction of sounds.
8-12 months	Attends to TV; localizes to sounds/voices; enjoys rhymes and songs; enjoys hiding game; responds to vocal games (e.g., So Big! Peekaboo).
1-2 years	Dances to music; sees parent answer telephone/doorbell; answers to name call; listens to simple stories, songs, and rhymes.
2-3 years	Listens on telephone; dances to music; listens to story in a group; goes with parent to answer door; awakens to smoke detector.
Adapted from Developmental Index of Auditory and Listening (DIAL) www.edaud.org	

With everything else going on in our lives, how can we deal with this too?

About 19 out of every 20 children born with hearing loss have parents that have normal hearing. They also feel very overwhelmed with the idea of having to face their child's invisible disability every day for the rest of their lives. You are not alone! If you have not already been in contact with another parent of a child with hearing loss, take that important step NOW. Hearing another Mom say, "I know it's hard but you WILL get through it," and then sharing strategies about how she managed to do just that may help you during the challenging periods to come, more than anything else you can do. If your early intervention teacher or your child's audiologist have not already offered to put you in contact with a "veteran family" then contact Hands & Voices, a national organization that was started to support families, just like yours (<http://www.handsandvoices.org/chapters/starts.htm>).

You are strong. Your child WILL have a good future – you can make this happen. It may not be the future you thought that he or she would have before birth but, with your special effort and determination during the first 3+ years, you will make a lifelong difference in how successful your child will be as an adult!

Take it one day at a time. Everyone has bad days, you will too. There will be times when your baby throws off his hearing aid for the umpteenth time and you just want to walk away from it all. Or when your child has not heard your warnings and gets into something dangerous before you can swoop him to safety. Or someone in the store gives you a pitying look and says something very ignorant about hearing loss or the benefits of wearing hearing devices. Each day your child wears her hearing aids all day is a solid brain development day! Each day your child wears hearing aids all day is a day when he heard your voice when he was scared or hungry or just needed your special soothing. Each day you are out in public with your child wearing his hearing aids, cap, Ear Gear or other hearing accessories you will get looks from other people. Hearing loss is not very common and few people have ever seen a young child with hearing aids or cochlear implants. Attitude is everything! Be an ambassador to help the ignorant majority recognize that you have a wonderful young child who is lucky to have been born in a time when there is so much technology and teaching can do to prepare him to go to the same school as other children in the neighborhood.

Stay motivated! You, your baby's family, are the ones that will make the biggest difference in his or her life. Picture *knowing* your child had the talent to be an Olympic skater (learning language is no less remarkable!). Having skates in the house would not be enough for your child to get the gold! He needs to wear them. But he also needs to learn skating techniques. In this case mom and dad need to talk to him within the listening bubble so he can "catch language." Special teachers will help you learn how to be your child's best coach, to deal with all of the challenges to come. Being there as a coach, a cheerleader and a loving parent who believes that s/he WILL do it, will go far in getting her to be a champion. A champion at learning language, at listening, at having conversations, at being ready to read on time!

YOU CAN DO IT!

Parent Self-Talk: Developing a foundation for early communication confidence and developing self-advocacy skills

Parents talk to their young babies frequently while dressing them, changing diapers and other times throughout the day. Young babies are enjoying your voices, intonation and facial expressions. As babies get a few months older, what you say shapes their knowledge of the world around them. To give your child a “head start” on facing future listening and communication challenges, you need to consistently model language and problem-solving to your baby from the beginning, even at 6 months!



- **Parts of the hearing aid and careful handling.**
 - I’m putting in your earmold. Let’s check your batteries – batteries are *poison*. They would give you bad tummy owies if you ate one! Are there bubbles in the ear tube?
 - Open up the battery drawer so the hearing aid can go night-night just like baby!
 - Mommy or Daddy takes off the hearing aid – the parts can break! We need to be careful!
- **Awareness of listening in noise challenges and what to do.**
 - Let’s go to McDonalds for lunch. Baby needs to go in her car seat. Let’s sing to the radio. There – I turned the radio off so I can talk to Baby! When the radio is on it is hard to hear what people are saying. Baby can say Mommy, please turn off the radio so I can hear you!
 - Ooh it is noisy in McDonalds – there are many people here. I hear people talking and people cooking the food. I will need to listen carefully when I talk to the lady to give our order. Oh – I didn’t hear you. Let me move a bit closer. Please say that again. I’m sorry, it’s noisy! Can you please say that again?
 - Your [name of noisy toy] is so noisy! I can’t hear what Baby said. Stop the noisy toy – now talk! Stop the noisy toy – now listen!
- **Awareness of listening at a distance challenges and what to do.**
 - The playground is fun. When you are far away I can’t hear you. Come closer to me to talk.
 - Pushing Baby on the swing; when he is near say ‘Get Close to Hear!’ again and again.
 - Coming from another room; as you enter the room say “I am coming Baby!” When you get close to her say “Now I am close to you. Can you hear me? You can hear me!”
- **Responding to questions about his hearing devices** (What are they? Too bad he has to use them.)
 - We love Baby’s hearing aids! They help him to hear and talk. He’s a great listener!
 - We love Baby just as she is. The hearing aids help her so much! She is such a neat kid!
 - He has these great ear computers to help him hear his best. Aren’t they cool-looking!



Language is Caught, Not Taught



In quiet

In noise

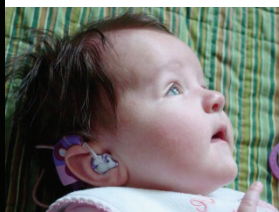
- Most language is learned incidentally, by the child overhearing people talk around him/her.
- A child may turn to sound, but “hearing” versus perceiving enough to really learn language requires that the sound be closer/louder
- A child’s listening bubble will be larger in quiet than it is in noise
- A reduced listening bubble will result in less language being ‘caught’, including the nuances of social communication.
- Families need to pay attention to distance that they are from the child when they are speaking. Keep him or her close (i.e., within 6 feet) whenever possible.

Hearing Aid Wear and Skill Development – Infants and Toddlers

Summary of issues in getting young children to use hearing aids and what families can do

Your Child and Hearing Aids

Keeping hearing devices on your child can be hard – but you CAN do it!

Brain Access Tools- There are 3 predictors of verbal language skill developing (talking) for children with hearing loss. The age at which full-time hearing aid use started is the #1 predictor! This is followed by degree of the child's hearing loss and how much he is exposed to meaningful listening experiences.	Why the Urgency? Why can't hearing aids wait? Brain connections are caused when a baby experiences the world – sound, sight, touch. Before birth, children can “hear” at about 4 months gestation so when a child with hearing loss is born, they are already behind! Auditory stimulation is necessary to develop the pathways in the brain that will lead to learning spoken language.
Why Children May Reject Their Hearing Aids	What You Can Do When Your Child Rejects Hearing Aids
Young Children: (0-4 years) Sometimes there is a physical issue with the hearing aid. The earmold may be creating a sore spot in the ear. It is possible that your child's hearing level has changed and the hearing aids are no longer providing the amount of sound needed for him to hear speech. Ear infections or even impacted earwax may cause discomfort when the hearing aid is inserted each morning.	Young Children: (0-4 years) If it has been a while since the child had a hearing exam, the volume level may not be set appropriately. If the child's ears seem red or bruised, examine the earmolds for rough patches or for a poor fit. Monitor the child for reactions like blinking or wincing with sound, or for missing Ling sounds during morning hearing aid checks. Over- or under-amplification may cause a rejection of the hearing aids. If any discomfort is suspected, consult an audiologist and ENT (ear-nose-throat) doctor immediately.
Infants: (First 12 months)  Infants who have worn hearing aids from birth may begin to try to remove their hearing aids starting at about six months of age. The baby is starting to explore his/her own body at this stage, which includes being curious about the hearing aids.	Infants: (First 12 months) Because hearing aids can often end up in the mouth at this stage, parents must be particularly vigilant to have hearing aid retention accessories in use to prevent small parts from detaching and posing a choking hazard or the toxic batteries used in hearing aids from being swallowed. If a baby takes off the hearing aids and they fall harmlessly out of reach behind his back he will likely forget them quickly at this age. After a minute, distract him with a new toy, your singing or a bit of cereal and once again put the hearing aid(s) in his ears.
Toddlers: (13 – 30 months)  In addition to curiosity and exploration, some toddlers may begin expressing their new-found independence by pulling out their hearing aids. Some parents interpret this as their child ‘not liking their hearing aids.’ This isn't usually the case. At the age of 2 the desire to say ‘no’ is part of normal development – like flexing a muscle. Because taking off hearing aids results in attention from the parents, this interaction can make the hearing aids the object of an intense power struggle	Toddlers: (13 – 30 months) Planning ahead for a slower pace and giving more 1:1 attention to your child during this stage can help. Stay calm and realize that your child is forging his own personality and sense of independence (not “being bad”). Taking advantage of the “me do!” stage to help him learn how to put on his own hearing aids like a big boy/girl can make both of you feel proud. This is the time to instill that he needs to ask you (an adult) to take off the hearing aids (Momma do!); it is not something he is allowed to do (would you let him run away from you when it is unsafe?). Reward him with a hug when he asks to

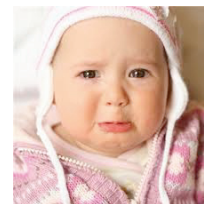
as a way to be sure to get attention. During “the terrible twos” any kind of attention is sought – even negative attention. Negative behavior is often triggered by stress and happens especially at hurried or busy times.	have them removed. This is a good time to think about why he wants them off. Is it too noisy? An earache? Just a plea for your attention? At 2 ½ - 3 you can play the “Is it working?” game by you standing behind him, turning off one aid, the other aid, both aids or neither aid and see if he can tell you “good!” or “uh-oh” and point to his ear.
Preschoolers: (31 – 59 months)  Preschoolers are less likely to take their hearing aids apart out of curiosity. At this age children can be willful, rude and whiny. They have a growing sense of independence and let others know it by refusing to do things (eat, get dressed, go to bed, etc.). Power struggles may become evident over wearing the hearing aids.	Preschoolers: (31 – 59 months) Routines give your child a sense of control over their life because they know what to expect. First we brush our teeth. Then we put on the hearing aids. Then we eat breakfast. No breakfast until hearing aids are on. If the source of the issue is the preschoolers desire to be independent, you can often remedy refusal by allowing him to make simple choices. Having him choose when/if to wear the hearing aids is not an acceptable choice. Choosing to sing a song or listen to a story after they are put on would be a choice where he feels like he wins and you also can provide valuable auditory and language learning time with your child. Having different colors or styles of hearing aid retention accessories for him to choose from may ease the struggles.
First Time School-Age Wearers:  Children who are receiving hearing aids for the first time are experiencing a new (and sometimes overwhelming) sensation. The volume of their world has been turned up in an instant: the brain takes some time to adjust to the increased intensity of sound. They also have to adjust to thinking of themselves as someone who wears hearing aids.	First Time School-Age Wearers: We want children to wear their hearing aids full time within 3 weeks of taking them home for the first time. Think of this the same way you would an exercise program. Start slow and easy (30 minutes 3x a day in quiet). After a few days of increasing time the child can practice listening in noise as well as quiet. By the end of the second week he should be wearing them to school full-time but can turn them down or take them off during a noisy bus ride. By the end of week three, he should be wearing them all waking hours, except when he’s in water. Parents can do much to make children feel as though their “ear computers” are really neat. Play listening games that show just how much bigger the listening bubble is when the hearing aids are worn. Practice different ways he can answer “What are those things?” when asked by peers. Instill in the child that if he is teased it is because the other person does not understand and is embarrassed at not knowing more.

Refer to the downloadable Children’s Hearing Aid Retention Strategies Brochure for further summary of these age-related issues.



Baby Temperament and Wearing Hearing Aids

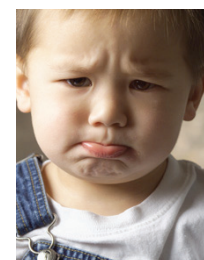
Temperament is how a child reacts to the world around him or her. It's a personal style she is born with, just as much as hair and eye color. Temperament plays a big role during infancy and throughout toddlerhood. Which of these temperament types sound like your baby?



- **Active/squirmy.** Active young babies are more likely to knock out or yank out their hearing aids unintentionally.
- **Predictable.** Always making sure your baby has his hearing aids on immediately after getting up is easier when a baby has a predictable sleeping schedule. Regardless of regularity, you still need to change the baby's diaper! Lay him down to change him. Tickle his tummy, share a smile, and then put the hearing aids on. This will allow him to hear your voice his best while you talk to him during the diaper change and getting ready for the busy day.
- **Interested in new things.** Babies who are interested in something new will be easier to distract with something while you put in the hearing aids. This interest in new things may also drive the baby to explore those things in his ears more too!
- **Adapts easily to change.** Keeping to a schedule to get the hearing aids on to make sure your child can always hear your voice as well as possible will help her handle disruptions or changes. Hearing she and you can depend on will make unpredictable times easier to bear.
- **Easy to distract.** Babies whose focus can be shifted from their unhappiness (i.e., with a pacifier) will be easier to distract out of an interest in pulling out their hearing aids.
- **Touchy about light, texture, etc.** Babies that are sensitive to bright lights, loud noises or scratchy clothes may not like anything touching their skin, including earmolds and hearing aids. Hearing your voice, hearing you sing, hearing the words that label what he is interested in will go far in helping him overcome the sensitivity because your voice is so important to him!
- **Moody.** Whether your baby's basic mood is happy, upset or angry, your child craves your touch, your voice and your care. Although he may pull off the hearing aids when angry or upset, he is mad at everything – not at being able to hear.
- **Laid back.** Subdued or “laid back” babies often are the ones who wear their hearing aids with the least amount of fuss or issues. Extroverted babies want to communicate with you and need you to communicate back – now! Consistent amplification will help manage this need to communicate and not result in desperation over on again/off again hearing resulting in confusion and unmet needs.
- **Persistent.** Babies who play with a simple toy for a long time rather than going quickly from toy to toy may be more persistent in problem solving and learning how things work. This same persistence can be very exasperating when a child continues to pull off hearing aids again and again, long after there is any joy in his or her accomplishment of being independently able to do so.

When you find your baby's behavior frustrating, ask yourself “What is my baby getting out of doing this?”

Avoid the issue of hearing aid removal becoming the one certain thing the child can do to get your attention. Sometimes for a baby, even negative attention is better than no attention. Think of the toddlers that go running across the park or in a store, looking back at their frustrated parent and grinning. Most know that they are doing something that Mommy or Daddy do not like, but feel the need for their parent's total attention!



Attitude is Caught, Not Taught

The behavior of parents sends powerful messages to their children. Your child learns about himself from you, his first and most important teachers.

If you encourage him to hide his hearing aids he will believe that you are embarrassed or ashamed of him. He needs to hear in the store, at church, at community events, etc. Being able to select bright colors for hearing aid cases and earmolds involve him and make him feel good about these neat 'ear computers'.

If he is not wearing his hearing aids at home you are showing that it is okay with you if he does not participate fully in family conversations. This sets up feelings of being ignored or an expectation that it is someone else's responsibility to make sure he understands or get him the information he needs. This creates greater dependence and helplessness at an older age. Without hearing all of the language at home he can't keep up with vocabulary and language learning of other children his age. Weekends are important listening times! Taking a short break is okay (i.e., 30 minutes to read silently), but auditory brain stimulation should continue throughout the afternoon, evening or mornings before school. Minutes not hearing his best at home contribute to growing gaps in learning at school.

If you minimize the impact of hearing loss (*I think his hearing is really okay...*) on his ability to listen and learn, he is learning that you do not like that part of him - the part that needs hearing aids to perform his best in school. And that you reject him for who he is, a child with a hearing loss. And sometimes that he is a bad person for having a hearing loss and to be a good person he needs to pretend that he can hear, even when he is struggling. And finally, he may be learning from you that it is better to be viewed as naughty or not able to learn well than it is for people to think he has a hearing loss.

If you ignore the need to address the hearing loss you are putting your child at risk for being a victim. He does not know what he does not hear which sometimes results in him stating information that makes no sense in the context of what was said or heard by others around him. This makes him seem more different than he would if he could hear/communicate better and can contribute to bullying or greater feelings of not fitting in. Rather than believing the problem is because he has a hearing loss and misheard, your child may grow to believe that there is some reason why he deserves to be treated badly by others, like being stupid or weird. Families are in the best position to help their children be resilient to harassment or feelings of not fitting in by linking instances of miscommunication to mishearing, while reinforcing that the hearing loss makes it more challenging for him, but the issue is only that - not that he is a bad person, incapable, strange, etc.

