

Welcoming the Child with Hearing Impairment into Child Care

Children are children first, even when they have a disability. As with any parents, parents of children with disabilities can choose to be employed as long as there is quality child-care available. The Americans with Disabilities Act has specified that a child care center cannot choose to deny admission of a child with a disability if the child care center provides care to children of the same age and reasonable accommodations can be made. Infants, toddlers, preschoolers, and school-age children with hearing impairment can attend child care centers, home day care, go to a caring neighbors house, or spend the days with Grandma or Auntie while Mom and Dad are working. The purpose of this information is to help the person providing child care to better understand the challenges and special needs of the child with hearing impairment.

Just because a child has a hearing loss doesn't mean the child is deaf. For every child that is completely deaf there are at least 10 children with partial hearing. Most of these hard of hearing children learn to speak, develop language, and learn in school using their hearing rather than sign language.

The "Listening Bubble"

Hearing is a distance sense. It allows people who care for children to monitor activities without having to really watch everything the children are doing (i.e., monitoring what is happening across a room, if two children are getting along together, who is going to be mommy while playing house, and even very quiet whispers, if the children whispering are nearby). We can think of this as our listening bubble, being within ear-shot, or the range of listening we have under certain conditions. For normal hearing people communicating in a setting where children are very active and playing loudly, the listening bubble in which understanding all of what is being said may only be 3-6 feet. However, if it is quiet, you may be able to listen in on conversations even when you are in an adjoining room preparing a snack. Our listening bubble depends on how much noise there is in the background. A child that is hard of hearing will have a listening bubble that is smaller than the listening bubble of a person with normal hearing. Just like people with good hearing, they will be better able to understand speech when it is quiet.

How much hearing loss? What does that mean?

Names for the degree of hearing loss are deceiving. If you place your fingers firmly in your ears, you have just given yourself a

borderline-normal, or minimal hearing loss. You will find that you can still hear with this amount of hearing loss but conversation sounds indistinct, muffled, and is hard to understand. Persons who wear hearing aids rarely ever hear better than at this level of hearing loss. Hearing aids DO NOT restore normal hearing like glasses restore normal vision. Children with a mild degree of hearing loss may have a 10 foot wide listening bubble in quiet that causes them to miss 25-40% of the speech signal. Even a small amount of background noise will make understanding difficult so that 50% or more of the content of what is said to the child is not heard clearly. A child with a moderate or severe hearing loss will have even a smaller listening bubble, sometimes being only inches from the ear. Distance is critical to understanding and to learning new words.

The key to language learning

Children learn language by listening to others using language in normal situations, rather than having someone teach them the meaning of words. We learn new names by hearing them said a few times as we interact with others. Because of the hearing loss, the child with hearing impairment may not know most or all of the other children's names. They may seem "out of it" or disconnected from the group, even during a familiar, fun activity.



For children with hearing loss, the ability to learn language is linked directly to how much hearing loss they have, and how long they have been wearing hearing aids consistently. Children whose hearing impairments are discovered shortly after birth and who receive hearing aids by the age of 6 months and wear them all waking hours can have normal language development, although they will still have difficulty understanding in background noise. In contrast, a child whose hearing impairment is not diagnosed until age 2 or 3, even if it is a mild hearing loss, will typically have few words, frustrated behavior, and be socially immature compared to normal hearing children.

Even children with hearing loss in only one ear will miss subtle ways in which some words are emphasized and cues for taking turns while socializing in normal play. Surprisingly, the subtle effects of hearing in only one ear accumulate so that these children are at 10 times the risk for school failure than children with normal hearing. Learning language and socialization starts very young, is very complex, and needs good hearing in both ears.

How will we communicate with this child? How will this child communicate with us?

The question of how well a child will be able to verbally communicate depends on his or her amount of hearing loss. Most children with hearing impairment will continue to use their hearing to learn and develop language.

