Basic Hearing Evaluation

A hearing evaluation checks how well a child can hear sounds that are important for speech. Each part of the evaluation will give the audiologist more information about the child’s hearing. Then the audiologist studies the information to make a complete picture of how each child hears.

OBJECTIVE MEASURES

_____ Tympanometry:

Tympanometry checks how well the eardrum moves. It tests the pressure in the middle ear, which tells the audiologist if there is fluid in the middle ear. Tympanometry does not tell if a child is hearing or not. It can also tell the audiologist the size of the child’s ear canal. If a child has tubes, this test will tell the audiologist if the tube is open.

_____ Otoacoustic Emission Testing (OAE):

The child needs to be still and quiet for this test. This test tells the audiologist how well the inner ear is working. In this test, the audiologist puts a small tip into the child’s ear and a sound is made. A sound, or echo, is measured from the cochlea (the hearing organ of the inner ear). The child listens to a soft clicking sound, and a healthy cochlea will send back a very soft echo that is measured by a microphone. The test gives the audiologist an idea of how the child is hearing, but does not tell how much hearing or the type of hearing loss. This test is used to verify the results from hearing test and to get information about the left and right ear separately.

BEHAVIORIAL TESTING

The following tests rely on a response from your child to tell how softly he/she can detect different types of sounds including speech and sounds that represent the pitches on a piano. Below are different types of behavioral tests that are used based upon the child’s age and developmental level.

_____ Conventional Audiometry:

Conventional audiometry tests are given to children that about 5 years and older. They test how a child hears different pitches. When thinking of pitch, think of a piano. Keys on the left side of the piano have low pitches, and keys to the right have high pitches. Different speech sounds have different pitches. In this test children wear headphones and show that they can hear a pitch by raising their hand when they hear a sound. The headphones let the audiologist test one ear at a time. Conventional audiometry also tests how well a child understands spoken words. The audiologist reads a list of words to the child and has the child repeat them.
Conditioned Play Audiometry (CPA):

Conditioning play audiometry (CPA) tests are given to children that are about 2 1/2 to 5 years old. CPA tells an audiologist how a child hears different pitches while wearing headphones. Audiologists make testing more fun by turning the test into a game. For example, instead of raising a hand, audiologists will ask children to put a block in a bucket every time he/she hears a sound, and then praise the child for right answer. Like conventional audiometry tests, CPA can tell audiologists how well a child understands spoken words. However, during this test, the audiologist asks the child to point to a picture of a word, instead of repeating the word.

Visual Reinforcement Audiometry (VRA):

Visual reinforcement audiometry (VRA) tests are given to children that are 6 months to about 2 1/2 years old. VRA tests how a child hears different pitches from speakers in a sound booth. When the test is done without headphones, both ears are tested at the same time, rather than one at a time. When the child hears the sound from the speakers, he/she will turn to the sound then lighted and moving toys turn on to reward a child for a right answer. This test can also be completed with headphones to test each ear separately but is often more difficult for the child.

Call the Children’s Mercy Hearing and Speech department at (816) 234-3677 if you have any questions or concerns.