

# Seeing An Audiologist For Your Child's Hearing Test

## At what age can my child be tested?

Birth to adulthood. Pediatric audiologists have particular expertise in testing children age birth-3 years and in testing children with different developmental and medical problems.

## What happens during an audiology test?

The audiologist will first talk to the family about their questions and concerns. The audiologist will look into the child's ears and use a computer (Tympometry) to assess the child's middle ear function.

### (Behavioral testing: Age 4-5 years and older)

The child will go into a sound-booth. A parent can be in the sound-booth with the child. The child will be taught to raise his/her hand or to press a button when he/she hears the sound.

### (Behavioral testing: Age 3-4 years)

The child may be taught perform a play task when he/she hears the sounds in the sound-booth. (Ex: Throw a ball into a bucket when a sound is heard.) The child may also be asked to repeat single words or point to pictures if possible.

### (Behavioral testing: Age 7 months-2 years):

During the behavioral part of the hearing test, a young child will sit on his/her parent's lap in the sound-booth. The audiologist will condition the child to look back and forth as different frequency sounds come out of speakers on the wall. Toys will light up on top of the speakers (after the child looks) to condition the child to look for the sounds. If tolerated, the hearing test will be performed while the child is wearing headphones.

### (Age 0 – 6 months)

A hearing test, called a **Brainstem Auditory Evoked Response (BAER)** test, may be scheduled.

A BAER is a test that requires the child to be asleep for 1-2 hours. The audiologist will place 3-4 flat disc electrodes on the child's head and place an earphone in the child's ear. A computer is used to measure the brain's response to the sound. This test can be used to assess many different frequencies and to find the softest sounds the child can hear.

If the child is too old or too alert to fall asleep naturally, a "sedated BAER" can be scheduled at a time when a nurse is present to monitor sedation.

In addition, Otoacoustic Emissions (OAE) may be used to screen the child's hearing. The child will need to be still and quiet while an earphone presents

sounds in the child's ear. The computer can assess if each ear is hearing the sound at different frequencies. The child does not need to respond to the sounds. This is just a screening test and does not determine the softest sounds a child can hear.

### **BONE CONDUCTION TESTING**

To determine the type of hearing loss, "bone conduction" testing is performed. The audiologist puts a bone vibrator (looks like a headband with a small box on one end) behind the child's ear. This sends the sound directly to the cochlea (where the nerve endings are). The sound does not travel through the middle ear (where there may be fluid or wax). If the child still has a hearing loss, then the hearing loss is due to damage to the cochlea. (Sensorineural).

If the child hears normally via bone conduction, we know the problem is due to the middle or outer ear (conductive- something is blocking the sound from getting to the cochlea).

### **What if my child cannot be tested using behavioral methods?**

The audiologists will use every method possible to try to test a child behaviorally. In some cases, two audiologists will be used to assess a child.

If necessary and if tolerated Transient Evoked Otoacoustic Emissions may be used to screen the child's hearing objectively.

If behavioral testing is inconclusive, a Brainstem Auditory Evoked Response (BAER) test may be scheduled.

### **ASK YOUR DOCTOR TO REFER YOU FOR A HEARING EVALUATION IF YOUR CHILD PRESENTS WITH ANY OF THE FOLLOWING:**

- Did not pass a hearing screen
- Expressive or receptive speech delay
- Recurrent ear infections or fluid in the ears
- Child does not respond to sounds or to speech the way you expect.
- Difficulty in school (such as: reduced reading skills, reduced attention, reduced academic performance)
- Significant medical history (such as: low birth weight, ventilator dependant, head injury, genetic syndrome, meningitis, anoxia, treatment with ototoxic medication, disorder or injury of the nervous system)
- Family history of hearing loss (Children with a family history of hearing loss should have their hearing monitored on a regular basis)