

Kids' Hearing



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we know hearing
we know hearing aids

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A baby's hearing sensitivity is similar to that of young adults, but their ability to cooperate for a test and the size of their ear canal make hearing evaluation for them different from adult hearing evaluation.

Because hearing impairment is so common (about 3 children out of 1000 are born with impaired hearing) and because of hearing's importance to speech and language development, newborn infants are screened for hearing loss.

If you are bringing your child to us because he/she did not pass his or her newborn hospital hearing screen: we will want to know if there is a history of hearing loss in the family (at a young age). We will also want to know if there were any birthing complications or prematurity.

0—7 months

It is difficult for the parent or us to determine what a child in this age range hears based solely on his/her reaction, or non-reaction, to sound. Sometimes infants seem to sleep through anything and sometimes their spontaneous movements can seem like a reaction to sound.

The three most common tests we use for the child who is less than 7 months old are otoacoustic emissions, high-frequency tympanometry and acoustic reflex testing. All involve insertion of a rubber probe into the ear canal and require quiet from the child. The tympanogram takes about 5 to 30 seconds. Otoacoustic emissions take 30 seconds to a few minutes. 0-7 month

children usually tolerate these with no discomfort.

Around One-Year Old

By this age, family members have learned to recognize to what sounds the child does and doesn't react. If you think that your one-year-old is not hearing properly, you are probably correct.

When there is some question about a child's hearing at this age, the most common things we check for are middle ear effusion, mild or greater hearing loss, frequency-specific hearing loss, and unilateral hearing loss.

Middle Ear Effusion—This is a type of ear infection where there is no ear pain, no fever and often no apparent illness, but fluid has collected in the middle ear behind the tympanic membrane (eardrum).

The fluid that collects in the middle ear is not from bathing or swimming, it comes from the membranes lining the middle ear. It may be there because of a recent cold or because of Eustachian tube dysfunction.

If we find a child with middle ear effusion we may do nothing at first. It is not unusual for a youngster to occasionally get this type of ear infection and for it to go away on its own. If the fluid does not go away on its own after 2-3 months, we may refer your child on to an Otolaryngologist so that tubes can be considered.

Frequency Dependant Hearing Loss—Perfect hearing requires hearing for a range of frequencies. Low frequency sounds are like the left hand keys of a piano. Many sounds in the environment have low frequencies, including the vowel sounds of speech or a tuba.

High frequency sounds are like the right hand keys of a piano. The /s/ sound is high frequency, water running is high frequency.

When the child is very young, we may not check the entire frequency range of hearing; we will start at 2000 Hz, which is the most important frequency for speech perception, and continue from there as possible.

Once the child is close to one-year-old, another procedure can be used to augment those used for the younger child. It is visual response audiometry or VRA.

VRA is a behavioral procedure where the child makes a head-turn to a toy. The child is taught that a small toy lights-up and moves whenever the sound is present. If the child is at the right age and the procedure is done correctly, this can be just as accurate as an adult test.

Unilateral Hearing Loss- This is hearing impairment in one ear. Many children and adults do very well hearing from only one ear. However, hearing well in only one ear does mean that there will be some situations where the child will not hear as well as someone with 2 ears.

Sometimes a child with unilateral hearing loss will be provided an

"auditory trainer" for the classroom. An auditory trainer is a type of hearing aid where the teacher is provided a microphone that transmits to either a hearing aid, sometimes placed on the good ear and sometimes on the impaired ear, or to a speaker system.

2 to 3 Years Old

This age group can be our biggest challenge because they are too old for VRA, too young for play audiometry, and otoacoustic emissions require that they sit quietly.

If your 2 to 5-year-old child is coming in for a test, or coming back for a retest, here are some suggestions:

- Please do not tell them that we will give them a shot if they do not behave.
- Occasionally, while taking a bath for example, touch the child's ears to get them used to this.
- If you have some headphones at home, try putting them on the child's ears so they are not uncomfortable with them during our testing.
- Use a small flashlight and pretend looking in their ears.
- Some children do better during the test situation with the parent in the room and some do better without the parent. If you were in the room during the first test attempt, we may try the next without you in the test room.

Cleaning Kid's Ears

Some kids make lots of earwax, but trying to make ears "squeaky clean" with Q-tips tends to make it worse. If you push a cotton swab into the ear canal, some cerumen (earwax) may adhere to the swab, but some may be pushed deeper into the ear. Use a washcloth or handkerchief and get what wax you can get with your fingers. Do not worry about wax that is deeper than the ear canal entrance: it is supposed to be there and is not a sign of poor hygiene.

Children & Hearing Aids

Children usually adapt extremely well to hearing aids - better than adults that need hearing aids. Children like hearing all the sounds they should hear.

Parents, however, often feel differently about them. It is less of an issue for parents when a child needs glasses than it is when a child needs hearing aids. We think this is because hearing aids are often not seen and that people do not realize how common they are for children.

