

Hearing Tests for Toddlers & Children



to chart

Pediatric Audiological Evaluation (PAE)

PAEs, or behavioral hearing evaluations are used with children who are old enough (usually over 7 months) to respond to sounds either by turning their head or by playing a game. These tests give three main types of information. First, they measure the degree or amount of hearing loss, if any. Second, they can help in locating any problems in the middle ear, inner ear or a combination of the two. Third, they provide information on how hearing loss will affect your child's ability to verbally communicate. There are two basic PAE hearing tests for small children:



your child's hearing) Older children will be able to raise their hand in response to pure tone sounds.

- **Speech Audiometry:** This test evaluates a child's ability to detect and recognize speech sounds. One and two syllable words are spoken at different decibels. The child repeats the word or points to a picture, showing their understanding of the spoken language.

Visual Reinforcement Audiometry (VRA)

The child sits on a caregiver's lap in a soundproof booth. A toy sits on top of a speaker (often concealed by dark glass) and the child is trained to turn toward the toy, which lights up and/or moves, when he/she hears a sound. Children naturally turn towards sound and the ability to do so will help to determine the hearing status. This test is best for children ages 7 to 36 months.

Conditioned Play Audiometry (CPA)

In this test, a child sits at a table in the sound booth with a caregiver sitting behind him/ her. The audiologist teaches the child to engage in a fun activity when they hear a sound. Examples of activities are dropping a ball in a bucket, putting pennies in a bank, putting pegs in a board, building block towers, or pressing a button for a toy. CPA relies on children's natural inclination to explore and play. A good test result depends on your child's participation and cooperation on the day of the test. CPA evaluations can begin with children as young as 2 years of age.

How will the Audiologist know what sounds my baby can hear?

- **Pure Tone Audiometry:** Evaluates the outer, middle and inner ear functions. Tones are presented at different pitches (frequency) ranging from very low to very high and at different decibels (loudness) to determine the lowest sound a baby can hear. (Pure tone sounds are used in the above tests

Some Other Terms You Will Need to Know:

- **Air Conduction (AC):** Baby and parent sit in a soundproof room and pure tones, or speech are introduced through speakers, headphones or flexible foam earphones. AC can tell you how the outer, middle & inner ear are receiving sound.
- **Bone Conduction (BC):** A small headset holds a small bone conduction vibrator that sits on the mastoid bone (behind the outer ear). This test bypasses the outer & middle ear and evaluates the inner ear function only.

- **Audiogram:** A graph that shows the softest levels your child can hear. It measures intensity (loudness), in decibels (dB) and in frequency (high and low pitch), measured in Hertz (Hz).
- **Threshold:** A threshold is determined by the lowest pure tone sound a child can hear fifty percent of the time. Speech recognition threshold is found by the lowest level of sound intensity needed to correctly identify fifty percent of the words offered by the audiologist or caregiver.

References:

- [Hearing Screening and Hearing Testing](#) - American Speech-Language-Hearing Association
- [Hearing Health Lab](#) - School of Behavioral and Brain Sciences
- [Testing a Child's Hearing](#)- Boys Town National Research Hospital
- [Diagnostic Audiology](#) - National Center for Hearing Assessment and Management (NCHAM)
- [Children's Hearing Center](#) – Stanford Medicine

Resources

- [National Institute on Deafness & Other Communication Disorders](#)
- [American Society for Deaf Children](#)
- [Center for Hearing and Communication](#)
- [Hands and Voices](#)

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