Caregivers need to remember to talk, talk, talk and interact with the child as much as possible. Because children with hearing loss miss parts of words and conversations, they sometimes do not answer when asked a question. The typical response by adults and children when this happens is to drop the issue and not ask the child as many questions. We may not intend to talk to the child less, but it is a natural reaction to miscommunication.

Caregivers need to constantly resist this natural tendency. Instead, these breakdowns in communication should be taken as a strong signal – a red flare going up – that this child needs to have the talker move closer into their listening bubble.

***talk, talk, talk -
closer, watch me, quieter***

Allow the child to see the talker's face, and if possible, decrease the background noise by moving away from the activity or reminding other children to keep the noise level low. If this reminder is heeded and these tactics are used by the child care provider and taught to the child's playmates, the listening and learning gap may never develop or can begin to close.

Why does he talk that way?

You can think of how clearly a child speaks as being a mirror of how clearly they hear the speech sounds. Sure, many children will have problems saying words with s, r, th, until they are in kindergarten or older. The child with hearing loss usually has these same speech problems and more. Typically the higher pitch consonants like s, f, th, t, and sh are omitted or mispronounced because the child does not hear them at all or only hears them when it is quiet and they are very close to the person speaking. A child who received hearing aids after 6-12 months of age or who has not worn them every day for all waking hours will likely have speech that is more "different sounding" than the child who has heard their best consistently from infancy. Some people call this a "deaf accent" and it is very difficult to develop normal speech sounds and voice quality unless optimal consistent hearing is provided, especially from a young age.

Hearing aids need to become an all-day everyday part of the child

Hearing aids are marvelous little machines – like a high quality stereo and karaoke system built into a unit the size of your thumb or smaller. As marvelous as they are, they only do one thing – make sounds louder. Hearing aids cannot be selective and only amplify people’s voices - they make other sounds and noise louder too. They run on batteries that go dead after only 1-2 weeks. They have parts that wear out, that are outgrown, and that do not like any kind of moisture. It takes real commitment and belief in the value of how much the hearing aids help the child to maintain them and keep them working.

For all their weaknesses, hearing aids make a huge difference in the listening, learning, and socializing abilities of a child who is hard of hearing. Children with moderate to severe degrees of hearing loss may have too much hearing loss for the hearing aids to overcome. This means that even while wearing hearing aids, the child will still miss some speech sounds. These sounds are usually the high pitch consonants like s, f, th, t, p and sh. Like listening to a telephone conversation that is cutting in and out, the child must try to “put the pieces together” and use context to figure out what was said. The later the hearing loss was identified, and the less time hearing aids are worn, the lower the language skills of the child. This makes using context very difficult. Again, a caregiver must talk, talk, talk to help the child get the complete message and to learn that they can depend on their hearing and language ability to communicate.

He can hear me without his hearing aids on – he doesn’t really NEED them does he?

A person who wears glasses all of the time can still SEE when they take the glasses off, but they don’t see CLEARLY. It takes much more concentration and effort (getting in direct light, getting just the right distance from the object or page before it comes into focus better) for the person to be able to fully recognize and meaningfully differentiate the details of what they want to see. A child who is hard of hearing can still typically HEAR something when he or she is not wearing hearing aids. If you were to call the child’s name from a few feet away he may turn. If you are doing routine activities he may seem to really hear well, when in reality he may have heard part of what you said, and then guessed the rest based on context and experience. But for the child to hear the speech sounds as CLEARLY as possible, wearing hearing aids during all waking hours is necessary.

CARE AND FEEDING OF HEARING AIDS

As the child’s daily caregiver, and a very important person in that child’s development of language and early skills, you need to understand the child’s link to the hearing world - the hearing aids. You already have an understanding of why hearing aids are important. Some questions and answers follow that can help you understand how and when to help the child use the hearing aids.

Is there insurance on hearing aids?



