

Parents' Frequently Asked Questions regarding EHDI

Terms: UNHS-Universal Newborn Hearing Screening, EHDI-Early Hearing Detection and Intervention. UNHS refers to the newborn screening done at the hospital after birth. EHDI refers to the EHDI Program and the process from beginning to finish. UNHS is one part of the EHDI process.

How many babies are born with hearing loss each year?

Indiana: 7% to 10% of babies who are referred through UNHS/EHDI are found to have a permanent hearing loss. Every 48 hours, an Indiana baby is born with hearing loss.

Nationally: 33 babies a day diagnosed with permanent hearing loss through EHDI programs. Another 6 to 8 children out of every 1,000 births will develop hearing loss after the newborn period, but before five years of age. Approximately 10 children per every 1,000 that are born are found to have a permanent hearing loss in one or both ears if followed to age five.

What are the causes of hearing loss?

Approximately 70% of hearing losses have a genetic component. The remaining hearing losses generally occur due to environmental factors (prenatal, post-natal, and in early childhood). A combination of environmental factors and genes also could cause hearing loss. In some cases, the cause of hearing loss cannot be determined, however, it is important for families to have the opportunity to discuss genetic counseling with their physician.

How is a baby's hearing screened?

Hospital screening personnel will use one or two screening methods:

Automated Auditory Brainstem Response (ABR) – Sounds are played into the baby's ears. Band-aid like electrodes are placed on the baby's head to detect responses. This test measures how the hearing nerve and the brainstem respond to the sounds and can identify if the baby's ear responded to sound.

Otoacoustic Emissions (OAE) – A miniature earphone and microphone are placed in the ear, sounds are played and a response is measured. If a baby's ear responds normally, an echo is reflected back into the ear canal and is measured by the microphone.

After a baby does not pass a hearing screening, how is his/her hearing further tested? Does any of this hurt? (No!)

A battery of tests is used to determine a baby's hearing ability:

Diagnostic Auditory Brainstem Response (ABR)-Sounds are played into the baby's ear at various loudness levels (dB) and pitches (frequency) using clicks (for high frequencies) and tone bursts (for low and mid frequencies) to determine a child's degree and type of hearing loss. The baby should be tested using insert earphones (to measure the baby's overall response to sound) and, also, a bone oscillator (to determine the type of hearing loss).

Oto-acoustic Emissions (OAE) –Diagnostic oto-acoustic emissions are usually used with ABR and other hearing test results. A small earphone is placed in the ear and tones are presented. The microphone measures an echo response from the inner ear. This information helps define the type of hearing loss.

Tympanometry: This test determines how the eardrum and middle ear are working. This test is important because fluid or other problems in the middle ear can affect hearing. During a tympanogram test, a small earphone is placed in the ear canal and air pressure is gently changed. This test is helpful in showing if there is an ear infection or fluid in the middle ear.

What happens if a baby does have a hearing problem?

The baby's physician should refer for a complete medical work-up with an otolaryngologist (an ear doctor also known as an ENT). At the same time, the baby should be receiving ongoing hearing care from a pediatric audiologist. First Steps will help coordinate support services.

If a baby has a hearing loss, can the hearing improve?

Some types of hearing loss may be medically treated such as middle ear fluid and ear wax. Other types of hearing loss are permanent and are not treatable through medicine or surgery. Permanent hearing loss usually requires the use of amplification (i.e. hearing aids, cochlear implants, FM systems or other assistive devices) in order for a child to hear conversation well. An audiologist will help you with the options available to your baby.

My pediatrician said to wait. Is it ok to wait?

The first six months of life is a very important period in your baby's development. It is not recommended that you wait to complete follow-up testing after a did not pass result on a hearing screening. One reason, however, that your physician may recommend that you wait is due to your child having middle ear fluid or infection. If this is the case, your child should be evaluated as soon as possible after the ears are clear of fluid. Waiting for testing could put your baby at risk for speech and language delays. The earlier you know about your baby's hearing, the sooner you can make sure your child benefits from strategies that will help him or her to learn to communicate.

My baby seems to hear fine. Do I need to have him tested? (Yes!)