Your child wants to please you. Too many children **purposely damage** or lose their hearing aids because they believe their parents would rather not have them use the devices or will not really love them if they wear hearing devices. Some children knowingly **choose to become 'the slow student in class'** rather than performing their best with their hearing aids because this is what they believe their parents would prefer them to be.

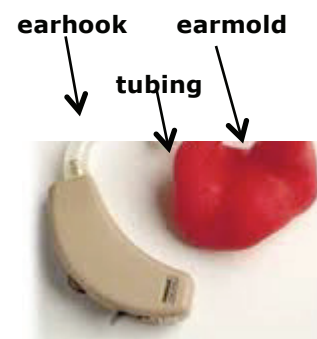
Without family support and acceptance of the child for all of his characteristics and strengths, few children succeed to reach their potential. If your child has usable hearing, the level of educational and/or social success he will achieve is directly related to the number of hours he wears his hearing aids each day. If he doesn't have usable hearing and is a visual learner all of the above applies for children who live in families who learn only a minimal number of signs. ***What future do you want for your child?***

Basic Information on How to Perform a Daily Hearing Aid Check

Ask your child's audiologist to show you how to check your child's hearing aids.

WHY

Your baby's hearing aids are his lifeline to your voice and all the language that occurs around him. When he wears the hearing aids he is growing his brain so he will be prepared to talk and later on to read. He needs to hear his absolute best every waking hour. Taking time off from hearing aids, even for a day, is harmful to his future. Hearing aids can develop problems functioning at any time so you need to check them regularly and often.



HOW

CHECK THE HEARING AIDS DAILY or more often if the child has been in moist conditions or does not appear to be responding to sound as expected.

TEST THE BATTERIES: Battery life begins when the tape is removed from the top of the battery surface. Batteries only last 1-2 weeks when used daily. Because the child cannot tell you when the battery has died you need to check the batteries in the tester provided by your audiologist. Place the battery in the correct size hole, press the red bar and the needle should move into the green or "good" area. If not, replace the battery.



BATTERIES ARE POISONOUS! Seek medical attention right away if a battery has been ingested. Call the 24/7 National Battery Ingestion Hotline at 202/625-3333 and follow their advice. Children and pets may exhibit these symptoms: anorexia, nausea, vomiting and very dark stools.

LISTEN TO EACH HEARING AID: You will soon become skilled at knowing what your child's hearing aid should sound like. Report changes to your audiologist who can test the aid further. Before listening, make sure the aid is "off" and the volume is turned down, if possible. Place the tip of the earmold in the tan colored cup at the end of the stethoset and put the white eartips in your ears. Turn on the aid and turn up the volume until comfortable. Listen for any loud background hiss or scratchy sounds as you move the volume wheel. Jiggle the hearing aid switches and listen for any cutting in and out of sound. Say the sounds oo, aw, ee, sh, s, m and listen to how clear the sounds are. Each sound represents a different pitch range in hearing so clarity of the sounds is critical!



PUT THE HEARING AID ON THE CHILD: A drop of Pro Ear, Tech-Care Ear Gel, or Auragel will help the earmold slide in easily. Turn aid on and increase volume to recommended setting. Say the sounds oo, aw, ee, sh, s, m and watch your child for a response from 6-12 inches and again from 6 feet or at your child's maximum listening distance. Encourage your child to participate in hearing aid listening checks by repeating the sounds.

DOES THE EARMOLD FIT TIGHTLY? If you know the earmold is in the correct position and you hear any feedback (whistling) when the child chews, vocalizes, or moves around, **immediately** make an appointment with the audiologist for a new earmold impression to be made. Babies grow fast and so do their ears! A hearing aid that is whistling is not providing your child with the amount of amplification he or she needs to perceive and attend as well as needed to speech and sounds in the environment.

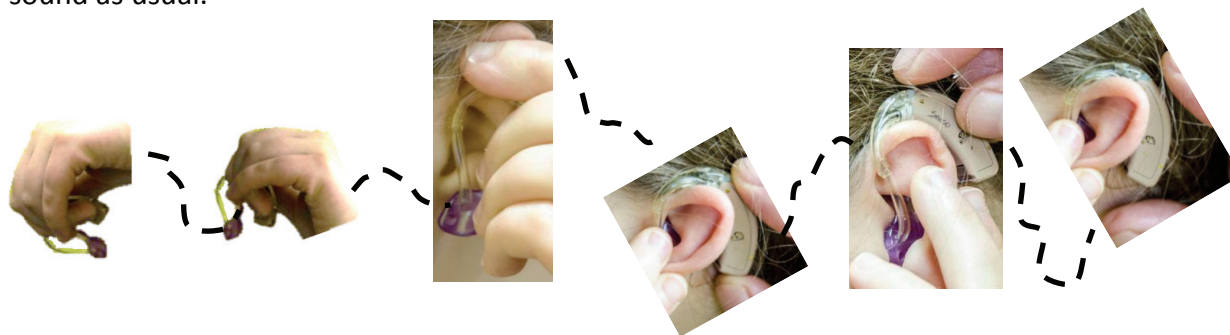
CARE AND CLEANING: Hearing aids should NOT get wet or be in moist places. If you see drops of water in the earmold tubing, remove the earmold and use the blower to dry out the tube. If the earmold looks dirty, clean it with the wax loop tool or remove it and let it soak in warm dishwater. If it looks yellowed or is hard, it is time for new tubing and probably a new earmold too. Earwax will eventually discolor the earmold. Do not boil or use harsh cleaners on earmolds. Let dry overnight before attaching to hearing aids. In a moist climate the hearing aids



should be kept in the DriAid kit nightly. Remove the battery, open the battery door, seal tightly in the DriAid jar. One drop of moisture in the earmold tube or hearing aid can prevent a child from receiving amplified sound.



ASK QUESTIONS: Tell your audiologist or early intervention services provider if your child does not seem to be hearing as well as usual or the hearing aid(s) do not produce the same quality of sound as usual.



VIDEOS

For a printable instruction sheet, video demonstration of checks and troubleshooting go to <https://successforkidswithhearingloss.com/resources-for-parents-of-children-with-hearing-loss/hearing-aids-and-your-child> (bottom) or view the video from: <http://www.youtube.com/watch?v=Ytlh3CXh6Zs>

Inserting Hearing Aids

Grab earmold close to tubing	
Have hand rotated toward noise. Rotate hand backwards “screwing in” the earmold.	
Push earmold into the bowl of the ear and tuck in the top part of the earmold completely.	
Tuck the hearing aid behind the ear.	

Specific Skills to be Taught/Mastered in Early Childhood:

This guide will provide specific information on:

1. How to support families to achieve full-time hearing aid wear for their young children.
2. Guidance on how to assist young children in learning the following skills. The skills can be developed by the family so that the child is ready to perform these tasks in preschool. Additionally, the instruction provided can be adapted for use by preschool teachers to shape demonstrated use of these skills consistently, prior to kindergarten.

Skills to Master by age 3 (or no later than the end of Preschool)
1. When/how to ask an adult's permission before device(s) are removed (through ~ age 7)
2. How to insert earmolds/hearing aids independently
3. How to participate in the Ling sound listening check from close and far
4. How to do self-test (bah, bah, bah, sh, sh, sh) with each device after it has been turned on
5. When/how to report all issues with hearing changes/ hearing aid malfunctions to an adult



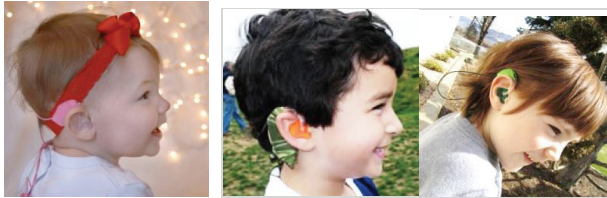
Skill Development and Roles During Early Childhood

Prior to Preschool if Possible, Necessary by Kindergarten			
Skill	Role of the Parent	Role of the Child	Role of the DHH Professional
1	Performs listening check on hearing aids at least daily	Consistent use of functioning hearing aids	Assists family in feeling comfortable monitoring aids.
2	Models language for recognizing and responding to challenging listening situations (self-talk)	Begin to recognize listening challenges and how to respond (foundations of early self-advocacy skills)	Assists family in understanding the importance of using language that describes listening challenges
3	Performs age-appropriate Ling Sound Listening Checks, training child to respond to Ling Sounds	Participate in the Ling Sound Listening Check from close and far	Assists family in learning the different stages of listening checks in early childhood
4	Teach/reinforce the need for an adult to remove the hearing aids – child must ask for help	Ask an adult before device(s) are removed (through ~ age 7)	Provides family with strategies on how to respond when child removes aids independently
5	Routinely says (bah, bah, bah, sh, sh, sh) when hearing aids are put on, actively training child to do same	Do self-test (bah, bah, bah, sh, sh, sh) with each device after it has been turned on	Assists family in ways to train child to shape saying (bah, bah, bah, sh, sh, sh) into really recognizing hearing/not hearing
6	Actively train child to recognize hearing aid on/off, working/not working, practice intermittently	Report all issues with hearing changes/ hearing aid malfunctions to an adult	Assists family in ways to train child to recognize hearing aid on/off, working/not working
7	Actively trains child to put hearing aids on independently; praise all attempts, minimize frustration	Insert earmolds/hearing aids independently	Provides family with strategies on how to train child to put hearing aids on independently



Hearing Aid Retention Accessories Information

Parent Ratings of Hearing Aid Retention Accessories/Strategies						
Based on the results of the Children's Hearing Aid Retention Survey completed by 286 parents (Anderson & Madell, 2012).						
Retention Accessory	Effectiveness	Child Safety	Durability	Ease of Use	Keeps aids on & working	Average of all areas
Ear Gear	1	2	1	2	1	1
Cap	3	1	2	1	3	2
Safe-N-Sound	2	2	3	2	2	3
Wig / Toupee Tape	2	3	9	5	4	4
Oto / Critter Clips	7	8	5	5	5	5
Headbands	9	5	5	9	6	6

Hearing Device Retention Accessory Information		
Retention Accessory	Information	Examples Includes accessories rated by parents in survey.
Ear Gear	http://www.gearforears.com/ Spandex sleeve that slips over hearing device. Has stretch cord and plastic locking clip. Does not block sound to hearing aid. Models for hearing aids, cochlear implants, and BAHA. Models that attach to one or two hearing devices.	
Safe-N-Sound	http://www.getsafensound.com/ Plastic loop slips over hearing device. Can be used with hearing aids, cochlear implants and BAHA. Has poly cotton cord and metal alligator clip. Models that attach to one or two hearing devices.	
Oto Clips/ Critter Clips	http://www.westone.com/ Plastic loop security system, with poly cotton cord and metal alligator type clip. Use with hearing aids, cochlear implants and BAHA. Models that attach to one or two hearing devices.	 Westone Critter Clips Westone Oto-Clips
Wig or Toupee Tape	Tape specifically made for use on skin. Attaches to both hearing device and skin. Must replace tape on a regular basis to maintain security. Use on all hearing devices.	
CAPS Hearing Henry, Hanna Andersson, Hearing Halo	http://hearinghenry.com/ http://www.silkawear.com http://www.thehearinghalo.com http://www.hannaandersson.com pilot cap Cap has ties to cross under chin and tie behind neck, creating security for hearing devices. Use with all hearing devices.	 Hearing Henry Hat SilkaWear Hearing Halo
HEADBANDS Hearing Henry, Hearing Aid Headband	http://hearinghenry.com/ http://www.hearingaidheadbands.co.uk Headbands have pockets for hearing aids to slip into to create security for hearing devices. Use with hearing aids, cochlear implants and BAHA.	 Hearing Henry Headband Hearing Aid Headbands

Information for Families to Consider Regarding Hearing Aid Retention Accessories

Based on the results of the Children's Hearing Aid Retention Survey completed by 286 parents (Anderson & Madell, 2012).

Retention Accessory	Considerations
Ear Gear 	PROS: Flexible cord, allows for full range of head motion. Spandex sleeve over aid protects from mess/damage and from hearing aids being swallowed by infants. Plastic clip to clothing has no sharp edges. Plastic clip is hypo allergenic and has a locking feature to make it extremely difficult for a child to remove. Spandex sleeve increases comfort of device wear; prevents and assists in healing from chafing. Sleeve also diminishes wind noise. Models specifically designed for all kinds and sizes of hearing devices. Comes in many different colors to increase child's interest and pride in wearing hearing aids. Used by children of all ages. Company offers 1 year satisfaction guarantee- returns/ exchanges accepted for any reason. CONS: Some difficulty installing, because earmold must be removed and then reattached
Safe-N-Sound 	PROS: Option with barrette can be effective to discourage child yanking out the hearing aid without causing discomfort when removed by parent. Easy to Install. One size fits all hearing aid and cochlear implant models. Cord comes in many different colors to increase child's interest and pride in wearing hearing aids. Used by children of all ages. CONS: Cord does not flex, possibly limiting range of head motion. Security level varies due to one size fitting all hearing instruments. The Alligator clip has sharp teeth and may pinch child's skin. Clip has nickel content, and can cause allergic reactions.
Oto Clips/ Critter Clips 	PROS: Low cost, easy to install solution. One size fits all hearing aid models and implants. Cords come in many colors, and some models are available with cute animals on the face of the clip - encouraging small children to wear their aids. Used by children of all ages. CONS: Breaks easily / Not very durable. Security level varies due to one size fitting all hearing instruments. The Alligator clip has sharp teeth and may pinch child's skin. Clip has nickel content, and can cause allergic reactions.
Wig / Toupee Tape 	PROS: Good short-term strategy. Tape does not require much of a 'tug' to remove hearing aid, but is helpful in preventing dislodging when child is just starting to use his hands to explore or when the device is large/heavy for the child's ear. Used primarily when child is young. CONS: The tape discourages child from pulling the hearing aid off due to possible discomfort when removed – by child or by parent. Child could learn to shy away from hearing aid because it is not comfortable when it is removed. If used frequently, tape can be expensive over time.
Cap 	PROS: Effective at discouraging toddlers from yanking hearing aids off. Washable and durable. Ties need to be long enough to cross in front of neck and tie behind. Some caps fasten securely under neck via Velcro. Discontinue after toddler 'yanking' phase subsides so child can practice putting on hearing aids (should be independently putting hearing aids on by age 3). CONS: Not all caps allow the full sound signal to reach the ear. Warm for summer or southern climates.
Headbands 	PROS: Especially effective for bone conduction hearing aids (BAHA) and keeping cochlear implant processor in place near the ear, when it is too large to fit comfortably on the baby's soft ear. Versions with flaps to tuck the hearing aids into are more effective at keeping the batteries and hearing aids safely out the child's mouth. Comes in different colors/patterns to increase interest and pride in wearing hearing devices, especially for girls. Used mostly by infants and young children (BAHA users may continue). CONS: Can be dislodged when a child is lying down.

0 – 9 MONTHS

Baby Development and Wearing Hearing Aids



0-6 MONTHS

Baby Development and Wearing Hearing Aids – different issues at different ages!

Early Infancy – 0-3 months

At age 0-3 months, babies are not yet actively exploring and are very unlikely to remove their own hearing aids.

- For this reason it is “safe” to allow your child to nap with his hearing aids on or even have them on 24/7. Although you will go through hearing aid batteries more quickly with the hearing aids on all the time, the benefit will be that your child will be able to better hear you as you call to him (*“Mommy’s coming! It’s okay!”*) than if he wasn’t wearing his hearing aids.
 - One important downside is possible moisture build-up in the earhook and earmold tube, especially in warm climates. This will require that you blow out the tubes with a hearing aid blower or put the hearing aids in a Dri-Aid storage container overnight.
- Your audiologist should have provided hearing aids with feedback control so that the hearing aid will not whistle if he is lying with his head to one side. If you do hear the aid whistling, it may be because the baby has unintentionally knocked it out of his ear.
- It is possible for the hearing aids to come out of soft ears when bumped, especially if the baby has gone through a growth spurt and is outgrowing the tight fit of the earmolds. You don’t want to take *any* chances with swallowing hearing aid batteries or damaging a hearing aid from having it in the baby’s mouth. It is important for you to use a hearing aid retention accessory (e.g., Ear Gear) that keeps the loose hearing aid out of reach of the baby’s mouth but safe and easy for you to find, even in the dark.
- At this point in development a baby may “startle” if you put on a hearing aid and a loud sound occurs. Always talk softly at first, sharing your voice and a happy expression knowing that he can now tune into your voice better.
- With the exception of being surprised by a loud sound, your baby should not cry from using the hearing aids. It should be pleasurable for him to hear your voice better. If the hearing aids are new or were newly adjusted and he cries when you put them on, you will want to check with your audiologist to make sure that they are properly adjusted, the volume is correct and the earmold fit is appropriate.