Hearing aids are VERY EXPENSIVE, typically costing between \$1000 - \$3000 or more for each ear. Hearing aids can get lost on play equipment, flushed down toilets, and get fed to the dog. Hearing aid insurance can be obtained at the time the hearing aids are purchased. Sometimes

homeowners insurance will partially cover lost or destroyed hearing aids. Find out how to handle lost or damaged hearing aids BEFORE something has a chance to happen.

How often do the hearing aid batteries need to be changed?

These very expensive hearing aids can be of absolutely no benefit without batteries. Insist on having at least 2 spare batteries at all times. Unlike watches, hearing aids require a lot of power from batteries and the batteries only last 1-2 weeks when used all waking hours every day. The batteries come with a small sticker that is on the top of each battery. Once the sticker is removed, air “activates” the battery and the lifetime of the battery starts. Until the sticker is removed batteries can be kept fresh for 2 or more years. Some parents put the stickers on the family calendar so they know what day the batteries were changed. Just like other batteries, it is possible to get a bad batch that do not last as long. Sometimes the hearing aid malfunctions so that it is using up batteries more often. It is important to have some available at all times. And just like all batteries, they work only if placed in the hearing aid a certain way. Batteries have a smooth, shiny side and a dull, rounded side. The smooth shiny side always faces up when a battery is inserted in the compartment or the hearing aid will not be getting power.

As a caregiver it is vital that you understand that hearing aid **BATTERIES ARE POISONOUS** if swallowed. The extra batteries should be kept locked away from young children just as you would lock away

medicine. For toddlers and young children it is vital that the hearing aids have locking battery drawers so that curious fingers won’t open the battery compartment. A locking battery drawer usually requires a small screwdriver to open. They are available from the child’s audiologist and you and the parent should each have one. If you think a child has swallowed a battery the situation should be treated just as you would if any other poison was ingested – call the doctor and/or get to the hospital emergency room. Thankfully there have been few serious incidents involving batteries being swallowed.



Why do the hearing aids whistle?

To answer this question it helps to know the 3 basic parts of a hearing aid: (a) the hard plastic

part that holds the battery and that does all of the work to amplify the sound, (b) the earhook that is like a curved tube and fits snugly to the top of the child’s ear, (c) the earmold, which is a custom-made piece of plastic that exactly fits the size and shape of the child’s outer ear. There is a flexible plastic tube glued into the earmold that fits on the earhook. The microphone that picks up the sound is on the top of the hearing aid, next to where the earhook joins the plastic case of the hearing aid.

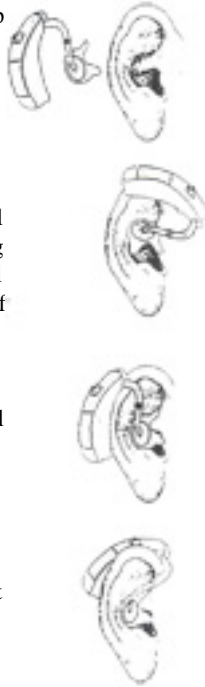
Whenever the amplified sound from the hearing aid leaks out from around the earmold and gets picked up by the microphone a “feedback loop” develops. Whistling, or feedback, is caused by this escaping sound. There are only 3 reasons for it to happen. The two least common problems are due to small cracks or openings in either the earhook or the earmold tube. By and far the most common cause of feedback whistling is due to the earmold not fitting in the child’s ear properly. Most children who have worn hearing aids from infancy can put on their hearing aids properly by the time they are about 4 years old. Until then, they need help from an adult.

How do I help the child put on the hearing aids?

There is a certain knack to getting the earmold to fit in the child’s ear. There is a fold in the outer ear that is just above the ear canal opening. Earmolds typically look like a dime sized, rounded piece of plastic that have 2 parts that stick out – one part goes in the ear canal opening, and the other is tucked into the fold of skin above the ear canal opening. The part that fits into this fold of skin is called the helix of the earmold.

