



Early Hearing Detection and Intervention: Can Your Baby Hear?

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[Announcer] *This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.*

[Curt Shannon] Each year in the U.S. more than twelve thousand babies are born with a hearing loss and one in ten children will develop hearing problems at some time later in life. The cause of hearing loss for many babies is not known, and hearing loss can go unnoticed for years. Not knowing about your child's hearing loss can slow down language development, and can affect her success later in school. Since your baby can't tell you if she has a hearing problem, how can you find out?

I'm Curt Shannon, your host, and with me today are Dr. June Holstrum, representing the Centers for Disease Control and Prevention, and Pam Mason, a certified audiologist from the American Speech-Language-Hearing Association, or ASHA. Pam and June are here to answer some questions about early hearing detection and intervention, and hearing loss in infants and children. June, how early can you test for hearing loss?

[Dr. June Holstrum] Well, luckily, babies just a day old can be tested right in the hospital to see if they have a hearing loss. These screening tests are quick and painless. Parents should ask their health care professionals for the baby's hearing test results. If your baby doesn't pass the hearing screening, it's very important to make an appointment for a full hearing test before she is three months of age.

[Curt Shannon] Pam, why is early hearing detection and intervention so important?

[Pam Mason] It's important because babies begin to develop speech and language from birth. If your baby's hearing loss is identified early, the child's family and doctors can make sure the child gets the intervention services she needs as soon as possible. The longer a child's hearing loss goes undiagnosed and does not receive the appropriate services, the more difficult it will be for her to develop these important skills.

[Dr. June Holstrum] To expand on what Pam said, there is something called the "sensitive" or "critical" period for speech and language learning. Children learn speech and language best if they begin very early in life, during infancy. We've all marveled at how quickly children can begin to understand language and begin talking. This "critical period" is the same in children with hearing loss. If a child has a hearing loss, it's best to find it early so families can begin to explore the communication options for their infant. With support and resources from professionals, a family may choose to use speech, sign language, or a combination. The earlier a child begins to learn these skills, the better. Starting early will help the child develop communication and language skills that will last a lifetime.

[Curt Shannon] Pam, when should a baby be screened for hearing loss?

[Pam Mason] All infants should be screened for hearing loss before one month of age, preferably before leaving the birth hospital. Like June said, hearing screening is easy and not painful. In fact, babies often sleep while being screened. It takes a very short time — usually only a few minutes. Sometimes the screening is repeated while babies are still in the hospital or shortly after they leave.

[Curt Shannon] June, what happens if an infant does not pass the initial hearing screening?

[Dr. June Holstrum] She will have to have further testing to determine if there is a hearing loss. It's very important to make an appointment for a full hearing test and medical tests before she is three months of age. There are many tests that can be done to find out if a baby has a hearing loss, how much of a hearing loss there is, and what type it is.

A good way to think of it is the “one-three-six” plan. The “one” means that your baby will be screened for hearing loss before one month of age, preferably before leaving the hospital. The “three” means a baby who does not pass the screen will need to have a full hearing test before three months of age. And, the “six” means a baby who has a hearing loss should get intervention services before six months of age.

All babies with hearing loss should be referred for a medical evaluation to assess the causes and look for potential and related disabilities. Depending on the results of the hearing and medical examinations, a baby may be referred to an intervention program for hearing loss.

[Curt Shannon] If a baby passes the initial hearing screening, can she still have a hearing loss?

[Dr. June Holstrum] Yes, some children develop hearing loss after the newborn period. This is called “late onset” hearing loss. Sometimes hearing loss gets worse gradually over time. This is called “progressive” hearing loss. Infants with risk factors for late-onset or progressive hearing loss should receive regular monitoring for hearing loss by a certified professional, such as an audiologist or an ear, nose, throat doctor. All babies, with or without risk factors, should be followed for speech and language development during well-child visits by the babies’ doctor.

[Curt Shannon] Pam, what are the risk factors for late onset or progressive hearing loss?

[Pam Mason] They overlap with some of the causes of hearing loss in newborns. But there are several common risk factors for late onset or progressive hearing loss.

You should ask:

- Is there a family history of childhood hearing loss?