4-5 MONTHS

At about 4 months of age babies can begin to pick up objects and put them in their mouths.

- You should have a lock on the battery drawer of the hearing aids to prevent any possible tragedy when a baby swallows a hearing aid battery.
- There should be a hearing aid retention accessory in place to prevent the child from getting the hearing aids to his mouth if he knocked one out of his ear.
- He may be turning to try to locate sounds (i.e., turning to voices from one side or the other).
- You will want to discontinue hearing aid wear at night above age 3 months. As the baby's actions are not intentional at this age you may consider continuing hearing aid wear while she is napping if you are certain that the hearing aid retention accessory will prevent her from putting the hearing aid in her mouth.



WHY DO I NEED TO CHECK THE HEARING AIDS EVERY DAY?

- Even the tiniest bubble of moisture in the earhook or earmold tube can block sound from getting to your baby's ear – **look often**
- Hearing aid batteries usually last 1-2 weeks, but sometimes you can buy a package of batteries from the store that have a shorter life than usual – **test daily**
- Hearing aids are actually tiny ear computers. Daily use by your active young child could cause one of the components to come loose, causing motor boat sounds – **listen daily**
- Dirt in the environment, mixed with moisture can gum up controls, sometimes causing scratchy sounds – **know what your child's hearing aids SHOULD sound like!**

If for any reason your child doesn't seem as 'with it' as usual, check the hearing aids!



Performing the Ling Sound Listening Check

Listening to language is only effective if your child's hearing aids are actually working. You **KNOW** this by how he responds to your voice and sounds around him. The Ling Sound Check is a quick way to make sure that your child is able to hear low, middle and high pitch speech sounds, all of which are necessary if he is to "catch language" as readily as possible. Eventually you will want to be sure he is receiving all the Ling Sounds from close (3 feet) and far (8-10 feet). How well your child hears at a distance will depend on his hearing loss and how well his hearing aids allow him to perceive speech.

What is the Ling Sound Listening Check? Video: <http://www.youtube.com/watch?v=fFnFvWu5mJo>

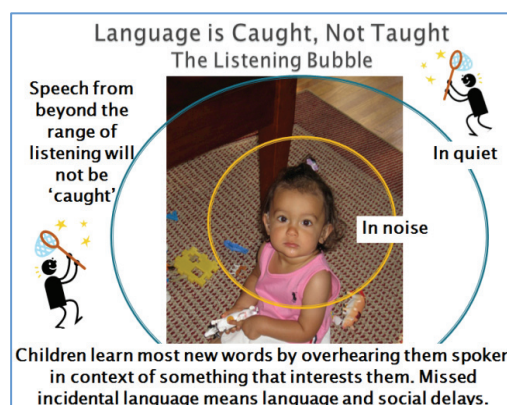
The Ling Sounds are:

- | | |
|----------------------------------|---|
| -ah- as in sock | -m- as in mmmmm, yummy |
| -oo- as in you or boo - | -th- as in thumb (used especially for children |
| -ee- as in me or eek | who are listening with a cochlear implant) |
| -sh- as in shhh, baby's sleeping | who are listening with a cochlear implant) |
| -s- as in sssippy cup or snake | -quiet- this trial is included to see if the child is |

When do I start the Ling Sound Listening Check?

The first step is detection.

The Early Listening Function (ELF) checklist provides ways family members can make sounds in the child's environment, at different distances and then watch for a response. Wait for about 10 seconds and then present a sound and don't let him see your face as you say the sounds. The ELF listening activities can start about 3 months and children can reliably turn to a sound at about 5-6 months.



Download the ELF from https://successforkidswithhearingloss.com/uploads/ELF_Questionnaire.pdf

Read the introduction on how to perform the ELF Listening Activities. With the ELF you will not only be observing your baby for responses to sound, you will also be learning the size of his "listening bubble." Your child will only learn the language presented within the listening bubble. As you will find out, the size of the bubble is smaller in noise and when your baby is not wearing his hearing aids.

Being Raised in Noisy Settings can Cause Slower Learning

Information from the article, Effects of Noise on Young Children: Study of Child Care Centers (<http://www.designshare.com/research/lmaxwell/noisechildren.htm>) found that children with typical hearing cared for in noisy settings never 'get used to' listening in noise and may have effects in attention, memory and learning. Children with hearing loss are even more affected by noise. Refer to the downloadable handout *Welcoming the Child with Hearing Impairment into Childcare* for basic information to share with your child care provider.

6-9 MONTHS

Baby Development and Wearing Hearing Aids – different issues at different ages!

6-9 months

At about 6 months babies discover their feet and hands. They have the dexterity to use their hands to swipe intentionally against their ears. They won't intentionally remove their hearing aids at this age but they may intentionally explore their ears with their hands, which can dislodge the hearing aids.

- Tightly fitting earmolds will help prevent the baby from easily knocking the hearing aid out of his soft ear. Babies need to have their earmolds replaced every 3-8 weeks when very young.
- Teething will also cause babies to put objects in their mouths, so having toys for chewing readily at hand that will satisfy the urge to bite or chew will reduce the chances of trying to use a hearing aid or earmold as a teething toy.
- The hearing aids should have retention accessory in place that covers the hearing aid and prevents moisture from getting in the parts.
- Closer to 6 months of age, if you see your baby swipe at his hearing aid with his hand it is very unlikely that he is intentionally trying to remove it. He is exploring what he can do with his hands and feet during this period. If your baby is a “good sleeper” and you have an established nap routine he *may* still be able to wear the hearing aids during naps, as long as you pay attention to his “waking up sounds” and get him up before he is fully awake and bored enough to explore his ears.
- Due to potential choking hazards, battery consumption and damage, it is not recommended for any child with a developmental age of 6 months through toddlerhood to wear hearing aids when they are not awake and supervised.
- Closer to 9 months of age your baby may be “on the move” and enjoying the ability to yank, pull, grab and push. He may grab a hat off his head or work very hard to take his bib off. If he can get his fingers between his skin and the hearing aid he may successfully pull off his hearing aid. Again, make sure that a hearing aid retention accessory is in place that will prevent him from putting the hearing aid in his mouth and that battery drawers are locked. It is also wise to use an accessory that covers the hearing aid and prevents moisture from getting into the parts.
- **How you react when he pulls off his hearing aids at this age is important.** He has learned a new skill! He has found that he can change his own world! It is an exciting time for him and he deserves your praise. It is fun to practice these skills by playing “All Gone” by putting a blanket or cloth diaper over his head/face and applauding when he pulls it off (“There he is!”). If he pulls off his hearing aids smile, calmly say “Hearing aids on! Baby can hear mommy now!” and then distract



him with another on/off, yank to/fro, peek-a-boo kind of activity. He just learned something new – be sure to use language to describe what he is doing. Again, he is not intentionally pulling off his hearing aid – he is just practicing making changes to his immediate world. Avoid responding with no-no or uh-oh as the intention is to practice the ‘taking off’ skill and not to remove the aids willfully.

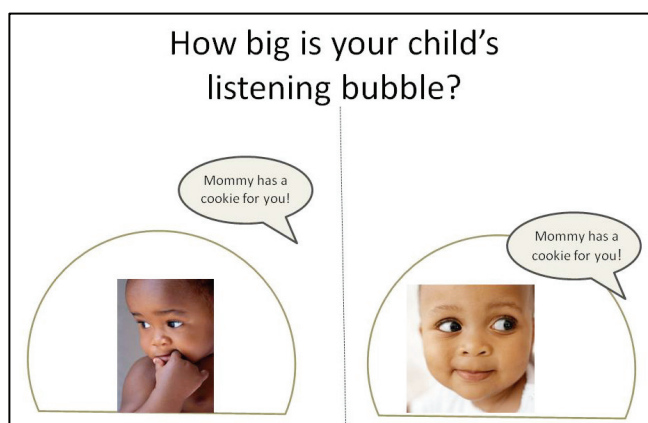
- With consistent hearing your child will be better “bonded” with you and life will seem predictable. When he cries and he can hear you coming to tend to his needs. If you say “no” when he reaches toward something dangerous or dirty he can hear you – life isn’t a series of scary instances when a loved one has an angry face and swoops him up for no reason.
- During the first year it is common for children to learn that wearing hearing aids means being “closer” to mommy and others he loves. This is demonstrated by his looking sad or becoming upset when you take the hearing aids off. Be matter of fact: When it is time for baby to sleep it is time for the hearing aids to go into the “hearing aid house” so they can sleep too!



Imagine being a 9 months old and crawling. You see a houseplant in the corner of the room and want to explore what it is. Mommy is on the other side of the room. As you start to crawl toward the plant, she sees where you are going and says “no, no – we don’t touch plants.” Her voice isn’t angry. You know the words no-no and she has now linked no-no to the plant. You consider other places you can crawl.

Contrast this with not being able to hear Mommy tell you no-no. You continue to crawl toward the plant. She sees you disregard her warning and may tell you no-no again. You are now farther away and can’t hear her voice at all. Suddenly Mommy picks you up. She has an angry face and voice. You don’t know what you did wrong and you’re scared.





Performing the Ling Sound Listening Check

6-9 months

The first step is detection.

- When you place the hearing aid in the baby's ear, say "Bah, bah, bah, sh, sh, sh – it's working! Yeah!" Repeat when you put on the other aid. You are modeling a hearing aid self-test that your child will need to learn to do before age 3 or at least before kindergarten.
- At 6-12 months you can say one of the sounds at a normal loudness and watch for the child to turn or otherwise alert to the sound. Say the sound for about 3-5 seconds. Present each sound individually, in random order, over 3 days (example in chart below). Interrupted sounds, like sh sh sh sh are more interesting than just a single presentation - shhhhhh. Present more than one of the Ling Sounds. It isn't necessary to present them all if he is squirmy and not attentive. Listening time should be fun!

Day 1	oo	ee	m	aw	sh	s
Day 2	sh	aw	m	ee	s	oo
Day 3	m	oo	s	ee	sh	th

- Vary the timing between the presentations so it isn't predictable. Your mouth should be about 8" (about the length of an ink pen) from the baby's hearing aid microphones. It is best to present the sounds when it is quiet and he is not watching you (sit beside or behind him). If he is too interested in playing with something he may not respond. Once he detects the sound by turning, looking at you, smiling, etc., repeat the sound and then say something like "Great listening! You heard me say /ee/!"
- She should realize that you think she is *amazing* for responding to the sounds!
- Once she has shown that she can respond to the Ling Sounds at 8 inches, start to increase the distance you are away from her hearing aid microphones. The goal is for children to hear these speech sounds spoken at a typical speaking loudness at a conversational distance with one person (3 feet), two people (6 feet) and even at a distance of 9-10 feet (conversation between more than 2 people and important for catching incidental language).



9 – 18 MONTHS

Baby Development and Wearing Hearing Aids



9-18 MONTHS

Baby Development and Wearing Hearing Aids – different issues at different ages!

9-18 months

Refer to Appendix C for information on hearing aid retention accessories

Becoming mobile and communicating (verbally) both typically start during this period. It may seem like your child is getting into everything.

Temperament plays a big role during this period and throughout toddlerhood. It isn't unusual for babies of this age to go through a "yanking off the hearing aids" stage.

It is an especially important time to consider what the baby is getting out of the action of taking off the hearing aids. Is he learning a new skill? Is he trying to get your attention? Is he trying to get you to do the fun thing you did last time he took out his hearing aid?

Babies CAN and DO learn at this age and they know that they prefer to do something that they get praise for rather than something that gets no reaction. Try to respond with "I like it when you..." statements, rather than "Don't!" For example, "The hearing aid stays on. I really like how you can now take off your sock, all by yourself! What a big boy!"

- During this period of ramped up activity, the hearing aid retention accessories you have been using may not be enough to keep him from pulling out a hearing aid. Many families use different retention strategies or use two strategies together.
- Whatever you choose to do in response, be calm and try to control your facial expression so that it is neutral. It is likely your baby is going through a stage where he is learning to control his environment and is "testing the waters" in a variety of ways. Cause and effect is learned through much experimentation! **What you don't want the baby to learn is to associate the hearing aids with your anger, as this may ultimately make him want to avoid them.**
- Some families have used a cap with ties over the child's hair and ears during this period. A cap is most effective when it has ties long enough to cross under the chin and tie behind the child's neck. For a video: <http://www.youtube.com/watch?v=wFHwtXz5ir4> Another option may be [mittens over the child's hands, especially during times in the car or stroller when you cannot easily watch her.](#)

Starting by 9 months of age it is important for parents to consistently reinforce "only mommy or daddy takes hearing aids off – not baby".

There is too much at stake (language learning, safety of hearing your warnings, potential damage to hearing aids) for a young child to be the one to choose to remove the hearing aids. You wouldn't let him choose to not wear a diaper or clothes, especially when it could be harmful.

Your child missing out on auditory stimulation IS harmful to his brain development. "Taking a break" from wearing hearing aids for a morning, day or weekend, is just setting your child further behind in developing a brain that will process speech and all sounds effectively. Birth to age 3 is MOST critical for brain development and requires consistent hearing, all day, every day.

If your child wants only one hearing aid off and fusses to an unusual degree when you put it on it may be that he has developed an ear infection or that the hearing aid is not working properly. If the hearing aid appears to be working fine, watch your child's behavior to decide if you need to bring him to the doctor or audiologist.



- Other families try a combination of their hearing aid retention accessory and wig/toupee` tape on the back of the hearing aid (tape designed to stick on skin). It makes it harder to pull of the aid easily and also gives a “pull” that may feel uncomfortable but not hurt. Each time the hearing aid comes off the tape needs to be replaced, taking more expense and a bit more time.
- Depending upon your child’s temperament, you may appreciate knowing solutions other families have found that work during the short term while your child is actively in his “yanking off the hearing aids” stage. Solutions that follow, with a painful outcome, should be used only minimally if at all. A solution suggested by some parents is to put a Bandaid from the child’s cheek over his hearing aid to stick into his hair. When he pulls of the hearing aid he pulls hair! Ouch! Another option for girls would be to clip the cord that attaches to the hearing aid retention accessory into a barrette in the child’s hair. This has the same result of pulling hair when the hearing aid is yanked off. Wearing a cap for a few weeks may help you persevere through this stage without having to resort to solutions with painful side effects.
- Having the child in a stroller or back seat of a car is an unsupervised time that is ripe for little fingers to get busy with hearing aids, no matter what the hearing aid retention accessory used. The extra challenge in these situations is that your child is not facing you, is several feet away and it is noisy – all of which makes it more difficult for him to hear you. No wonder he gets bored and starts to explore his hearing aids! Busy families often spend a considerable time in the car as many children with hearing loss have siblings who need to be taken to lessons, practice and other activities. Addressing the challenge of keeping hearing aids on in the car is a must for most families.
- A terrific solution is for you to use an FM system where the parent wears a microphone that transmits a signal to a small receiver attached to the child’s hearing aids. This allows the child to hear the parent’s voice as though they are only a few inches apart. The FM system helps to overcome the “lost listening” from a distance or in noise. Outings to the grocery store, park, or even at home are much more successful from a language stimulation point of view because the baby can be “tuned in” to Mommy even if she is more than a few feet away. An FM system is also helpful to use at home when the child is older and you want to call him in from playing outside or if she is on her bike in front of the house. For more information on use of FM with infants go to http://www.phonakpro.com/content/dam/phonak/b2b/Pediatrics/campaign_2010/dynamic_fm/brighton_2008_linda_thibodeau.pdf



- For a non-technical solution to unsupervised time in the car, family suggestions include:
 - strap the child into the car seat and then placed a blanket or towel around the seat and over his arms, using a strip of Velcro to keep it in place
 - place inflatable “water wings” over the child’s elbow/upper arm that prevents her from reaching her ears
 - place a tube from the shorter size of Pringles chips over each elbow.
 - put mittens on the child during times when you cannot easily watch him.