It is difficult to tell how well a baby hears just by observing him/her. Babies can respond to many things in their environment. However, even if a mild hearing loss or unilateral hearing loss is present, your baby not be able to hear well enough to develop speech and language skills as expected. This could result in delays in speech and language development.

Where should I get my baby's hearing tested?

Your baby should be seen by an audiologist who has skills and knowledge about testing infants. The Indiana State Department of Health has compiled a list of audiology facilities that are capable of completing a full diagnostic test on infants and children (known as Level 1 facilities). If you do not have access to a Level 1 facility, then you may schedule the initial follow-up at a facility that has "most" of the equipment needed to test infants (known as Level 2 facilities).

How do babies with hearing loss learn to communicate?

Every baby is a unique person. Typically, babies learn to communicate by over hearing their parents and siblings. When a baby has a hearing loss, hearing aids and hearing therapy (also called speech-language therapy and/or early intervention) are usually recommended to help the family teach their baby to communicate. Most babies are able to learn to use their residual (left-over) hearing to learn to listen and talk. Some parents choose to have babies also learn sign language (in conjunction with learning to listen and talk). Some parents choose to use sign language alone as their family's primary way to communicate with their baby. Ninety-four percent of babies are born to families in which at least one parent has normal hearing. The family's first language is the home (i.e. Spoken English, Spanish, Mandarin, American Sign Language) often influences a

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parent's choice for their child. Please refer to the Indiana Family Resource Guide for additional information about communication choices and opportunities.

How will I pay for hearing aids and other devices that may help my baby?

Hearing aids and other related services are often funded through state agencies. First Steps, Medicaid, and Children's Special Health Care Services are programs that assist you with securing what your child needs. You should also check with your private insurance to determine what is covered. Some hearing aid manufacturers also have programs that will help (check with your audiologist). It is recommend that hearing aids be insured for loss and damage (talk with your audiologist).

How long will it take for my baby to obtain his/her hearing aids?

The length time it takes for your baby to be evaluated for hearing aids and to obtain his/her personal hearing aids varies. If it is anticipated that 2-4 weeks will pass before your baby's personal amplification will arrive. You may want to ask your audiologist if loaner amplification is available for your baby.

What about cochlear implants?

Cochlear implants are an option for children who have a severe-to-profound bilateral hearing loss. Most children will utilize hearing aids prior to being considered as a candidate for a cochlear implant. A cochlear implant is a medical device that is

implanted surgically and includes both internal (in and around the cochlea) and external equipment. Extensive evaluation at a cochlear implant center will determine if a child is a candidate for this device. The Federal Food and Drug Administration indicates that a child should be at least 12 months of age in order to receive an implant. For a variety of reasons, a small number of children are candidates for implantation prior to 12 months. First Steps does not cover cochlear implant surgery or the device itself.

What does “at risk for late onset hearing loss” mean?

Some children are born with normal hearing (per UNHS results), but develop hearing loss during the early childhood years.

Babies who have ear anomalies (no ear, partial ear or no ear canal opening) who cannot be screened should be referred immediately for diagnostic evaluation. Follow-up should be determined by the audiologist. Babies who have craniofacial anomalies who can be screened at the hospital (and who pass) should be referred to their physician and First Steps for follow-up testing at 9-12 months of age.

Babies who have been screened (and who pass) , but have one of the following risk factors are referred to their physician and First Steps for follow-up testing at 9-12 months of age:

Family has a history of children with hearing loss in childhood

Baby was exposed to an in utero infection before birth

Baby needed a special procedure (blood transfusion) to treat bad jaundice.

There are additional risk factors for late onset hearing loss, but children with these risk factors are referred to their physician (but not to First Steps) for follow up:

Spent 5 days or more in the NICU or had complications while in the NICU
(Check with your health professional)

Has a condition (neurological disorder) that is associated with hearing loss
(Check with your health professional)

Had an infection around the brain and spinal cord (meningitis)

Received a bad injury to the head that required a hospital stay

Was given certain medications (i.e. cancer chemotherapy) that might hurt hearing
(Check with your healthcare professional)

You are worried about your child’s hearing for any reason