To place the earmold most easily, it is best

to use a front-to-back screwing motion. First, grip the earmold tube between your thumb and forefinger as close as possible to the earmold itself. Next, hold the earmold so that the helix is pointed toward the child's nose. Tuck the canal portion into the ear opening and rotate the earmold until the helix fits into the fold of skin above the canal. This "locks" the earmold in place and keeps it from slipping out of the ear canal as the child moves his or her jaw while talking or chewing. If you hear a child's hearing aid whistling, look at the earmold and make sure that the helix portion is tucked into the fold of skin above the ear canal. Push gently on the plastic earmold just below where the tube is glued in. If the whistling stops, the earmold had scooted out of place just a little bit. This is the first sign of an earmold that is outgrown or not fitting properly.



Growing ears = whistling hearing aids

Children with hearing aids go through periods when they whistle because they outgrow the earmold. Remember, earmolds are custom-made to fit each ear. As the child's head grows, so do the dimensions of their ears. Infants can require new earmolds to be made every month when they are first fit with hearing aids. It isn't uncommon for new earmolds to be needed every 3-4 months for toddlers and at least twice a year for preschoolers. New earmolds fit very snugly and can be a challenge to insert. A little earmold gel, available from the audiologist, or a product like KY Jelly (not petroleum jelly) on the canal portion helps tremendously!

Whistling hearing aids are annoying to you, other children, and to the child with the hearing loss (if they can hear that high pitch). A hearing aid that is whistling is not amplifying speech properly. It is vital that an appointment be made with the audiologist to get new earmold impressions as soon as the hearing aids begin to whistle. Waiting is a poor option as it takes about 2 weeks for the earmolds to be custom-made once the impressions are taken. That's a lot of hours of whistling for everyone to endure! One way to stop the whistling is to turn the volume down on the hearing aid. This should not be a choice that is seriously

considered because it defeats the purpose of wearing the hearing aids by not amplifying speech at the level the child needs. An analogy can be to wearing glasses and then turning the lights down so that only shapes and shadows can be seen. Yes, the glasses are still on, but they are providing little benefit, just as wearing hearing aids with the volume turned down will provide little benefit.

Related to this, it is important to know how loud the hearing aids should be set. Different models of hearing aids have different kinds of volume controls, some with numbers, some with symbols, and some are "smart" hearing aids that adjust the volume internally based on the loudness of the sound picked up by the microphone. In general, 2/3 or 3/4 on (i.e., number 3 out of 4 on the volume wheel) is a common volume setting.

How do I get the earmolds out of the child's ears?

It is important to remove the earmolds correctly, otherwise there may be some repair problems. First, flip the hearing aid from behind the child's ear so that is flopping loosely in front of the ear. Next, push the side of the child's ear towards his or her head and try to get a fingernail under the soft plastic earmold. Do not pull on the earmold tube. The tubes are typically glued in and will pull out of place if used to remove the earmolds. If the tube does come out, try to push it back into the earmold as firmly as possible. A call to the audiologist is needed, probably followed by a visit there to have the tube replaced.

If a child first starts wearing hearing aids as a toddler, he or she may try to take them off. Toddlers rarely like shoes on their feet, much less hearing aids in their ears! One key issue is to be sure that the child realizes that adults (you) are in control of putting the aids on and taking them off. This can be done by providing scheduled hearing aid "breaks" that you initiate. Replacing the hearing aids on the child is then paired with something pleasurable (Let's put on your hearing aids so we can hear the timer go off for the cookies!).

Avoid instances where the child chooses to take off the hearing aids and then misplaces them. This difficulty can be relieved until the child is over this stage by taking fishing line or keepers for sunglasses, putting loops of line on the child's earhooks, gather both of these lines behind the child's neck, then attach them with a safety pin to the back of his or her collar. This way when the child takes out a hearing aid it dangles behind his back and out of the way (and probably whistling!).

ADULTS are in control of when hearing aids are taken out



How do I know if the hearing aids are working?