Busy toddlers typically do not like being retrained and they may complain loudly! Again, these solutions should be used in the short term, each time with great praise for the hearing aids still being on when you get out of the car or stroller.

- Some families have had success by making car-time also singing-time. This is especially effective in those situations where the child has been exposed to various songs and his favorites can be sung in the car by the parent and/or siblings.

He took his hearing aids off AGAIN!

Whatever you choose to do next, be calm!

Try to control your facial expression so that it is neutral. Avoid an angry expression but then again do not smile. Taking off hearing aids is not “cute.”

It is likely your baby is going through a stage where he is learning to control his environment and is “testing the waters” in a variety of ways. Cause and effect is learned through much experimentation!

What you don’t want the baby to learn is to associate the hearing aids with your anger (“Mama doesn’t like me when I have hearing aids”) and this may ultimately make him want to avoid them.

Try to respond with “I like it when you...” statements, rather than “No, no bad boy!”



Performing the Ling Sound Listening Check

9-14 months

The second step is imitation.



- **This step is in addition to the “say then observe” activities used when the baby is younger.** By the end of the 7th month, typically developing babies respond to sounds by imitating with their own and sounds. *If your child has very little hearing, even with hearing aids or has not worn hearing aids all waking hours, these early imitation skills are likely to be delayed.*
- Once your baby is trying to imitate your speech sounds, start to say the Ling Sounds to him. Smile a lot and include tickles and other ways to make sure this is a fun game. For a video of a baby voicing back when he hears a sound go to: <http://www.youtube.com/watch?v=n6Hplstbrug>
- Be behind/beside him as you present the sounds to make sure he is using his ears more than his eyes. **Each time he responds, point to your ear. When he starts to point to his ear, praise, praise, praise him for hearing the sound!**
- His imitations will NOT be exact. Even a child with typical hearing may not clearly the say /s/ sound until he or she is in kindergarten so do not expect your young child to imitate you perfectly! Over time and with practice the child’s sounds will become more similar to yours. Refer to the Speech Skill Production chart for more information about age expectations for speech sound production.
- The important thing is for you to see him respond to sound and to gradually train him to point to his ear as a sign that he heard the sound. Imitating is the icing on the cake! It still does not prove that he understands the sound, even if he can repeat it.
- Make sure you include silent or quiet presentations. Use different distances.
- He will tire quickly of the game so mix up the presentation of the Ling Sounds so during a week they all get presented when the baby is ‘fresh.’
- Pay attention to whether there are any sounds he does not respond or if there are more presentations required before he responds.
- You are the expert on how your baby responds to sound. By practicing the Ling Sound Listening Check at this early age you are gathering very important information about how much the hearing aids are really helping your child perceive speech. Be sure to share the results of your observations with your child’s audiologist and early intervention teacher.



Considerations when conducting the Ling Sound Listening Check:

Do not let the child see you.

Speak at a normal loudness level.

Vary your distances, start close then go to 3 feet, 6 feet, and 9-10 feet.

Do not present the sounds in a rhythmical fashion, or else the child will begin to anticipate the sounds and may give you false responses (guessing).

Present them in a mixed order each time.

Every parent who has a child with hearing aids or a cochlear implant should administer this test on a daily basis.

Just make it part of your morning routine.

AGE	SPEECH PRODUCTION SKILLS - English (typically hearing children)
0 to 3 months	Produce vegetative sounds like cough, sneeze, burp. Coo vowel sounds such as “oooo” and “aaah”. Produce sounds like a gurgle. Makes sounds in response to parent’s speech.
3 to 6 months	Babble repetitions of consonants and vowels (e.g., “ba,” “nuu”). Produce squeals, growls, raspberries, and trills. Produce repetitive babbling infrequently (e.g., “ba-ba-ba,” “nuu-nuu-nuu”). Produce change in pitch level during sound making.
6 to 9 months	Produce repetitive babbling frequently (e.g., “ba-ba-ba,” “nuu-nuu-nuu”). Imitate adult-like intonation patterns (e.g., “uh-oh!”). Imitate vocal sounds produced by an adult (tries to copy what parent says). Produce at least two identifiable consonants (e.g., p, b, m).
9 to 12 months	Produce one syllable consonant-vowel combinations (e.g., “ma”). Use sentence-like intonation patterns (e.g., babbling sounds like questioning, exclaiming). Produce and imitate sounds and correct number of syllables. Imitate non-speech sounds (e.g., “moo,” “meow”).
12 to 18 months	Use mostly these consonants: b, d, m, n, h, w. Use sound sequences (e.g., da, dad, dada, ad) in words. Imitate adult’s speech patterns in words and phrases. Imitates most words.
18 to 24 months	Use p, b, t, m, n, w, h, at beginnings of words and p, t, k at endings of words. Make questions using intonation patterns like adults. Imitate two- and three-word combinations.
24+ months	Use some two syllable words, usually with both syllables being the same. Use sound sequences (CV, CVC, CVCV, VC c= consonant/v=vowel) in phrases. Use some consonant clusters (e.g., “blue,” “bread”) with imperfect production of one of the consonants. Produce f, s, sh at the beginning of words, and p, k, d, m, n, l, w at the beginning and end of words.

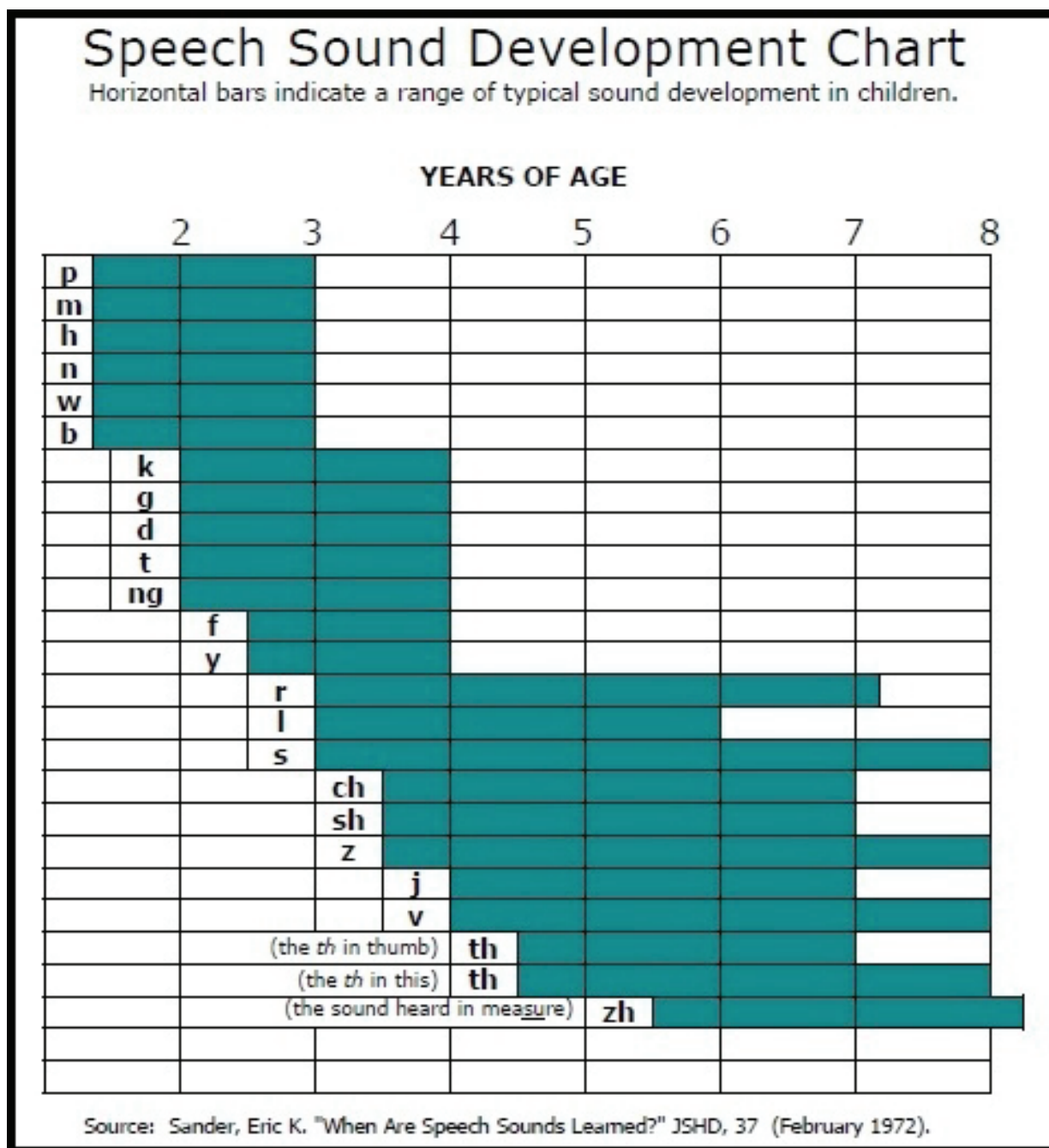
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AGE	SPEECH PRODUCTION SKILLS - Spanish (typically hearing children)
0 to 3 months	Vowel like babbling.
3 ½ to 6 months	Vowels: /a, o, e/; Initial consonants: /g, k/ during cooing, then /m, d, n/
6 ½ to 9 months	New consonants: /p, t/
9 ½ to 12 months	Consonants /m, p, t, b/ used frequently; Vowels: /a, e, i, o, u/
12 ½ to 18 months	Use all vowels; Consonants: /d, f, nj, b, g, j, k, m, n, p, t/
18 ½ to 24 months	Good production of /p, b, m, n/ Fair /f, x, s/ Poor production of: /t/, l, r, R, h/
36 to 43 months	Good production of: /f, j, ai, ou, au, k, g, s, t/ Fair production of: /r, nj/
48 to 59 months	Good production of /j, f, s/.

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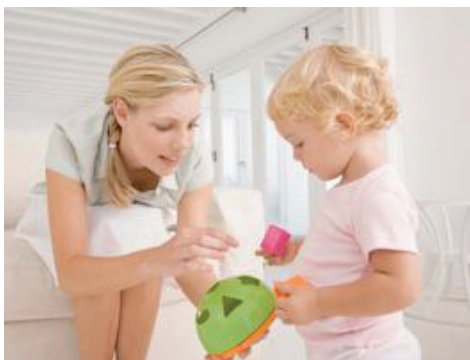


Performing the Ling Sound Listening Check

The third step is identification.

14-18 months

- You should continue to be saying “bah, bah, bah, sh, sh, sh – it’s working! Yeah!” as you place each hearing aid in the baby’s ears. Remember, you are modeling a hearing aid self-test that your child will need to learn to do before age 3. Now that he is 14 months old, encourage him to say “bah, bah, bah, sh, sh, sh” with you and you both can clap when a hearing aid is put on.
- Between about 14-18 months of age you can start playing the “game” of getting the child to put a ring on a stack (a chip in a bucket, a cheerio in his mouth, etc.) every time he hears you say one of the Ling Sounds.
- Start with getting one or two responses before your baby tires of the “game”. Try to play the game every day, making it special time just for the two of you and much praise should be given when he responds. He is still a baby and there will be days when he really listens and responds well and other days when he cooperates little.



- Use an activity that he likes. Babies get bored easily so it works best to try different “putting something into something else” types of activities (e.g., a block into a bucket). Develop the behavior of intentional listening by getting his attention and then say “Listen” and point to your ear as you say a Ling Sound (sometimes with a toy in front of your mouth). Wait a moment and then, hand-over-hand, do the activity and praise your child. This is fun!

- At this point you are not expecting him to tell the difference between sounds. All you want to determine is if/when he hears one or more of the Ling Sounds. It continues to be important for you to use quiet trials and also to not allow him to see you as you present the Ling Sounds.
- If you continue to work on this skill regularly your child should be able to know what is expected and respond fully, at least some of the time, by 18-24 months.
- For a video showing a two year old performing the Listening Check go to:

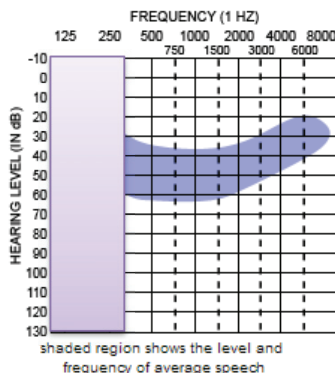
<http://speakingofkids.blogspot.com/2012/06/ling-6-sound-test-overview.html>



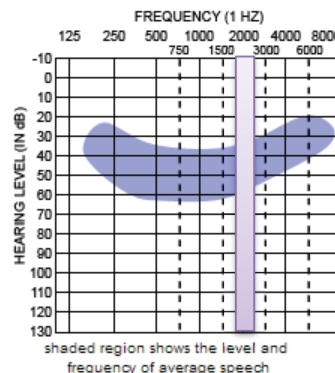
He isn't responding to all of the Ling Sounds! What can it mean?

The Ling Sounds represent different bands of hearing speech sounds on the audiogram.

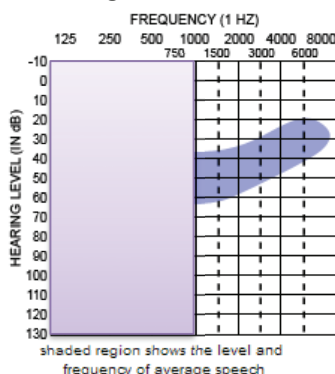
Absence of **/oo/ and /m/** indicates issues perceiving sound below 300 Hz



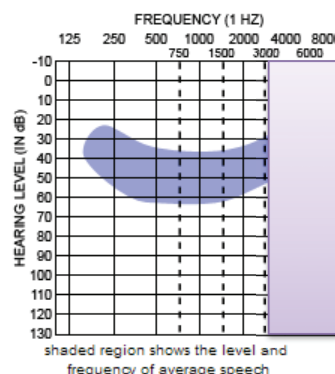
Absence of **/sh/** indicates issues perceiving sound at or around 2000 Hz



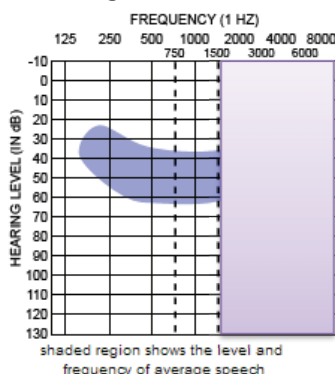
Absence of **/ah/ and /oo/** indicates issues perceiving sound below 1000 Hz



Absence of **/s/** indicates issues perceiving sound above 3000 Hz



Absence of **/oo/ and /ee/** indicates issues perceiving sound above 1500 Hz



The purple areas on these audiograms correspond with portion of the speech range included in each of the Ling Sounds. If your child is missing one or more of the Ling Sounds, he will be missing parts of the range of hearing for speech sounds. This will likely have some effect on his or her language development and eventual readiness for reading. Talk with your child's audiologist about ways to maximize the amount of speech sounds that your child hears.

Any errors when responding to the Ling Sounds that are not typical of a child's normal performance should be considered significant!

http://www.sdsiha.org/uploads/Ling_6_sound_check.pdf

18 – 24 MONTHS

Baby Development and Wearing Hearing Aids



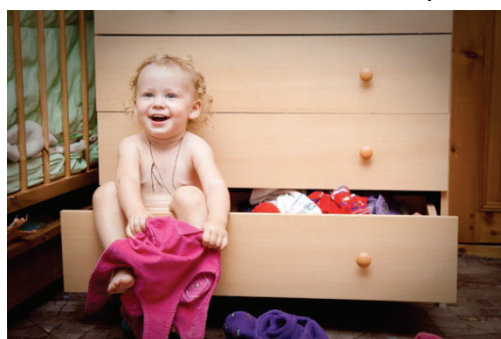
18-24 MONTHS

Baby Development and Wearing Hearing Aids – different issues at different ages!

18-24 months

Refer to Appendix C for information on hearing aid retention accessories

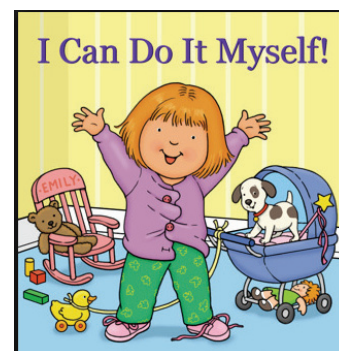
During this period and up to age 3, a child is actively working toward independence. When an infant is under one year is he totally dependent on his parents. During the second year, the exploring toddler, with the encouragement of parents, learns to do many things independent of parents (“I do it myself!”). The most mature stage is typically reached between 2-3; “We do it.” The child has the drive to accomplish a feat by himself but has the wisdom to ask for help to do it better.



