IOWA Health and Human Services
Public Health

Iowa's Early Hearing Detection and Intervention Program

Fact Sheet

Why is Hearing so Important for Children?

Newborns start to learn about the world and communicate during the first months of life as they interact with their parents using all of their senses. When babies hear their parents speak and sing, they start to learn spoken language.

When babies hear every day sounds, their hearing system develops as one way to continue to learn about the world. By about 3 months of age, babies will usually smile when spoken to. By 6 months of age, they will begin to babble and imitate simple sounds. By one year, most babies will say their first word.

What is Hearing Loss?

Hearing loss can happen when any part of the ear is not working in the usual way. This includes the outer ear, middle ear, inner ear, hearing (acoustic) nerve, and auditory system.
For children who cannot hear, it is important for them to learn communication through other means such as American Sign Language.

Children with low hearing can also communicate, learn and thrive. It's important to know the child's ability to hear as soon as possible so they don't miss opportunities to learn to communicate and interact with the world.

How We Hear

1. Sound causes air molecules to vibrate. These vibrations are picked up by the outer ear and travel down the ear canal to the eardrum.

2. The eardrum detects these tiny vibrations, which set the eardrum and the three bones in the middle ear into motion.

3. These movements travel through a small, covered opening into the cochlea or inner ear.

   Note! The Cochlea is filled with two types of fluid, separated by two membranes. Along one membrane, the basilar membrane, are microscopic structures that help to turn these sound vibrations into the electrical signals that the brain recognizes as sound. Hair cells are one of the microscopic structures found along the basilar membrane. Each ear contains thousands of these hair cells. They are arranged by frequency, or pitch, just like a piano keyboard. Nerves are attached to the bottom of these hair cells.

4. When sound vibrations set the fluids of the inner ear into motion, each hair cell responds to a specific frequency by moving back and forth. These movements trigger the nerve endings, which send an electrical signal to the brain along the auditory (hearing) nerve.

5. The brain then interprets these signals, and we perceive sound.

For more information about how the ear works, go to
https://www.asha.org/public/hearing/how-we-hear

Newborn Hearing Screening

A hearing screening at birth is a simple test to tell parents if a baby might have hearing loss. Some babies who do not pass may still have typical hearing. Others may not hear as well and will need some help. Hearing screening is easy and not painful. In fact, babies are often asleep while being screened. It takes a very short time, only a few minutes.

What's next if my child doesn't pass the newborn hearing screening?

If your child does not pass their hearing screening, we can act on this through additional testing. It is important for you to complete a follow-up screen as soon as possible. You may be asked to bring your baby back to the hospital for another hearing screen or you may be told to see an audiologist.

If your child does not pass the outpatient hearing re-screen, your child should be referred to a pediatric audiologist for diagnostic testing. Be sure to find out whether the audiologist has the right equipment to test infants and young children.

For assistance in scheduling diagnostic testing, call the EHDI program at 1-833-496-8040.

Knowing your child's hearing ability is very important in promoting learning and communication. So don't delay!

Check out these statistics:

2 to 3
per 1,000 children
in the United States are born with hearing loss in one or both ears.

Over 50%
of babies
born with hearing loss have no known risk factors for hearing loss.

2 to 3
per 1,000 children
develop hearing loss after birth.

95% of babies
with hearing loss are born to hearing parents.

Hearing loss can affect a child's ability to develop speech, language, and social skills. The earlier children with hearing loss start getting support, the more likely they are to reach their full potential.

For more information, visit Iowa Early Hearing Detection and Intervention online at https://hhs.iowa.gov/programs/programs-and-services/ehdi
or call us at 1-833-496-8040.