If the hearing aids are in the child's ears with the power switch on and the volume turned to the correct position you still cannot be sure that the hearing aids are working. There are two easy ways to check the hearing aids. First, the "squeak test" will tell you if amplification is coming out of the hearing aids. Cup your hands over the child's ears. The small amount of sound that normally escapes from the earmold will be reflected by your hand and a feedback loop will start. In other words, when you cup your hands over the hearing aids, they will whistle. This tells you that they are amplifying and will also occur when children put on hoods, hats, or lie with an ear against something. The squeak test may not work for children with mild hearing losses as their hearing aids do not need to be very powerful and little sound escapes around the earmolds.

The second way to test hearing aids actually will help identify if they hearing aid is amplifying but malfunctioning (like having a radio on but tuned into static). For this you need to have the child help you, either by repeating sounds you say, or by raising his or her hand when you say the sounds. For the "6 sound test" you will stand behind the child and say: oo, ah, ee, sh, s, m. Each time the child should repeat the sound you made. Even 2 year olds can do this test once trained. A child should be able to repeat all of these sounds when you are 3 feet away and it is relatively quiet unless the hearing loss is severe. Develop the same attitude about doing the hearing aid check as you would if a child needed daily medication. Do the 6 sound test every day, especially if you think the child is not hearing you as well as usual. Children whose hearing aids are malfunctioning will often have difficulty picking up the s sound or telling the difference between oo and ee, or s and sh. Just saying the child's name and watching for him or her to turn is not a sensitive way to check if hearing aids are working properly. Done regularly, the 6 sound test takes 10 seconds or less with a well trained child and you can be much more confident of the results!

Are there times when the hearing aids shouldn't be worn?

Some children will take a nap with their hearing aids in their ears and the hearing aid power switch turned off. This is not a good idea for a young child who may choose to take apart the hearing aids, just when you thought he had fallen asleep! It helps to have a case or a "hearing aid house" kept in an out of the way place. Train the child to put the hearing aids in

the hearing aid house if they are not in his ears. Hearing aids hold up under most play activities with one exception – **WATER!** Running through the sprinkler or playing in a backyard pool shouldn't be done with hearing aids. If a



drop of moisture enters the hearing aid microphone port the aid will be out of commission until it dries out! Most of the time the hearing aid will dry out, however, if thoroughly drenched or if the aids are exposed to moisture often enough, internal parts will break down, causing costly repairs. Never try to dry the hearing aids with a hair dryer, oven, or microwave (parts can melt!!!). The audiologist can provide a Dri-aid pouch that has special crystals that absorb moisture. Children who produce a lot of sweat or live in damp, rainy climates, should have a Dri-aid pouch as a "hearing aid house" to remove moisture in the hearing aids while the child is sleeping.

GETTING ALONG WITH OTHERS

Children with hearing loss have a variety of different personalities, just like all children. And just like all children, making new friends and maintaining friendships is very important. A child with a hearing loss is at risk for being misunderstood and teased by other children.

How can I help the child be accepted by other children?

Children are curious. Most children are very interested in what hearing aids are and how they work. Talk to the children and describe what it is like to have a hearing loss. Even preschoolers can develop empathy for the challenges of listening with hearing aids.

An idea for an activity for 3-6 year olds: Gather the children in a circle. The child with the hearing loss can be there as the "expert" but doesn't have to participate in the activity. Have 8 or more toys or common items in the center of the circle. Have everyone put their fingers in their ears. While using a quiet voice, say each of the items and have the children repeat the names of the items. This is to show the size of their listening bubble. Then move farther away from the circle. This time say a child's name and a common item (John please pick up the fire hat. Sue pick up the kitty please). Some children will do better than others on this task.

Now turn on a radio softly in the background, another voice talking is best. Ask a child to give one of the toys to another child (Joshua, get the kitty and give it to Sue). This will probably be quite difficult for the children to do. Encourage the children to watch your

face as you give them the direction. Have them ask you to repeat yourself, again and again. Ask what they think you should do? Turning off the radio and moving closer to the group should be suggestions that are made. Follow these suggestions until everyone is watching your face as you give a direction, it is quiet, and you are close. Have them unplug their ears and talk about: (1) how difficult it was to understand all of what was said, (2) how frustrating it was to have to ask someone to repeat, (3) how much effort it takes to really listen, (4) how not understanding made you feel dumb, but you really weren't dumb – you just couldn't hear the direction, etcetera.