- At about 20 months many children are learning the skill of undressing. It is a common age for the child you left quietly playing on the rug to have totally stripped and now be naked when you check on him just a couple of minutes later. Taking off hearing aids can be part of his “undressing practice.” The child is not willfully removing the hearing aids because he does not want to use them. He is practicing the skill of removing everything on his body.

- This stage will take extra time and patience. It is suggested that a time (up to 30 minutes) be allowed before nap/bed times for the child to practice undressing. Once he accomplishes this feat to the best of his ability, praise him and then lovingly put his hearing aids back on and dress him. The novelty of his newfound undressing ability will soon wear off, only to be replaced by toddler independence.

- Find an activity that the child loves, such as reading a book with you, watching a favorite video or playing with Playdoh. Explain to him that the activity will only continue as long as the hearing aids stay in place .
- Be persistent. Toddlers must learn that wearing the hearing aids is non-negotiable. Unless you suspect that he is in pain (i.e., ear infection, broken hearing aid), ALWAYS replace them if they have been pulled out. The behavior will eventually stop.
- The “ME DO!” stage is the time to help him learn to put on his own hearing aids. It will take patience, time and practice for him to develop the fine motor skills to do this for himself. He should be independent in his ability to put hearing aids on by age 3.



<http://psychcentral.com/lib/2007/whats-your-babys-temperament/>

<http://www.askdrsears.com/topics/attachment-parenting/helping-toddler-ease-independence>

<http://leahlefler.hubpages.com/hub/Hearing-Aids-in-Children-Adjusting-to-Hearing-Aids>

Only Mommy or Daddy Do!

It continues to be very important for parents to consistently reinforce “only mommy or daddy takes hearing aids off”.

If he is fussing with the hearing aids, model how he can ask you for help. (“Mommy, hearing aids out please.”) Approach this from the standpoint of “Of course he wears the hearing aids all the time, but sometimes he may need help if there is a problem.”

When he asks you for help, take off the hearing aid(s) and look for any redness in his ear that could mean that he is having ear pain. Consider if it is noisy around him and if he is just overwhelmed.

If you think he wants them off because he is tired that is good as taking off hearing aids should only occur when he is going to bed or into the bathtub.

If there is no obvious issue, put the aids in and reward him with a special song or reading a story that he wouldn’t hear well without the hearing aids.

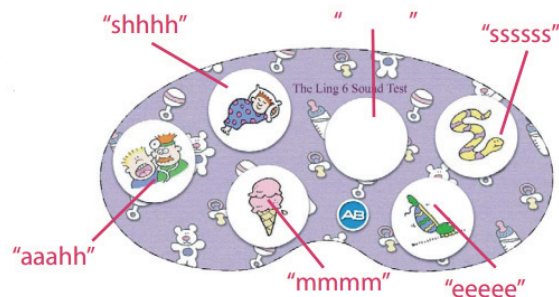
Performing the Ling Sound Listening Check

The final level is discrimination.

- With dedicated practice, many children with hearing loss can identify the Ling Sounds by the age of 3, sometimes as early as just after the second birthday.
- Initially, it will be most successful to use real objects or toys to represent each of the Ling Sounds, with pictures of each to use once the child understands the link between the sound and object/picture. For a video showing using real objects go to: <http://www.youtube.com/watch?v=Y-mw6e3qDrg> or the end of <http://leahlefler.hubpages.com/video/How-to-Put-in-a-Childs-Hearing-Aid>
- It is important for you to relate the Ling Sounds to important people or items in the child's environment. There are three examples that follow including one of how you can take photos in your home and make a series of "Ling Sound Cards" to use with your child. Use only one-syllable words. When you do the Listening Check you will present only the Ling Sound, not the actual word (i.e., say *ooo* instead of *you*).

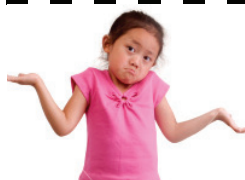
For most children with hearing loss the /s/ and /th/ can be very hard to hear. It isn't uncommon for the /s/ and /sh/ sounds to be hard for children with hearing aids to tell apart even if they do respond that they hear them. Differences between these sounds may be inaudible or very subtle.

- Young children are overwhelmed if there are too many choices. As you begin to teach the Ling Sound Listening Check to your child, use only two cards at a time. Hold the card next to your face and say the Ling Sound. Do the same with the next card. Repeat. Then put the cards in front of the child and give him a toy to set on top of one or the other (or drop the correct card into a bucket, or any other similar activity). Again, say "Listen" and then produce the Ling Sound. Downloadable Ling Sound cards can be found at <http://www.cochlear.com/files/assets/Ling%20cards.pdf> or a Meal Mat with Ling Sounds can be found at (shown below) http://www.hearingjourney.com/userfiles/File/mealmats3_18UP.pdf



It will take him awhile to associate the sounds to the cards/pictures. Once he can do the different pairs of two cards then make a set of three. He may be close to three years old before he can do the Ling Sound Listening Check with all 8 cards.

For a video showing a two year old performing the Listening Check go to: <http://speakingofkids.blogspot.com/2012/06/ling-6-sound-test-overview.html>

	Photo of baby	Photo of Mommy	
AH	Y[OO]U	M[EE]	SHHH
			
SSS	TH	MMM	QUIET

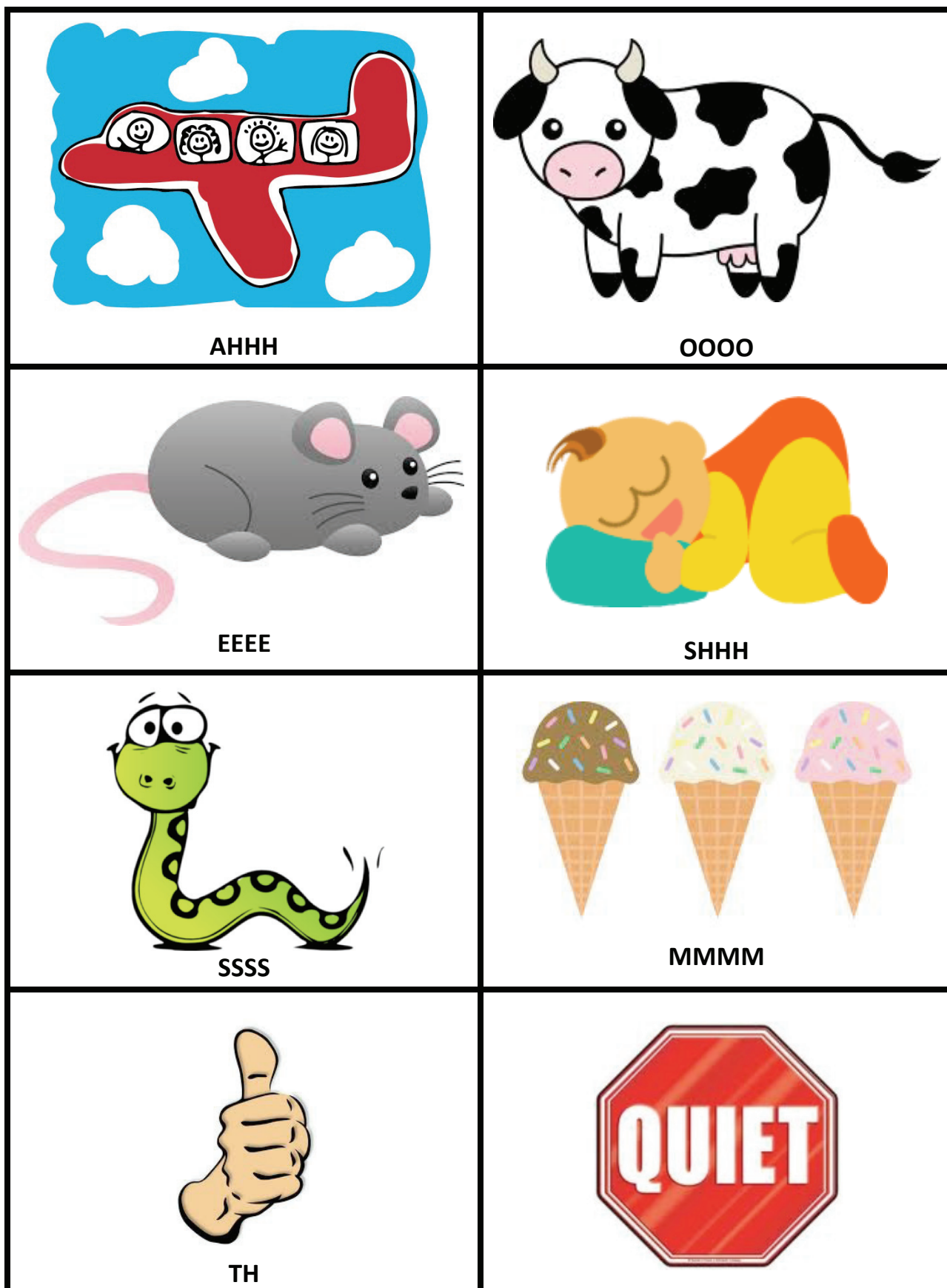
Other examples of Ling Sound Listening Check charts are below and on the next page. There isn't a right or wrong chart to use –all of the sounds need to be included and linked to something meaningful to the child.

m	a	i	u	sh	s
					

From: <http://www.cochlear.com/files/assets/Ling-6%20sound%20test%20-%20how%20to.pdf>

ah	oo	eeee
		
sh	ssss	mmm
		

From: [http://www.inauditoveritas.com/in_Audito_Veritas/Sons_de_Ling_files/Ling_Six_Sound_Check-6\(2\).pdf](http://www.inauditoveritas.com/in_Audito_Veritas/Sons_de_Ling_files/Ling_Six_Sound_Check-6(2).pdf)



Ling Sound Daily Listening Check

Name: _____ Who performed Check _____

Mark (X) the distance, right, left or both ears checked. It is NOT necessary to do all distances or both ears each time you do the Listening Check. All should be checked within the course of a week.

Week of:		AW			OO			EE			SH			S			M			TH			QUIET		
		3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft			
Monday	R																								
	L																								
Tuesday	R																								
	L																								
Wednesday	R																								
	L																								
Thursday	R																								
	L																								
Friday	R																								
	L																								
Saturday	R																								
	L																								
Sunday	R																								
	L																								

Week of:		AW			OO			EE			SH			S			M			TH			QUIET		
		3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft	3 ft	6 ft	10 ft			
Monday	R																								
	L																								
Tuesday	R																								
	L																								
Wednesday	R																								
	L																								
Thursday	R																								
	L																								
Friday	R																								
	L																								
Saturday	R																								
	L																								
Sunday	R																								
	L																								

24 - 36 MONTHS

Toddler to Preschool Development and Wearing Hearing Aids



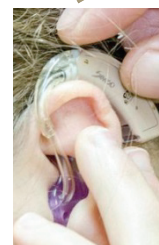
ME DO!

Helping your child learn to put his own hearing aids on 24-36 months

By the developmental age of 3, your child should be able to put on her own hearing aids and do a brief listening check to be sure they are working. This is a skill that is especially challenging because it has to be done by feel, and not something you can see as you do it yourself.

I can do it myself!

- The “ME DO!” stage is the time to help him learn to put on her own hearing aids. It will take patience, time and practice for her to develop the fine motor skills to do this for herself.
- First, it will help if the hearing aid is as easy as possible to put in so be sure to have earmold lubricant, like Pro Ear, Tech Care Ear Gel, Auragel, KY jelly or a similar product. Just a tiny drop is needed on each earmold to make it slide in easily. Make sure the lubricant does not plug up the hole that goes through the earmold.
- Second, focus on helping him put on one hearing aid (right or left) and you do the other one. Hand dominance is not established until about age 3. It is fine to give him his choice about which hearing aid he wants to put in. Practice with both hands is needed but the attention span of a two-year-old is unlikely to stretch far enough to put on both aids so the end result is likely frustration if he tries to put on both hearing aids at one time.
- The end goal when you first start is that he feels that he has accomplished some of it himself.
- Using a hand-over-hand helping technique:
 1. Assist your child in gripping the tubing right where it enters the earmold.
 2. Once he has a firm grip on the tubing help him hold the tubing/hearing aid in his hand so that it is parallel with the floor, with the top of the hearing aid pointed straight out (same direction as his nose).
 3. Have him turn his chin/face so he is looking over the shoulder opposite the hand with the hearing aid (i.e., if he is holding the aid with his right hand, he should be looking over his left shoulder).
 4. He will then bring the earmold up to his ear but be sure it is still held parallel to the floor. The easiest way to do this is to have him raise his elbow (stick out your wing!). In this position the top or “tuck in” part of the earmold should be facing his nose.
 5. He now can push the rounded bottom part of the earmold into the “bowl” of his ear.



6. Once the bottom is in, have him lower his elbow, which should twist his wrist placing the earmold into an upright position so that the top can tuck in. He can then push, push, push bottom and top to settle the earmold into the ear securely.
7. It is often enough in the early stages to praise him for getting even part of his earmold into his ear while you put the hearing aid in place behind the ear.
8. The step of flipping the hearing aid behind the ear is trickier than it looks. It is easy for little, uncoordinated hands to pull out the earmold they just worked so hard to put in as they try to move the hearing aid behind their ear, resulting in frustration for you both. Assist him by holding the top of his ear away from his head with one hand and then do hand-over-hand assistance holding the hearing aid, working together to put it in place.

Role Playing with “Friends”

In order to make learning how to put on hearing aids more fun, one strategy is to have your child’s “friends” have hearing aids too.

Build-a-Bear, American Girl Dolls and My Twinn Doll (boy dolls available) all have options for hearing aids. The toy hearing aids are not very expensive and may fit one of his or her current “friends.”

Have the child place the toy hearing aids on the bear or doll and then go through the routine of the Ling Sound Listening Check.

Role play with the toy hearing aids and then say “Now it is time for your hearing aids!” Help the child put on his or her own hearing aids and go through the age appropriate Ling Sound Check activities.



My Twinn Doll



Build-a-Bear



American Girl Dolls

30-36 months

Test, test, test! The hearing aid self-check

You have been modeling a hearing aid self-test since your baby was about 6 months old. At about 14 months you started to encourage him to say “bah, bah, bah, sh, sh, sh” every time you put on his hearing aids. Now that he is learning to put on his own hearing aids it is time for him to begin to do the hearing aid self-check by himself.



- Up until this point the self-test syllables have been part of the ritual of celebrating that the hearing aids were on. It is now time to have this ritual become meaningful.
- You need to start training your child to tune into whether his hearing aids are on and amplifying or if there is no amplified sound. This is usually done when both hearing aids are on the child’s head (without Ear Gear or other hearing aid accessory that covers up the controls). Stand behind the child and move your hands on both hearing aids at the same time. Turn one hearing aid off.
- Face your child and say “bah, bah, bah, sh, sh, sh” having him repeat or say it with you. Point to your ears and have a questioning look on your face and say “uh oh.” Then point to the ear that has the hearing aid in off position (“Uh-oh! It’s off!”). Repeat for the other ear. For the third time turn off one or the other hearing aids and see if he will point to the hearing aid that is off.
- This isn’t a skill that is learned in one session. It may take your child a number of weeks before he is consistently identifying which hearing aid is off. Once he is fairly accurate, begin to leave both hearing aids on or turn them both off to trick or “fool” him. See chart below for training tasks.
- If your child’s hearing aids have a “T” setting, the aids may make a buzzing sound when on “T.” If so, practice having him identify this sound too so he learns that the hearing aids can be on, but sound wrong sometimes. By age 3 he should know to tell you if his hearing aid is not working.

If your child has very limited hearing aid benefit this task may be very difficult for him.

Right hearing aid on: ‘bah, bah, bah, sh, sh, sh’
Left hearing aid on: ‘bah, bah, bah, sh, sh, sh’
Test, test, test! Does something sound wrong?

- 1. Right aid on, left aid off**
- 2. Left aid on, right aid off,**
- 3. Both aids on**
- 4. Both aids off**
- 5. Volume low on one aid**
- 6. Volume low on both aids**
- 7. One aid on T (not M/T) and other on M (creates a humming sound)**



Transitioning to Preschool: Important Information to Know and to Share



Transitioning to Preschool

Important Information for Families to Share with Schools!