- Has the baby has been exposed to an infection before or after birth? It's important to know whether the baby became ill at birth or not.
- Has the baby spent more than 48 hours in the neonatal intensive care unit?
- Does the baby or young child have head, face, or ears that are shaped or formed in a different way than is usual?
- And, are the parents concerned about their baby or young child's hearing?

[Curt Shannon] June, do we know what causes hearing loss in newborns and infants?

[Dr. June Holstrum] About three in one thousand babies are born with some degree of hearing loss. We don't know the causes for hearing loss in about 25% of these cases. When the cause is known, genetic factors figure in about half of the time. Sometimes these children have other conditions, in addition to hearing loss.

Non-genetic hearing loss is most often caused by illness or trauma, like during pregnancy or when a baby is born. Older infants and young children can also develop hearing loss from an illness or trauma. Some viral infections are known to be associated with hearing loss. Severe stress at birth and low birth weight are associated with hearing loss. Jaundice at birth, if it's severe enough to require a blood transfusion, is associated with hearing loss. One illness in children that has a high chance of causing hearing loss is meningitis.

Unfortunately, sometimes there are medications which can damage hearing that are given to infants or children to treat very serious infections. Doctors try not to use these medications unless the infections are really serious. With medical advances occurring all the time, there should be fewer cases of hearing loss in the future due to medications. And, of course, just like with adults, exposure to loud noises over a long period of time can cause hearing loss.

[Curt Shannon] Pam, are there ways you can tell if your child has a hearing loss?

[Pam Mason] Yes, although it can be very difficult to recognize hearing loss in a young child. Children are "wired" from birth to learn and develop speech and language. Recognizing some milestones can help you take the right steps to identify a possible hearing loss. For example:

- By 3 months, your child should be consistently responding to the sound of your voice by smiling or turning when you speak.
- By 4-6 months, your child should look around for sounds such as the door bell ring or a dog barking.
- By age 7 months to a year, your child should respond to simple requests, such as "come here."
- At age 1-2 years, your child should point to familiar pictures in a book when named, and should follow simple requests, such as "touch your nose" or "roll the ball."

- By age 2-3 years, her speech should be understood by familiar listeners most of the time.

If your child turns the sound up too high on electronic equipment, such as a radio, TV, or a CD player, she may have a hearing loss. By the time your child enters school she should be able to pay attention to a short story and answer simple questions about it.

If you have concerns, seek the services of an audiologist certified by the American Speech-Language-Hearing Association or the American Academy of Audiology, who can recommend appropriate interventions.

[Curt Shannon] What are examples of intervention services?

[Pam Mason] Intervention services are types of programs and resources available for children and their families. An intervention might be working with professionals who can help a family and child learn to communicate, or fitting a baby with a hearing device, such as a hearing aid, and joining family support groups and other resources available to children with hearing loss and their families.

There's a lot of information on programs and other resources at cdc.gov and at ASHA.org. Use the search term "early hearing" to quickly locate these resources.

The most important thing to remember is that all babies with hearing loss should begin intervention services before six months of age.

[Curt Shannon] June, how can I find resources, such as audiologists or hearing screening tests, that are available in my area?

[Dr. June Holstrum] Early Hearing Detection and Intervention, or EHDI, programs are set up in U.S. states and territories to ensure that infants and children with hearing loss are found and receive help as soon as possible. If your baby does have a hearing loss or if you have concerns about your baby's hearing, call toll free 1-800-CDC-INFO or visit cdc.gov and search for "early hearing" to learn more about this topic and available services.

[Curt Shannon] Pam, do you have any take-home messages for our listeners?

[Pam Mason] Yes. Always remember that screening is only the first step. Other important steps are a full hearing test to confirm a hearing loss, and early intervention services. Finding a hearing loss early and getting into an intervention program for babies with hearing loss helps a child to communicate better with others, do their best in school, and build confidence when interacting with other children.

If you or someone you know is about to have a baby, make sure the baby's hearing is checked soon after birth. By finding out early about hearing loss, your baby can start developing communication skills that will last a lifetime.

[Curt Shannon] Thanks to Dr. June Holstrum and Ms. Pam Mason for sharing this important information with us today. To learn more about the topics discussed, please see the links on the ASHA.org and cdc.gov websites.

[Announcer] *To access the most accurate and relevant health information that affects you, your family and your community, please visit www.cdc.gov.*