It is also helpful to talk about hearing aids and what they do. Describe them as little machines that make sounds louder. Find a radio station with people talking or a favorite audio taped story. Have the group tell you how loud they like to hear the people talking on the radio. Try to match the radio's loudness to typical loudness of conversational speech. Next, turn the radio to a volume where it is heard, but too quiet to readily understand. Have the children put their fingers in their ears again. Ask them if they can still hear the quiet speech and if they can repeat anything that is said. Finally, with their fingers still in their ears, have them tell you to make sound louder for them, just like a hearing aid does, and turn the radio up until it is relatively loud. Again, have the group discuss how loud they would like to hear the people talking on the radio and determine this loudness level. When the children unplug their ears and hear how loud they needed to have the radio to overcome their hearing loss, relate it to the use of hearing aids.

Add 2 or more sets of sound protection earmuffs to the dress-up area available to children. Talk frequently about the "listening bubble." If you have a difficult time hearing a child from across the room, explain that they weren't in your listening bubble so you don't know everything that they said. As questions arise about the child's hearing loss, explain that the child with hearing loss is just like the rest of the children except that his or her listening bubble is smaller.

Help the child with hearing aids develop assertiveness with peers. Encourage him or her to ask their playmates to be close (in the listening bubble) or away from noise. These are lifelong skills that will help build self esteem. If teasing does occur use the sound protection earmuffs to demonstrate why the child with hearing loss had difficulty in whatever situation that was the cause of the teasing.

Finally, help the child with hearing loss learn the "social ropes" of getting along. The subtle cues of turn taking during conversation, making eye contact, and listening to others and

commenting on what they just said, are all valuable skills that are typically learned without teaching when heard consistently by a child with normal hearing.

Another area of difficulty is jokes and absurd humor. For example, the child with hearing loss may not understand why another 4 year old would think a slip of the tongue such as "I don't stink so" rather than "I don't think so" would be funny. They may not hear the s or the th sound so they would need to use context to understand "I don't think so," - completely missing the humor. Take the time to get close to the child, repeat the two phrases while he watches your face, and talk about the differences in meaning between think and stink. Although this misunderstanding seems minor, shared humor is a strong basis of feeling like part of the group and being seen as an "insider" instead of an "outsider." Children with hearing loss are at great risk for being socially immature because it takes them so much longer to learn the social ropes. In the mean time, other children see them as different, not so much because of speech and hearing aids, but because they don't join in the group humor and social rules naturally. Children with hearing loss also have great difficulty with idioms, such as "slow as molasses" or "talking a blue streak." Use idioms naturally, but take time to explain that saying it that way really means _____, but it is just another way to say it.

Use rich vocabulary, like "shades of purple," but take the time to explain that shades of purple means there are different kinds of colors that are almost the same and are all a kind of purple. Each of the shades has a different name too. Once a child with hearing loss becomes aware that he or she can learn these new words, they will be more confident language users and learn to use context to figure out new words more confidently.

It takes a village to raise any child

The child with hearing loss is an eager learner, a language sponge, and his or her own little personality, just like all children. Constantly remembering "talk, talk, talk – closer, watch me, quieter" will help the child with hearing loss develop language as normally as possible. Intervening in social situations, especially when the child is very young, will go a long way to develop healthy self-esteem and social savvy. You are in a partnership with the child's family and community members to raise this special individual to be all that he or she can be. What an enriching and fulfilling experience it can be for you and the child with hearing loss!

April, 2001. Karen Anderson is a longtime educational audiologist that has worked with many families of young children with hearing loss. She can be contacted at karenlanderson@earthlink.net