Families have expertise! Throughout the birth to age 3 early intervention years, families should be taught and encouraged to advocate for their children's needs. Transition is an important time for families to realize that their expertise in their child's behavior and abilities is valuable in looking ahead at school needs. The six month transition period allows conversations about the child's skills and potential services. This is the period to talk about what "least restrictive environment" and "developing skills to support full classroom participation" means for their child with hearing loss. Focus on amount of language delays etc. is not enough.



Visit the possible placements: Parents usually want to visit to possible school placement sites. Your early intervention provider should be there to discuss your impressions, questions, and your desires for your child (at visit/immediately after visit). The Transition Team should consider all alternatives – building language/social experiences in an early childhood setting may be appropriate as an alternative to preschool.

Develop a Game Plan! Families need a clear idea of their child's areas of strength and areas of need. You need to be able to picture the kind of support needed for your child's skills to improve (and how the family will continue to play a very important part). In many states a "Communication Plan" is used to determine how the child's communication needs will be accommodated /supported. Ideally, the Communication Plan would have been used to facilitate discussions throughout early intervention, not just at transition to school. The Communication Plan used in Colorado can be downloaded from <http://www.cohandsandvoices.org/resources/pdf/CommunicationPlan.pdf> Your state may have one too!

Collecting valuable information to share with your school Transition Team

Parents can identify situations in which their child may be having more trouble listening. These situations can be useful to identify as the family/team start thinking about preschool or kindergarten.

Collecting valuable information to share with your school Transition Team

The Children's Home Inventory of Listening Difficulties (CHILD) has 15 different listening situations. Families rate how well they think their child is able to listen and understand in each setting on a scale from 1-8 called the Understand-O-Meter. It is for ages 3 years to approximately 12 years (young child plays with others, not parallel play). If your child does not yet actively play with other children then do not complete questions 5, 9 or 11. The CHILD is available at <http://successforkidswithhearingloss.com/tests>

Case Example: Willy

Age 2:11, average HL 70dB bilaterally

Hearing aids worn since age 9 mos

Language level 2:9 (Rec.), 2.6 (Exp.)

Some social and behavior issues



Listening Situation Breakdown

Type of Situation	Add together the responses to the following question numbers:	Total	Average
Quiet	1 + 2 + 3 + 15 = <u>7</u> + <u>6</u> + <u>5</u> + <u>8</u>	26	6.5
Noise	6 + 9 + 12 + 14 = <u>2</u> + <u>3</u> + <u>2</u> + <u>3</u>	10	2.5
Distance	7 + 11 + 13 = <u>3</u> + <u>1</u> + <u>2</u>	6	1.5
Social	5 + 9 + 11 = <u>5</u> + <u>3</u> + <u>1</u>	9	3.0
Media	4 = <u>2</u>	2	2.0

Case Example: Willy

Implications:

-FM use?

-Social skill support?

-Control of classroom noise?

-Seating?

Understand-O-Meter

- 8 GREAT
Hear every word, understand everything
- 7 GOOD
Hear it all, miss part of occasional word, still understand everything
- 6 PRETTY GOOD
Hear almost all of the words and usually understand everything
- 5 OKAY BUT NOT EASY
Hear almost all the words, sometimes misunderstand what was said

- 4 IT TAKES WORK BUT USUALLY CAN GET IT
Hear most of the words, understand more than half of what was said
- 3 SOMETIMES SOCIAL
Hear some words but not all
- 2 TOUGH GOING MEDIA
Hear less than half of what was said
- 1 HUH? DISTANCE
Don't know that someone is talking, miss all of message

What if the Transition Team only observed Willy function in a quiet 1:1 setting? Would this information potentially change educational program and support recommendations?

Question responses are grouped into different types of communication situations – these ALSO occur in a school setting. This is why it is important to share the family’s expertise with the school team!



Children’s Home Inventory for Listening Difficulties (C.H.I.L.D) Family Member

Questions for Family Member to Answer

Try the following situations with your child or recall how your child has responded under these various situations. Everyone has some difficulty hearing clearly and understanding in some situations. Choose the level on the Understand-O-Meter you think describes your child’s abilities most closely and place this number in the box next to each question. This can be very difficult but try to estimate the child’s listening abilities as best as you can.

Child’s Name _____ Age _____ Date Completed: _____

Family Member Completing CHILD: _____ Return To: _____

Listening Situations

1. Sit next to your child and look at a book together or talk about something in front of you using familiar words and a normal conversational manner. Talk in a quiet place and sit so your child is not looking at your face as you talk together. How difficult does it seem for your child to hear and understand what you say?
2. Gather your family together for a meal at home or in a fairly quiet restaurant. Sit across the table from your child and ask some questions about a familiar topic or event. How difficult does it seem for your child to hear and understand what you say?
3. When your child is in his or her bedroom playing quietly, walk into the room and tell or ask the child something. Do not say the child’s name or try to get his or her attention first. How difficult does it seem for your child to hear and understand what you say?
4. Watch a live-action TV show or movie with your child. Ask questions about what was said or events in the show that were understood by listening to the dialogue. (Show is seen for first time and is not captioned.) How difficult does it seem for your child to hear and understand what people on the TV or movie say?
5. Observe your child playing inside with a friend, brother or sister. Watch for the other child to ask him or her to do something. How difficult does it seem for your child to hear and understand other children when they talk?
6. When your child is watching TV or playing with a noisy toy, walk into the room and talk to him or her without first getting the child’s attention. How difficult does it seem for your child to hear and understand you when there is noise from the TV or toy?
7. Call your child’s name from another room when he or she is not able to see you. How difficult does it seem for him or her to realize that you are calling?

Understand-O-Meter

- 8 GREAT**
Hear every word, understand everything
- 7 GOOD**
Hear it all, miss part of an occasional word, still understand everything
- 6 PRETTY GOOD**
Hear almost all of the words and usually understand everything
- 5 OKAY BUT NOT EASY**
Hear almost all the words, sometimes misunderstand what was said
- 4 IT TAKES WORK BUT USUALLY CAN GET IT**
Hear most of the words, understand more than half of what was said
- 3 SOMETIMES GET IT, SOMETIMES DON’T**
Hear words but understand less than half of what was said
- 2 TOUGH GOING**
Sometimes don’t know right away that someone is talking, miss most of message
- 1 HUH?**
Don’t know that someone is talking, miss all of message

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Children's Home Inventory for Listening Difficulties (C.H.I.L.D.) Family Member



Family Member Responses to the C.H.I.L.D.

8. Use a clock radio or alarm when it is time for your child to get up. How difficult does it seem to be for him or her to hear an alarm clock or clock radio go off? If not clock is used, how difficult is it for him or her to hear your voice and wake up without having to be touched or shaken?
9. Observe your child playing with a group of children inside a house. It's noisy (birthday party, cub scouts, etc.). How difficult does it seem to be for your child to understand what the children are saying as they play as a group?
10. A grandparent, family member or friend wants to talk to your child on the phone. How difficult does it seem to be for him or her to hear and understand what is said over the phone?
11. Observe your child playing outside with other children. How difficult is it for him or her to hear and understand what other children are saying when the children are outside and are not standing close to your child?
12. Go to a crowded store or mall with your child. When you are standing behind the child and he or she is looking at something, ask a question. How difficult does it seem to be for your child to hear and understand what you say?
13. Go into a large room with your child and speak to him or her from across the room. How well does he or she seem to hear and understand what you say?
14. Travel in the car with your child in the backseat. From the front seat say something to your child or ask a question. How easy does it seem for him or her to hear and understand what is said in the car?
15. Sit in a quiet place, face your child and have a conversation or ask questions. How difficult does it seem for him or her to hear and understand what you say?

Listening Situation Breakdown

Type of Situation	Add together the responses to the following question numbers:	Total	Average
Quiet	1 + 2 + 3 + 15 = ____ + ____ + ____ + ____		
Noise	6 + 9 + 12 + 14 = ____ + ____ + ____ + ____		
Distance	7 + 11 + 13 = ____ + ____ + ____		
Social	5 + 9 + 11 = ____ + ____ + ____		
Media	4 = ____		

Comments:

Understand-O-Meter

- 8 GREAT
Hear every word, understand everything
- 7 GOOD
Hear it all, miss part of an occasional word, still understand everything
- 6 PRETTY GOOD
Hear almost all of the words and usually understand everything
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Hear most of the words, understand more than half of what was said
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Hear words but understand less than half of what was said
- 2 TOUGH GOING
Sometimes don't know right away that someone is talking, miss most of message
- 1 HUH?
Don't know that someone is talking, miss all of message

Total of responses

Average of responses
(Total divide by 15)

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Gathering information to support school transitions – Starting School LIFE

The purpose of the Starting School LIFE (Listening Inventory For Education) tool is to estimate the listening difficulty a child may have in school (ages 3-12). The special education IDEA statute specifies “supporting the development and use of technology, including assistive technology devices and assistive technology services, to maximize accessibility for children with disabilities.” The Starting School LIFE can assist the Transition Team in planning to comply with the intent of this law.

Ranking Guide for Being a Communication Partner and Independence questions: A = Always, V= Very often, M= Much of the time, S= Seldom, N= Never		 A V M S N
Being a Communication Partner - My child:		
1. Talks a lot, sometimes taking over conversations or changing topics	1 2 3 4 5	
2. Pretends that he/she heard when really does not know/understand	1 2 3 4 5	
3. Waits for others to notice that he/she didn't understand	1 2 3 4 5	
4. Lets others know when a listening/understanding problem occurs	5 4 3 2 1	
5. Takes turns in conversation and adds information appropriately	5 4 3 2 1	
6. Is fatigued at the end of a day of social/listening activities	1 2 3 4 5	
INTERPRETATION GUIDE Being a Communication Partner: 24-30 most like students without hearing loss		Total = 12

Page 1 is to be completed by families. Families complete the CHILD as part of the Starting School LIFE as is Being a Communication Partner and Independence. By providing this information to the Transition Team you are discouraging the “cookie-cutter” approach to school placement and hearing technology needs.

Page 2 is to be completed by School Teams.

The special factors portion of IDEA requires the IEP Team to consider the communication needs of the child in terms of opportunities for direct communications with peers and professional personnel in the child's language and communication mode. Access to curriculum and instruction in the classroom at the same level and rate

as that of typically hearing peers is essential for academic growth for students with hearing loss. Most students with hearing loss use both their hearing and their vision for learning to some degree, depending upon changing communication conditions, as estimated by a Functional Listening Evaluation (FLE). The FLE provides data to determine the child's listening abilities, needs and accommodations in the classroom.

Even if the School Team does not complete page 2, important information from the families about the child's listening challenges can be taken into consideration during eligibility and program planning. The Starting School LIFE can be downloaded from

Independence - My child:		A V M S N
1. Puts on his/her hearing aids or cochlear implant without help	5 4 3 2 1	
2. Lets an adult know as soon as he/she has hearing changes/problems	5 4 3 2 1	
3. Replaces batteries and performs other checks on technology	5 4 3 2 1	
4. Asks for repeat or clarification if he/she didn't hear/understand	5 4 3 2 1	
5. Moves away from noise if he wants to hear/understand better	5 4 3 2 1	
6. Moves closer to the person talking to hear/understand better	5 4 3 2 1	
Total 12		
Independence: 24-30 is the goal for self-advocacy & independence skills		



Starting School L.I.F.E.

Listening Inventory For Education-Revised (L.I.F.E.-R.)

Appraisal of Listening Access Needs for Children Entering School

By Karen L. Anderson, PhD, Joseph J. Smaldino, PhD, & Carrie Spangler, AuD

Child _____ School District _____ Entering Grade _____

Child's School Team _____ Including Family _____

The purpose of this tool is to estimate the listening difficulty a child may have in the school environment (age 3-12). Access is at the center of most of the struggles of the student with hearing loss, and is so important that the Individuals with Disabilities Act statute (20 USC 1400(c)(5)(H)) specifies "supporting the development and use of technology, including assistive technology devices and assistive technology services, to maximize accessibility for children with disabilities." The information identified may assist in complying with the intent of this law and also provide valuable information for Special Education Eligibility determination, service planning or 504 Plan considerations for students entering Preschool–Grade 6.

Family Observations: A student with hearing loss needs to be able to understand the teacher, express his own thoughts, obtain clarification when he does not understand, and interact with classmates as a prerequisite to learning. Family observations of the child's listening behavior at home provide valuable insights into difficulties he or she may experience in similar school listening situations. It is requested that the family complete the Children's Home Inventory of Listening Difficulties (C.H.I.L.D.) so the Listening Situation Breakdown can be considered by the School Team. The Understand-O-Meter is provided for score interpretation.

Listening Situation Breakdown

Type of Situation	Add together the responses to the following question numbers:	Total	Average
Quiet	1 + 2 + 3 + 15 = ____ + ____ + ____ + ____		
Noise	6 + 9 + 12 + 14 = ____ + ____ + ____ + ____		
Distance	7 + 11 + 13 = ____ + ____ + ____		
Social	5 + 9 + 11 = ____ + ____ + ____		
Media	4 = ____		

Ranking Guide for Being a Communication Partner and Independence questions:

A = Always, V = Very often, M = Much of the time, S = Seldom, N = Never

A V M S N

Being a Communication Partner - My child:

- | | |
|--|-----------|
| 1. Talks a lot, sometimes taking over conversations or changing topics | 1 2 3 4 5 |
| 2. Pretends that he/she heard when really does not know/understand | 1 2 3 4 5 |
| 3. Waits for others to notice that he/she didn't understand | 1 2 3 4 5 |
| 4. Lets others know when a listening/understanding problem occurs | 5 4 3 2 1 |
| 5. Takes turns in conversation and adds information appropriately | 5 4 3 2 1 |
| 6. Is fatigued at the end of a day of social/listening activities | 1 2 3 4 5 |

Independence - My child:

- | | |
|--|-----------|
| 1. Puts on his/her hearing aids or cochlear implant without help | 5 4 3 2 1 |
| 2. Lets an adult know as soon as he/she has hearing changes/problems | 5 4 3 2 1 |
| 3. Replaces batteries and performs other checks on technology | 5 4 3 2 1 |
| 4. Asks for repeat or clarification if he/she didn't hear/understand | 5 4 3 2 1 |
| 5. Moves away from noise if he wants to hear/understand better | 5 4 3 2 1 |
| 6. Moves closer to the person talking to hear/understand better | 5 4 3 2 1 |

Total _____

C.H.I.L.D. Understand-O-Meter

- 8 GREAT**
Hear every word, understand everything
- 7 GOOD**
Hear it all, miss part of an occasional word, still understand everything
- 6 PRETTY GOOD**
Hear almost all of the words and usually understand everything
- 5 OKAY BUT NOT EASY**
Hear almost all the words, sometimes misunderstand what was said
- 4 IT TAKES WORK BUT USUALLY CAN GET IT**
Hear most of the words, understand more than half of what was said
- 3 SOMETIMES GET IT, SOMETIMES DON'T**
Hear words but understand less than half of what was said
- 2 TOUGH GOING**
Sometimes don't know right away that someone is talking, miss most of message
- 1 HUH?**
Don't know that someone is talking, miss all of message

INTERPRETATION GUIDE
Being a Communication Partner:
 24-30 most like students without hearing loss
Independence:
 24-30 is the goal for self-advocacy & independence skills

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Starting School L.I.F.E.

Appraisal of Listening Access Needs for Children Entering School

School Team Information: The consideration of the special factors portion of IDEA (34CFR300.324(2)(iv)) requires the IEP Team to consider the communication needs of the child in terms of opportunities for direct communications with peers and professional personnel in the child's language and communication mode. Access to curriculum and instruction in the classroom at the same level and rate as that of typically-hearing peers is essential for academic growth for students with hearing loss. Most students with hearing loss use both their hearing and their vision for learning to some degree, depending upon changing communication conditions, as estimated by the Functional Listening Evaluation (FLE). The FLE provides data to determine the child's listening abilities, needs and accommodations in the classroom. For information on administering the FLE refer to http://www.handsandvoices.org/pdf/func_eval.pdf

Functional Listening Evaluation (% correct) Date performed _____ Speech materials used _____

Hearing technology used: Hearing aid ☐ ☐ Cochlear implant ☐ ☐ Personal FM ☐ Desktop FM ☐ Classroom Amplification ☐

Technology used/tried	Condition	Close: ☐ 50 dB HL or ☐ 3 ft from speaker ☐ Quiet or ☐ +10 S/N	Close: ☐ 50 dB HL or ☐ 3 ft from speaker Noise: ☐ +5 or ☐ +10 S/N	Distant: ☐ 35 dB HL or ☐ 10 ft from speaker ☐ Quiet or ☐ +10 S/N	Distant: ☐ 35 dB HL or ☐ 10 ft from speaker Noise: ☐ +5 or ☐ +10 S/N
	Auditory + Visual	%	%	%	%
	Auditory + Visual	%	%	%	%
	Auditory Only	%	%	%	%
	Auditory Only	%	%	%	%

Summary of evidence related to technology use:

In a quiet condition when watching the child perceives speech best with: _____

In a quiet condition without watching the child perceives speech best with: _____

In a noisy condition when watching the child perceives speech best with: _____

In a quiet condition without watching the child perceives speech best with: _____

Communication:

The goal of every child, especially those with hearing loss, is to make one year of language growth for every one year of school. IDEA requires consideration of direct communication needs in the child's preferred language mode. Education settings should be conducive of appropriate peer-to-peer communication and understanding of verbal instruction.

