



Signs of Hearing Loss in Children

Types and Causes of Hearing Loss: Most of us take our hearing for granted, however hearing is a complex system involving more than just the ears. The path from the outer ear to the brain is a long one and damage to any part along the way can lead to hearing loss.

Three distinct types of hearing loss:

1. **Conductive hearing loss:** hearing loss resulting from some mechanical problem in the outer or middle ear that prevents sounds from being conducted into the inner ear. Conductive hearing loss decreases the loudness of sounds, but generally does not cause distortion or negatively affect the clarity of sound. Many conductive hearing losses can be corrected medically. If left untreated, however, conductive hearing loss may lead to a more permanent hearing loss.
2. **Sensorineural hearing loss:** hearing loss resulting from damage to the inner ear and/or the hearing pathway to the brain. Not only does sensorineural hearing loss decrease the loudness of sounds, it can also create a loss of clarity which effects speech understanding. Sensorineural hearing loss is typically permanent and cannot be corrected medically. Most people with sensorineural hearing loss are excellent candidates for hearing instruments.
3. **Mixed hearing loss:** combination of both conductive and sensorineural components.

Causes of hearing loss

There are many causes of childhood hearing loss. The primary factors are high-risk pregnancies, various infectious diseases, taking certain medications, alcohol or drug abuse during pregnancy. And, although less common, hereditary irregularities and infant meningitis are also possible causes.

Risk factors which can play a role before, during or shortly after birth:

- Weight at birth below 1500g (3.3 lbs) and/or birth before the 32nd week of pregnancy
- Lack of oxygen or respiratory standstill
- Administration of ototoxic medicines (loop diuretics, aminoglycosides)
- Mechanical birth injuries

In approximately 50% of all children with hearing loss, the hearing loss occurs after birth. Examples are:

- Babies and children afflicted with bacterial meningitis or encephalitis
- After severe cases of measles or mumps
- After accidents or physical trauma
- Following chemotherapy
- After chronic ear inflammations
- Children who suffer from certain syndromes

Fact Sheet

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Hearing loss can also exist in:

- Children with minor and severe middle ear malformations
- Children with cerebral motor disturbances
- Children in whom speech does not develop, or ceases to develop beyond a certain point
- Children exhibiting abnormal behavior, such as being very loud, aggressive or completely still

If you think your child might have hearing loss, you should visit your pediatrician who can do a basic examination and recommend a course of action, if necessary.

Thanks to the growing use of newborn hearing screening programs, hearing loss can often be detected before you and your baby leave the hospital.

If your baby passes this initial screening, you may notice signs of possible hearing loss at a later time. It is important to see if your child reaches the standard milestones at each stage of development. If you see your child isn't reaching those milestones, you should discuss it with your pediatrician. Close observation of a child by his/her parents in the early phases of development plays a central role for early detection of a hearing impairment.

Acoustic behavior of normally hearing babies and infants

Age in months	Expected reaction
Birth–3 months	The quietly sleeping baby wakes up due to sudden noises. Baby is soothed by mother's voice; Baby gurgles, coos and laughs.
3–6 months	The child moves his/her eyes and turns his/her head to search for the sound source, reacts to mother's voice, makes a wide-ranging number of babbling sounds, imitates "oh" and "ba-ba" and changes the pitch of his/her voice. Baby likes to have toys which make rattling and other noises. He/she appears to be conscious of the surroundings and perceives persons and events.
6–10 months	The child turns around and tries to find sources of sound outside his/her field of vision. He/she reacts when called by name, when the telephone rings and to voices of persons even in loud surroundings. Baby understands "no" and other frequently used words. He/she makes sounds with rising or falling modulation and listens to music or singing.
10–15 months	The child finds a sound source located behind him/her and also reacts clearly to remote noises. Baby imitates simple sounds and words and can generate a large number of different sounds, including vowels and consonants. He/she reacts to the human voice with babbling and can, on request, indicate or look at objects or persons. Baby shows signs of ability to absorb information passively (i.e. the child can learn from events which do not concern it directly and actively).
15–18 months	The child can hear and react to being called from another room. His/her voice sounds normal and he/she begins to form first words. The toddler can follow simply spoken instructions without any visual indications (pointing or changing one's direction of view) or support by touch. He/she recognizes persons, parts of the body and toys when he/she is asked about them; baby gesticulates corresponding to what is said, rocks to the rhythm of music and repeats words when spoken to.

** Before making the following observations, make sure that you do not use visual or touch impressions to influence the hearing or voice reactions of the child.*

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