

## Hearing Tests for Your Child

There are many ways to test your child's hearing. The kind of test your child has depends on your child's needs and abilities.

### Objective Hearing Tests

Objective hearing tests are done while your child is sleeping or resting quietly. They don't require your child to respond to sound. There are three main kinds of objective tests: ABR, OAE, and tympanometry.

### Auditory Brainstem Evoked Response (ABR) Test

- This test measures how well your child's hearing nerve responds to sound.
- It is used for infants and young children who are too young to respond to sounds by turning their heads. It may also be used for older children who cannot do behavioral hearing tests. Sometimes a ABR test can confirm results of a behavioral hearing test.
- Done while your child is sleeping or resting quietly.

#### *During an ABR test:*

- Your child may or may not be sedated depending on the child's age.
- Your child's skin is cleaned and sensors are put on his forehead and behind each ear.
- Sounds are played into each ear through a soft foam or rubber earphone.
- A computer records the response of your child's hearing nerve.
- Your child's audiologist looks for the softest sound your child's hearing nerve responds to.

### OAE (Otoacoustic Emission) Test

- This test measures how well your child's cochlea—or inner ear—works.
- Your child needs to be still and very quiet for this test.

#### *During an OAE test:*

- A soft foam or rubber earphone is placed in each of your child's ears.
- Sounds play through the earphones.
- A computer measures the response of your child's inner ear.
- The audiologist evaluates the response.

### Tympanometry Test

- This test helps the audiologist find out how well your child's middle ear is working.

#### *During a tympanometry test:*

- The audiologist puts a rubber tip in your child's ear.
- The tip is connected to a machine that changes the air pressure in your child's ear. The machine prints out a graph.

- The graph gives information about whether the eardrum is moving well. If the eardrum is not moving well, it could mean that fluid is present in the middle ear space which can temporarily affect hearing.

## Behavioral Hearing Tests

Behavioral hearing tests require your child to respond to sound. Your child will respond by turning his head, playing a simple game or raising his hand.

Your child must be at least 6–7 months developmental age to do a behavioral hearing test. He needs to be able to sit up by herself and have good head control.

There are four main kinds of behavioral tests for infants and children:

- Visual Reinforcement Audiometry
- Conditioned Play Audiometry
- Speech Awareness Threshold
- Speech Reception Threshold

## Understanding Your Child's Audiogram

An audiogram is a graph of the softest sounds your child hears. Your child's audiogram can answer these questions:

- Is the hearing the same in both ears or is it different?
- How much hearing loss does your child have? (degree of hearing loss)
- Is there more hearing loss in some frequencies (itches) than others?
- Is there a difference in air conduction and bone conduction hearing? (air-bone gap)

Your audiologist will be able to explain your child's audiogram in full detail, but below are a few tips that will help you understand the graph.

- Across the top of the graph are the frequencies, or pitches.
  - The frequencies are organized like a piano keyboard. The low tones are on the left and the high tones are on the right.
  - These pitches or frequencies are measured in Hertz (Hz).
- Down the side of the graph is the intensity, or loudness of sounds.
  - The sounds at the top of the graph are soft.
  - The sounds at the bottom of the graph are loud.
  - Loudness is measured in decibels (dB).
- The marks on your child's audiogram represent the softest sounds your child responded to during the hearing test.
  - X = left ear
  - O = right ear
  - S = your child was tested using speakers.
    - When using speakers, only your child's better-hearing ear is tested.