Summary of communication assessment:

When compared to age peers, this child's receptive language is: ☐ much lower ☐ lower ☐ average ☐ higher ☐ much higher

When compared to age peers, this child's expressive language is: ☐ much lower ☐ lower ☐ average ☐ higher ☐ much higher

Family and School Team impressions of communication mode:

In the presence of verbal instruction (listening to adult), this child's communication mode appears to be primarily:

In a quiet setting: ☐ auditory ☐ auditory + visual support ☐ equal auditory/visual ☐ visual + auditory support ☐ visual

In a noisy setting: ☐ auditory ☐ auditory + visual support ☐ equal auditory/visual ☐ visual + auditory support ☐ visual

In social interactions with peers (informal/play), this child's communication mode appears to be primarily:

In a quiet setting: ☐ auditory ☐ auditory + visual support ☐ equal auditory/visual ☐ visual + auditory support ☐ visual

In a noisy setting: ☐ auditory ☐ auditory + visual support ☐ equal auditory/visual ☐ visual + auditory support ☐ visual

TEAM COMMENTS

Educational program/setting: _____

Technology: _____

Accommodations: _____

Skill development: ☐ self-advocacy ☐ communication repair ☐ technology independence ☐ social communication ☐ other

Preschools are Noisy!

School teams must consider the impact of classroom acoustics on listening

- ▶ No habituation to elevated noise (children never “get used to” listening in noise)
- ▶ Learned helplessness, reduced motivation (tend not to persist in problem-solving)
- ▶ Impact on memory, attention (more distractible, less follow through on initial directions)
- ▶ Less desire to participate in group activities
- ▶ Achievement reduced for children educated in noisy settings

These are results for children with typical hearing. Information from: Effects of Noise on Young Children: Study of Child Care Centers

<http://www.designshare.com/research/lmaxwell/noisechildren.htm>

Because most learning settings for young children are noisy AND the teacher is not always right next to the child, it is likely that your school team will want your child to use a personal FM system. The teacher’s microphone sends his/her speech signal directly to the child’s hearing aids, so it is like having the teacher just a few inches away from his ears at all times. Because of the noise it will STILL be very difficult for your child to communicate with other children during learning activities.



To learn more about how FM systems can help young children with hearing loss go, a few resource links are:

<http://www.handsandvoices.org/comcon/articles/FMamplification.htm>

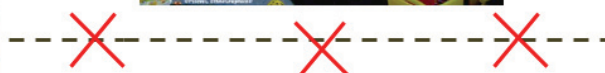
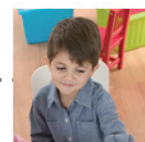
<http://www.raisingdeafkids.org/help/tech/ald/>

<http://www.babyhearing.org/hearingamplification/aidchoices/fmsystem.asp>

<http://www.asha.org/public/hearing/hearing-assistive-technology-for-children/>

Access to comments and questions from peers

*Most hearing aids and cochlear implants are designed to work best at a conversational distance of **3 – 6 feet**.*



Social Communication - An Often OVERLOOKED Area of Language Development

Even when a child has age-appropriate vocabulary and syntax skills, she or he may not yet have learned how to use these skills in a socially appropriate manner for specific social purposes. Language skills associated with social communication is an area called *pragmatics*.

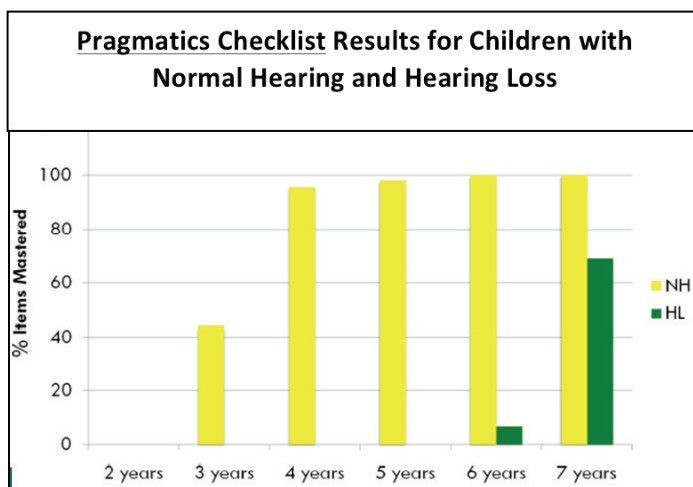
Based on the results of the 45-item PRAGMATICS CHECKLIST, young children with typical hearing acquire these skills rapidly between 3 and 4 years of age. Children who are deaf or hard of hearing acquire these skills much more slowly even with targeted intervention strategies (see graph).

Without mastery of these skills using complex language, children will encounter significant challenges with literacy, written communication, and abstract conversation topics. The box of skills not mastered by 7 years is a quick list of what skills families and other caregivers should help the child do with age-appropriate language. Unless these skills are specifically worked on, it is likely that your child with hearing loss will not develop the skills like other children his or her age.

Complete PRAGMATICS CHECKLIST prior to the transition meetings! The checklist has been provided on the next page. One of the downloadable files includes the PRAGMATICS CHECKLIST that has the PRAGMATICS CHECKLIST INTERPRETATION as page 2.

Do not look at this information before you fill out the checklist as this knowledge may change how you fill out the checklist for your child.

If your school team is not aware of the importance of considering pragmatic language skills as a part of the assessment for eligibility for a child with hearing loss, share this information with them. Administering a standard language test will NOT provide the information needed on your child's social language ability to communicate with peers and adults. The article below also has suggestions for activities that families can do to improve their child's pragmatic language skills.



Items Not Mastered by Children with Hearing Loss by Age 7 Years

- ▶ Provides information on request
- ▶ Repairs incomplete sentences
- ▶ Ends conversations
- ▶ Interjects
- ▶ Apologizes
- ▶ Requests clarification
- ▶ Makes promises
- ▶ Asks questions to problem solve
- ▶ Asks questions to make predictions
- ▶ Retells a story
- ▶ Tells 4-6 picture story in right order
- ▶ Creates original story
- ▶ Explains relationships between objects-action-situations
- ▶ Compares and contrasts

This information is from http://ehdimeeting.org/2012/Users/Uploads/pdfs/sps_17ChristineYoshinaga-Itano.pdf

SOCIAL COMMUNICATION SKILLS – THE PRAGMATICS CHECKLIST

Child's Name _____ Date _____ Completed by _____	Not Present	Uses NO Words (Gestures - Preverbal)	Uses 1-3 Words	Uses Complex Language
Parent: These social communication skills develop over time. Read the behaviors below and place an X in the appropriate column that describes how your child uses words/language, no words (gestures – preverbal) or does not yet show a behavior. Pragmatic Objective				
INSTRUMENTAL – States needs (I want....)				
1. Makes polite requests				
2. Makes choices				
3. Gives description of an object wanted				
4. Expresses a specific personal need				
5. Requests help				
REGULATORY - Gives commands (Do as I tell you...)				
6. Gives directions to play a game				
7. Gives directions to make something				
8. Changes the style of commands or requests depending on who the child is speaking to and what the child wants				
PERSONAL – Expresses feelings				
9. Identifies feelings (I'm happy.)				
10. Explains feelings (I'm happy because it's my birthday)				
11. Provides excuses or reasons				
12. Offers an opinion with support				
13. Complains				
14. Blames others				
15. Provides pertinent information on request (2 or 3 of the following: name, address, phone, birthdate)				
INTERACTIONAL - Me and You...				
16. Interacts with others in a polite manner				
17. Uses appropriate social rules such as greetings, farewells, thank you, getting attention				
18. Attends to the speaker				
19. Revises/repairs an incomplete message				
20. Initiates a topic of conversation (doesn't just start talking in the middle of a topic)				
21. Maintains a conversation (able to keep it going)				
22. Ends a conversation (doesn't just walk away)				
23. Interjects appropriately into an already established conversation with others				
24. Makes apologies or gives explanations of behavior				
25. Requests clarification				
26. States a problem				
27. Criticizes others				
28. Disagrees with others				
29. Compliments others				
30. Makes promises				
WANTS EXPLANATIONS - Tell me Why...				
31. Asks questions to get more information				
32. Asks questions to systematically gather information as in "Twenty Questions"				
33. Asks questions because of curiosity				
34. Asks questions to problem solve (What should I do? How do I know?)				
35. Asks questions to make predictions (What will happen if...?)				
SHARES KNOWLEDGE & IMAGINATIONS - I've got something to tell you...				
36. Role plays as/with different characters				
37. Role plays with props (e.g., banana as phone)				
38. Provides a description of a situation which describes the main events				
39. Correctly re-tells a story which has been told to them				
40. Relates the content of a 4-6 frame picture story using correct events for each frame				
41. Creates an original story with a beginning, several logical events, and an end				
42. Explains the relationship between two objects, actions or situations				
43. Compares and contrasts qualities of two objects, actions or situations				
44. Tells a lie				
45. Expresses humor/sarcasm				
TOTAL FOR EACH COLUMN				

AUTHOR OF CHECKLIST: Goberis, D. (1999) Pragmatics Checklist (adapted from Simon, C.S., 1984).
 Goberis, Beams, Dalpes, Abrisch, Baca, Yoshinaga-Itano (2012). The missing link in language development of deaf and hard of hearing children: Pragmatic Language Development. Semin Speech Lang. 33(04). 297-309 <https://www.thieme-connect.de/ejournals/pdf/10.1055/s-0032-1326916.pdf>

Planning for Your Child’s School Success

When a child with hearing loss is turning age three, the local school district must determine if he or she will be eligible to receive specialized services that will support the child’s success in the classroom.

Parents and the early intervention teacher are part of this Transition Team and can provide input as to the areas of development that the team should consider during eligibility determination. The following graphic represents the typical areas of development that are vulnerable for delay for children with hearing loss.

When families provide the results of the CHILD, Starting School LIFE, and the Pragmatics Checklist, this information will be taken into account as the team discusses eligibility.



Ask your child’s school team how they will be assessing each of these areas.

A page containing this chart with lines for the team to fill in the appropriate tools has been included as a downloadable file. Also included is a completed version of this chart with suggested tools and instruments to use in each area of assessment.

Hearing Aid Monitoring and the Law



Although the law provides no specifics on who, how or how often hearing device monitoring will occur, there is clear intent that the school bears the responsibility to ensure that this monitoring occurs for both hearing aids and cochlear implants. In order to verify that this activity has occurred, the school needs to have a record of data that provides evidence of this monitoring.

IDEA Sec. 300.113. *(a) Each public agency must ensure that hearing aids worn in school by children with hearing impairments, including deafness, are functioning properly. (b) (1) Each public agency must ensure that the external components of surgically implanted medical devices are functioning properly.*

The educational system has basic expectations for student participation based on their skill development. For example, we expect preschoolers to dress themselves, interact appropriately and play in ways that require both fine and gross motor skill development. We expect children to be able to state their addresses and tie their shoes by the end of kindergarten. As children become older they assume more responsibility for appropriate work completion and full participation in school activities. In other words, we expect children to perform tasks that are appropriate to their developmental age.

The skills specific to independence with hearing aids and self-advocacy on the following page are appropriate to a typically developing child's level of motor and cognitive ability. As a student gains skills over time it is customary that he become responsible for those operations. Although it is ultimately the responsibility of the school to collect and maintain records verifying that hearing device monitoring has occurred, this does not dictate that only an adult be responsible for every aspect of the monitoring process.

The teacher of a busy 3rd grade class may never have touched a hearing aid before and having a student with hearing loss may be a new experience for her. By the age of 8 a child should have the capability to perform most of the hearing aid monitoring activities independently, primarily needing only supervision by an adult.

It is to the student's benefit if he is his own 'technology specialist' and able to

Studies have shown that 50% of hearing aids worn by children are functioning poorly at any given time, which is why it is essential to monitor hearing aid performance.

Pg 233 Educational Audiology Handbook

monitor/troubleshoot/report when issues occur as they can arise at any time throughout the school day, not just at the time the teacher may have convenient to monitor hearing aid function. Because hearing aids can malfunction anytime, it is only the student who can verify he is receiving his typical level of access to classroom communication throughout the day. **US law has clearly made the school responsible for ensuring**

that hearing devices worn by children who are deaf or hard of hearing are functioning properly. Since only the child (if trained) can identify when issues occur, to truly make certain that devices are working, schools must ensure that children have the skills they need to be able to accurately self-monitor and report issues when they arise.

Preschool Skills

For Hearing Aid Independence and Self-Advocacy

Psychosocial development for children age 4-6 is a time during which they begin to complete tasks for a purpose, so it is an excellent period for focusing on How/Why tasks such as appropriate use of hearing aids and beginning steps toward self-advocacy. When parents and teachers encourage and support children's efforts, they will develop initiative and independence in planning and undertaking activities. If independence is discouraged, they develop guilt about their wants and needs (Schlesinger, 1978). By supporting this skill development we are empowering children toward their own independence, which can have a lifelong impact on self-esteem and relationships with peers.

During this stage of psychosocial development children are also developing a sense of judgment. A sense of judgment is first formulated from "no-no" and "good boy/good girl" experiences learned from many family interactions. Once children enter school, much of their sense of judgment is further shaped by the spoken or unspoken messages and attitudes of peers. This is why it is so critical for the classroom teacher and/or the specialist in deaf/hard of hearing education to provide a learning opportunity about hearing loss and hearing devices for class peers, especially for children ages 4-6 years. Early acceptance by peers, especially those who believe the hearing devices are "cool," provides a foundation for future social relationships as well as long term use of hearing aids and FM systems.



Although most congenital hearing loss of 35 dB HL or greater will be identified by newborn hearing screening, not all families are willing or able to provide optimal support to their child's hearing aid wear or communication interactions. Many children entering preschool may not know how to appropriately handle their hearing aids and perform listening checks to determine their function. **Although it is necessary, by law, for the preschool teacher or classroom aide to perform daily listening and device checks, it is also necessary for the student to begin developing the hearing device independence skills appropriate to this age level.**

Many children with hearing loss entering preschool are not aware of the impact of distance and noise on listening and how they can appropriately address these issues to improve their perception of speech by the teacher or class peers. Thus, skill development in to support student learning the reasons for the source of communication breakdowns and age-appropriate strategies is warranted.

The chart that follows specifies roles that support skill development for preschool students. It is suggested that the parent and early intervention teacher bring this information to the attention of the school transition team during eligibility and program planning discussions.

Schlesinger, H.S. (1978). The effects of deafness on childhood development: An Ericksonian perspective. In L. S. Liber (Ed.). *Deaf Children: Developmental Perspectives* (pp. 157-169). New York, NY: Academic Press.

