

Your Child and Hearing Aids

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

<p>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.</p>	<p>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.</p>
<p>Why Children May Reject Their Hearing Aids</p>	<p>What You Can Do When Your Child Rejects Hearing Aids</p>
<p>Young Children: 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.</p>	<p>Young Children: 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 immediately.</p>
<p>Infants: 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.</p>	<p>Infants: 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 cereal bit and once again put the hearing aid(s) in his ears.</p>
<p>Toddlers: 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 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.</p>	<p>Toddlers: 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 take off his diaper and run about?). Reward him with a hug when he asks to 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 ‘uh-oh’ and point to his ear or ‘good!’.</p>
<p>Preschoolers: 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.</p>	<p>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</p>

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/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 and 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.

The *math* of hearing aid wear

- ▶ Babies listen for about a year before they say their first word.
- ▶ If a baby with hearing loss is awake for 8 hours day and only wears hearing aids for 2 hours then he will only be able to 'tune in' to the hearing world 25% of the time.
- ▶ It may take up to 4 years for his first word.
- ▶ A school-aged child is awake about 100 hours/week.
- ▶ If he only wears hearing aids in school, that is about 30 hours/week.
- ▶ If the child is only wearing hearing aids 30% of the time then we can expect 30% achievement since listening and language development occurs during all waking hours.



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



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.

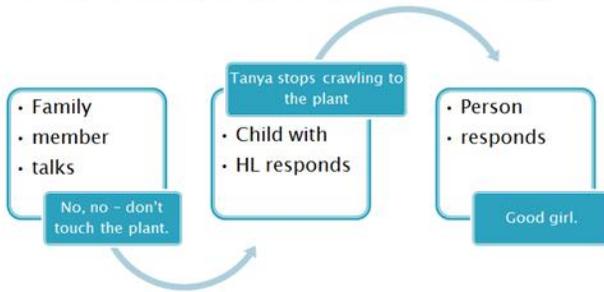


Brain Development - why hearing aids can't wait

- ▶ 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.



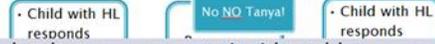
Communication expectations: Consistent, dependable hearing



Family communication is unpredictable: "Tanya may have her hearing aids out and not hear me. I'll try anyway. I have to yell at her sometimes to get her attention! She seems to ignore me! It's easier just to stop her than to try to explain right and wrong."



Tanya's level of confidence in receiving communication is low. People yell at her or just ignore her. She probably does not perceive the situation is related to wearing her hearing aids.



End result - less exposure to incidental language, fewer turns at conversation, increasing feelings of isolation and unworthiness. Greater issues with trust, self-concept, making friends & socializing.

Family communication can be adjusted: "Tanya will hear and respond to me as long as we are in the same room."

Strategies:

- ▶ Stick to the schedule - no weekends or days 'off!'
 - When he gets up and you change his diaper put his hearing aids on - every time. He will soon associate two activities. As he 'graduates' into underwear it will be natural for him to recognize that he needs to wear his hearing aids all day, everyday just like he needs to wear his underwear.
 - Keep the hearing aids in the same place ('hearing aid house')
 - Teach him that he needs to ask an adult to take off the hearing aids. When he asks to have them off consider if it is too noisy, he may have an ear infection, a battery may be dead, the hearing aids are malfunctioning, etc.
- ▶ Tantrums happen. When he calms down distract him with something he likes (i.e., reading a book) and try again. Do not let the hearing aids become a way that he 'misbehaves to get your attention'
- ▶ It is natural for him to be curious about his hearing aids. Use hearing aid accessories and strategies to keep the hearing aids on and safe from him removing them, taking them apart, swallowing the batteries.



▶ Clips + firmer device holders



Ear Gear



SafeNSound



- ▶ Consider sharp edges
- ▶ Can the baby still put the device in his mouth?

▶ Clips



- ▶ Consider sharp edges
- ▶ Can the baby still put the device in his mouth?

▶ Other device holders



Huggie Aids



Huggie Aids Headband



Caps Hearing Henry



Headband Hearing Henry

- ▶ Consider acoustic transparency, comfort, difficulty putting on, washing, durability

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.



Biggest challenges to Achieving Full-Time Amplification Wear

- ▶ On-off-on-off transitions throughout the day
- ▶ Child temperament issues
- ▶ Activity-based issues (car!)



Parent's Strategies for What Works!

- ▶ Different strategies are needed as children's dexterity and independence changes. All children go through a phase where they take off their hearing aids.
- ▶ Persistence in putting them back in, using accessories to keep them on the child's head and keeping the child distracted and 'happily listening' helps you get through!
- ▶ Ear Gear was the most highly rated accessory for effectiveness, safety, durability
- ▶ Ear Gear + wig tape
- ▶ Sing whenever he pulls off his hearing aid - he won't want to miss hearing his favorite song!

2012 Pediatric Hearing Aid Retention Project Survey results of 286 parents by Karen L. Anderson, PhD & Jane Madell, PhD

Parent's Strategies for What Works!

- ▶ Clips to hearing aids attached to barrettes in hair; if child tries to pull off - she pulls hair too
- ▶ Wig tape to support a large hearing aid or FM on a tiny ear
- ▶ Cap over the hearing aids (Hearing Henry; Hannah Andersson) with strings criss-crossed under chin and bow tied behind neck
- ▶ When in a carseat, wrap a blanket around her that has a Velcro strip so she can't bend her elbows (a week or less may be all that is needed before she learns to not touch her hearing aids)
- ▶ Beware of clips with sharp edges and accessories that still allow the child to pull off the hearing aid and put it in his/her mouth (batteries are poisonous!)

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Parent Ratings of Hearing Aid Retention Accessories/Strategies:

Based on the results of the Children's Hearing Aid Retention Survey completed by 286 parents (2012). Survey conducted and analyzed by Karen L. Anderson, PhD & Jane Madell, PhD

Hearing Aid Retention Accessory	Effectiveness	Child Safety	Durability	Ease of Use	Keeping hearing aids on and working
Ear Gear	1	2	1	1	1
Cap with ties under chin	3	1	2	1	3
Tape (for skin)	2	3	9	5	5
Clips with cable to back of shirt	7	8	5	5	6
Headbands	9	5	5	9	7