

Hearing Tests for Young Children: What Families Should Know

There are several types of hearing tests that a child who is deaf or hard of hearing may receive. Each test provides different information about how their ears and hearing pathways work. The information below explains each type of test, what it measures and why it may be recommended for your child. None of these tests will hurt your child, some may even be done while your child is asleep.

Otoacoustic Emissions (OAEs)



This hearing screening test is used at birth and for a hearing re-screen if your child does not pass. A miniature earphone and microphone are placed in the ear, sounds are played and a response is measured. If a baby has typical hearing, an echo is reflected into the ear canal and is measured by the microphone. If there is no echo or a reduced echo, more testing is needed to determine what the baby is hearing.

Automated Auditory Brainstem Response (AABRs)



This is another hearing screening test used at birth and for a hearing re-screen if your child does not pass. Three small electrodes are placed on the baby's head and neck (forehead, cheek, and back of the neck). Sounds are delivered through earphones, and the electrodes detect whether the auditory system responds. This screening will be used if your child was in the NICU.

Auditory Brainstem Response (ABR)



This diagnostic test is used if your child did not pass the hearing screening. It uses band-aid like electrodes that are applied behind your baby's ears and on the baby's forehead. The pediatric audiologist will place ear phones in your baby's ears that play sounds. The electrodes pick up responses from the hearing nerve and measure your baby's brain response to the sounds in their ears. The audiologist will use the equipment to make the sounds softer and softer to determine the lowest level your infant can hear. If your child has a hearing difference, the ABR can indicate which frequencies are affected and by how much. This test sometimes requires sedation if your child is older or medically complex.

Tympanometry



Tympanometry is not a test of hearing sensitivity, but of ear health. This test is performed by placing a small probe tip into the ear. A change of pressure is created and causes the eardrum to move. This is a painless procedure. Fluid in the middle ear, a hole in the eardrum or blocked ear canal can cause abnormal test results.



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An Ear, Nose and Throat (ENT) doctor checks your child's ears to make sure everything is healthy by looking for things like infections, fluid or other medical issues. An audiologist focuses on how well your child can hear by doing specialized hearing tests.



Scan QR
code or
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Audiogram

An audiogram is a graph of how loud sounds must be before a person can hear them across different pitches or frequencies. The location of speech sounds is referred to as the “speech banana.” An audiologist or parent often plots the baby’s hearing test results on the illustrated audiogram to demonstrate which sounds the baby is or is not able to hear based on their diagnosis.

https://s3.amazonaws.com/www.jtc.org/Ideas-Advice/English/new_audiogram_english.pdf



Visual Reinforcement Audiometry (VRA)

VRA testing takes advantage of a child’s natural desire to search for sounds they hear. VRA is performed in a sound booth with the child on a caregiver’s lap. The audiologist uses speakers or earphones to provide sounds. When a child turns towards the sound, they receive visual reinforcement (e.g. cartoon, etc.).



Conditioned Play Audiometry (CPA)

CPA is typically used with children from two to five years old. This test measures hearing while the child plays a game. The audiologist teaches the child to perform a task each time they hear a sound. The task might be dropping a block into a bucket or putting a peg into a hole. The test is usually done with the child wearing earphones, but it can also be done using speakers in a sound booth.



Conventional Audiometry

Older children and adults typically have their hearing evaluated using conventional audiometry. The audiologist requests a response such as raising a hand when a sound is heard.