Skill Development and Roles During Preschool

Prior to Kindergarten			
Reinforcement of these skills in kindergarten will likely be warranted.			
Skill	Role of the Preschool Teacher	Role of the Child	Role of the DHH Professional
1	Facilitates learning about “differences,” provide an opportunity for the student to share information about himself/herself and an opportunity for class peer discussion.	Participates in telling peers about hearing devices/responding appropriately to spontaneous questions	Participates in teaching classmates or provide classroom teacher with materials to facilitate the learning opportunity.
2	Performs listening check on hearing aids at least daily.	Consistently uses functioning hearing aids	Assists teacher in feeling comfortable monitoring aids.
3	Actively trains child to put hearing aids on independently; ensure proper fit of earmolds	Inserts earmolds/hearing aids independently	Provides teacher with strategies on how to train child to put hearing aids on independently
4	Oversees student’s use of saying bah, bah, bah, sh, sh, sh when hearing aids are put on as a self-check for function	Does self-test (bah, bah, bah, sh, sh, sh) with each device after it has been turned on	Teaches the student to shape saying (bah, bah, bah, sh, sh, sh) into really recognizing hearing/not hearing
5	Teaches/reinforces the need for an adult to remove the hearing aids – child must ask for help	Asks an adult before device(s) are removed (through ~ age 7)	Teaches student when it is appropriate to take off hearing aids; provides teacher with strategies when child removes aids
6	Performs Ling Sound Listening Checks, check off on monitoring sheet	Participates in the Ling Sound Listening Check from close and far	Teaches student and teacher how to perform the Ling Sound Listening Check
7	Models language for recognizing and responding to challenging listening situations (self-talk)	Recognizes listening challenges and how to respond appropriately (foundations of early self-advocacy skills)	Teaches student the 3 basic causes of listening challenges; assists teacher in understanding how to model language during daily opportunities for listening.

Teaching Techniques & Resources

1	Facilitate learning about “differences,” provide an opportunity for the student to share information about himself/herself and an opportunity for class peer discussion	Participate in telling peers about hearing devices/responding appropriately to spontaneous questions	Participate in teaching classmates or provide classroom teacher with materials to facilitate the learning opportunity
---	---	--	---

There are a variety of books that can be read to the class that will provide information on “differences,” which may be most appropriate if there is more than one student with an easily recognizable disability or “difference.” There are also books specific to children with hearing aids/cochlear implants specifically. Below is a list of suggested books available from *Supporting Success for Children with Hearing Loss*. Ask your early intervention provider about other books.

Books on ‘Differences’	Books on Hearing Aids	Books on Cochlear Implants
• <i>Sid and the Lucky Fish</i>	• <i>Friends, Like Me</i>	• <i>Sophie’s Tales: Learning to Listen</i>

The format for a class awareness-raising session is suggested below:

1. Read the book aloud to the class.
2. Facilitate discussion on the many ways children can be different from one another (ethnicity, physical characteristics, skills/talents, better in learning some types of information, etc.).
3. Provide the child with the support to describe:
 - a. Hearing aids – “ear computers” put sound into the ears to help the child hear all of the sounds of speech s/he possibly can. Demonstrate hearing close and hearing at a distance (Ling Sound Listening Check) and how just a little noise (children rubbing their hands together) can make it hard to repeat the sounds correctly.
 - b. FM system – “super cell phone” that puts the sound of the teacher’s voice into the student’s hearing aids. Demonstrate doing the Ling Sounds at a distance with the class peers making the same rubbing hands together sound – or a louder noise such as a “drumroll” with hands on a carpeted surface. Have a class peer do the Ling Sounds then in the same noisy condition to show how hard it is to say the sounds back in noise without the FM system. It is also effective to have the student with hearing loss step outside the classroom and then have a class peer ask a question through the FM transmitter. The child comes back into the room and says the answer.

2	Perform hearing aid function check at least daily.	Experience consistent use of functioning hearing aids in school setting, throughout full school day	Provide instruction and support to classroom teacher until s/he feels comfortable monitoring hearing aids.
---	--	---	--

Aspects the classroom teacher needs to understand to perform the daily hearing aid function check.

1. That hearing aid monitoring is required by federal law. Recording data to verify that monitoring occurred is necessary in case the school district is monitored on compliance.
2. Hearing aids can malfunction at any time. About 50% of hearing devices will not be functioning properly unless there is daily monitoring.
3. Battery check
4. Visual inspection – problems to look for
5. Listening check by person with normal hearing using stethoset

A video demonstration on Hearing Aid Check and Insertion is available at:

<http://leahlefler.hubpages.com/video/How-to-Put-in-a-Childs-Hearing-Aid>

Refer to the **Hearing Aid Monitoring Summary for Classroom Teachers** handout

Refer to the **Hearing and Listening Your Best is YOUR Responsibility** handout. It was designed for pre-readers. Page 1 can be completed by the preschool teacher. Page 2 can be used as a teaching tool with the preschool student.

3	Actively trains child to put hearing aids on independently; ensure proper fit of earmolds	Inserts earmolds/hearing aids independently	Provides teacher with strategies on how to train child to put hearing aids on independently
---	---	---	---

Children who are new to inserting their hearing aids sometimes do not get the placement exactly right. Full-style earmolds have a “peak” at the top that should be at the top part of the ear and “tucked in” to the folds of the outer ear. Quickly look to see that this top piece is tucked into the ear and that the bottom of the earmold is fully pushed in.



Refer to the **Hearing Aid Monitoring Summary for Classroom Teachers** handout

Practice and encouragement will be needed before the student is confident in his ability to quickly seat the earmolds and place the hearing aids behind his ears. If he is new to this activity, start just with one ear/hearing aid until some success is experienced before trying both ears at one time.

4	Oversee student’s use of saying (bah, bah, bah, sh, sh, sh) when hearing aids are put on to check for function	Do self-test (bah, bah, bah, sh, sh, sh) with each device after it has been turned on and report all issues with hearing changes/hearing aid malfunctions to an adult	Teach student to perform self-test (bah, bah, bah, sh, sh, sh) to recognize if amplification is working/not working
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Children need to be able to discriminate when a hearing aid is on/off/appropriate volume/too quiet/clear sound/scratchy sound, etc. The self-test with bah, bah, bah, sh, sh, sh is a precursor to doing a self-test with the Ling Sounds, which is a more sophisticated listening task.

The deaf/hard of hearing education professional will manipulate the child's hearing aids, presenting different listening opportunities. The child is expected to say bah, bah, bah, sh, sh, sh as they listen and "test" the hearing aids for differences in how they sound.

Does something sound wrong?

1. Right aid on, left aid off.
2. Left aid on, right aid off.
3. Both aids on, both aids off.

Refer to the **Are my hearing aids working right?** handout.

5	Teach/reinforce the need for an adult to remove the hearing aids – child must ask teacher/adult for help/permission.	Appropriately ask an adult before removing device(s) (through ~ age 7)	Teach child when it is appropriate to take off hearing aids (i.e., broken); provides teacher with strategies on how to respond when child removes aids independently.
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Ideally, the child will have learned as a toddler that only an adult should remove the hearing aids. If a child is an experienced hearing aid user who treats the devices carefully and uses them full time, this step will not be necessary. If the student is a relatively new hearing aid user or has a history of inconsistent use, then learning this step will assist in attaining full-time hearing aid wear at school.

This concept is most naturally learned when paired with the student's learning about ways in which the hearing aids can be broken or malfunctioning. The order of action to instill in the student is:

1. Are my hearing aids (hearing aid + FM) working?
2. Is it a simple problem like the battery needs to be replaced? Should I ask an adult for help?
3. Does the problem interfere with how I perform the Ling Sound Listening Check? For example, if the problem is that the tube pulls out of the earmold can he still use the hearing aids (carefully) until the problem can be addressed?
4. The hearing aid is not working (not helping me listen)! I need to let an adult know so that this problem can be fixed. I need permission to remove the hearing aid and put it away safely.

6	Perform daily Ling Sound Listening Check; check off daily monitoring sheet	Participate in the Ling Sound Listening Check from close (if no FM) and far (if FM + HA); student observes teacher checking off the daily monitoring sheet	Teach the teacher and student how to respond to Ling Sounds Listening Check, specifically in the classroom
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Refer to the handout: **Performing the Ling Sound Listening Check in Preschool**

Background noise: It is important to teach students to listen to the Ling Sounds while in a quiet environment and at a close distance.

Tasks: There are three levels of response to the Ling Sound Listening Check:

- a) Detection - The initial task is a yes/no, did he detect the Ling Sound or not.
- b) Discrimination - the student will discriminate between two of the Ling Sounds.
- c) Identification – the student will say the sound back or identify a picture or object that represents the sound.

Data collection: Collect data to verify that the student is able to correctly complete the task with the deaf/hard of hearing professional at each level before expecting the student to perform the Ling Sound Listening Check within the classroom setting with the teacher or another adult. For example, the student can be performing the detection task in the classroom while working on the discrimination task 1:1 with the deaf/hard of hearing professional.

Proximity: Distance from the student to the presenter is important. Routinely, distances of 3 and 10 feet are selected. Students who are still new to the task or who have very limited hearing ability may need closer distances in order to achieve a feeling of success at being able to do the task well. Listening in quiet is critical for optimal performance however, if a child is able to do the task readily then performance in noise provides good practice and also a clear indication of how noise will impact student listening. If an FM system is used then the presence of noise in the environment is moot unless it is very loud or occurring close to the FM transmitter.

Visual access: During all Ling Sound presentations, the student must not be able to see the presenter's face.

Response formats: How the student responds to the Ling Sound Listening Check can vary considerably. Response formats can be very creative but should not take more than a moment of response time. Suggestions are below:

Detection:

1. For the yes/no detection task, this can be accomplished by having the student stand in front of the presenter and provide a non-verbal response, such as thumbs-up (yes) or thumbs-down (no or quiet trial).

Discrimination:

1. For the discrimination task, the student can have his back to the presenter and then hold up an appropriate card to signify which of the two sounds he heard. The student will learn to discriminate the most acoustically different sounds first. Once these are mastered he will move toward discrimination of the more acoustically similar sounds. After discrimination of two sounds has been mastered, the student can increase the set to 3, 4, 6 and finally all sounds. Once he can discriminate all sounds he should be expected to perform the Ling Sound Listening Check identification task in the classroom. It is not necessary for the student to perform the discrimination task in the classroom as

this is a learning phase between detection and identification and is best mastered in a setting with the deaf/hard of hearing professional.

Identification:

1. For the identification task, the presenter will need to have the student facing them in order to clearly hear verbal responses or to see various visual responses. Therefore an acoustically transparent screen should be used in front of the presenter's face, or the student should be trained to look down during the presentations (look at your knees, look at the table, look at the back of the blue chair, etc).
2. Have a mat with a picture representation of each Ling Sound. The student touches the picture or places a chip on the picture each time he hears the sound.
3. Have real objects that represent each sound. The student will be instructed to make each one do an action when the sound is heard. For example: "Today I want you to make the Ling Things jump (twirl, skip, fly, hover, gamble about, hop)."

Signaling the end of the task: It is always a good idea to end the Ling Sound Listening Check with some kind of question to which the student would usually be able to readily answer or an action that he would enjoy doing. This provides a bit of a challenge to a routine task and a silly question can signal a fun end to the task.

Data collection needs to occur each time the Ling Sound Listening Check is performed.

Refer to the **School Ling Sound Daily Listening Check** handout for data collection.

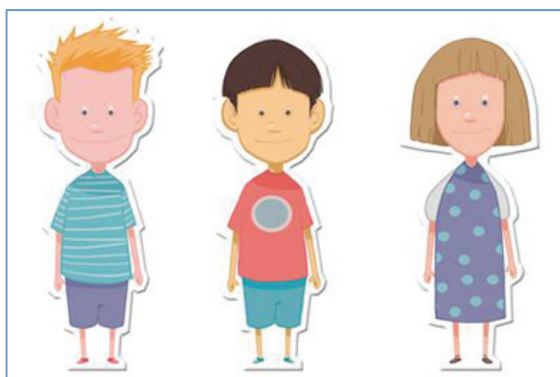
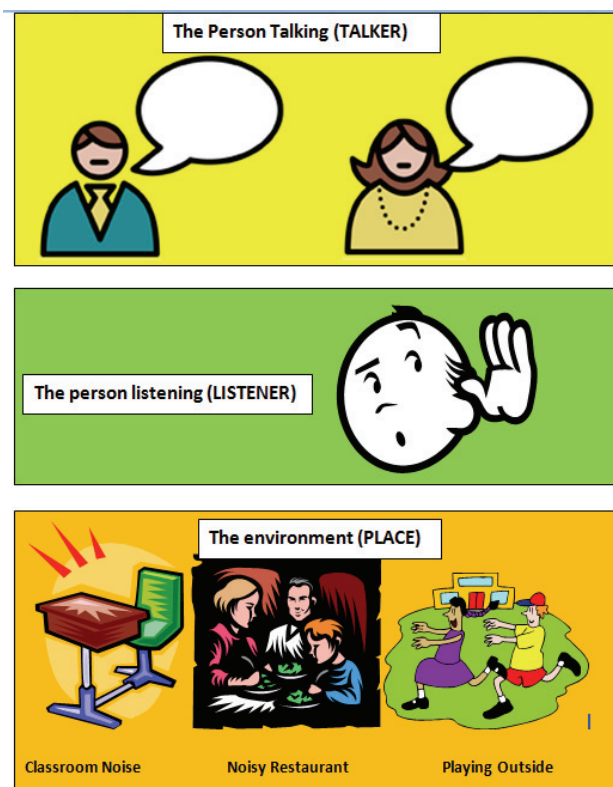
7	Models language for recognizing and responding to challenging listening situations (self-talk)	Begins to recognize listening challenges and how to respond appropriately (foundations of early self-advocacy skills)	Teaches student the 3 basic causes of listening challenges; assists teacher in understanding how to model language during daily opportunities for listening.
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Tips for Quieter Preschool Classrooms

1. Classroom noise is common with busy preschoolers. The preschool teacher needs to train the class to quiet down during communication times, adding an explanation of why this is necessary.

Examples:

- a) Our ears work best when our mouths are closed!
 - b) Billy, please stop making noise. We all want to hear what Susan has to say.
 - c) We will be breaking into activity groups. We need to use our inside voices so it is not loud.
 - d) If someone talks to you and you didn't hear them, ask them to say it again, please.
 - e) Some people have soft voices. Other times it is noisy. If you are having a hard time hearing, move a bit closer to the person so you can hear them better.
2. The student, through modeling by the adults in his or her environment, should become aware of WHY listening is challenging. Is it because someone is too far away or their hand is covering their mouth? This would be a Talker issue. Is it because it is noisy in the listening environment? This would be a Place issue. Is it because the student misses some of the speech sounds so he or she cannot make sense of what was heard? This would be a Listener issue. Before students can learn how to appropriately respond to challenges, they must understand why it is challenging. (Resources: What's the Problem Game; Monkey Talk Game. Source: *Supporting Success for Children with Hearing Loss*)



3. The *My World Tool* has images of listening settings and stand-up people playing pieces that help young children express their own listening challenges. It is also a tool for teaching the three causes of listening challenges and how to appropriately respond. The *My World Tool* can be downloaded at no cost from http://idainstitute.com/tool_room/my_world/.

Refer to the handout **Using the Ida My World Counseling Tool with Children – Suggestions for Use at Different Stages of Development**

LIST OF DOWNLOADABLE FILES

The following 24 downloadable files have been included at no extra cost. They are copyrighted - not “freeware.” The purpose is to enhance the content of this guide or for early intervention teachers to be able to share key information with families and/or school teams. Consent is given for use in supporting individual families. Consent is denied for distribution at conferences or to share with colleagues. Some of these resources may also be downloadable at <http://successforkidswithhearingloss.com>

- All Day, Everyday storybook template
- Are my hearing aids working right? (data tracking sheet)
- Areas to Assess when Considering the Needs/Skill Levels of Students with Hearing Loss Worksheet
- Attitude is Caught, Not Taught
- CHILD Questionnaire: Children’s Home Inventory of Listening Difficulties
- Completed Areas to Assess when Considering the Needs/Skill Levels of Students with Hearing Loss Worksheet
- Consistent Auditory Input – Step 1 for Growing Your Child’s Brain
- ELF Questionnaire: Early Listening Function
- Hearing Aid Monitoring Checklist: Preschool & Kindergarten
- Hearing Aid Monitoring – An Important Daily Activity (summary for teachers)
- Hearing Device Retention Accessory Information
- Hearing Grows Your Child’s Brain
- Ling Sound Picture Chart
- Listening Bubble in the Classroom
- Pragmatics Checklist (fillable format)
- Performing the Ling Sound Listening Check in Preschool
- School Ling Sound Daily Listening Check
- Starting School LIFE (Listening Inventory For Education)
- Tricks and Strategies to Keep Hearing Aids on Active Infants & Toddlers
- Using the Ida My World Counseling Tool with Children
- Welcoming the Child with Hearing Impairment into Childcare
- Your Child and Hearing Aids: Keeping hearing devices on your child can be hard – but you CAN do it!



Go to <http://successforkidswithhearingloss.com/echguide4hawear/downloads> to download your files. Complete the shopping process as directed. Use the code below to download at no cost.

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