

## How is my child's hearing tested?

The audiologist has several tools that allow a child's hearing to be tested from birth through the early childhood years.

*Tympanometry* introduces air pressure into the ear canal making the eardrum move back and forth. The test measures the mobility of the eardrum and can assist in the detection of fluid in the middle ear, perforation of the eardrum, or wax blocking the ear canal.

During *soundfield testing* in the sound booth, infants and toddlers are observed for changes in their behavior such as sucking a pacifier, quieting, or searching for the sound and are rewarded for the correct response by getting to watch an animated toy (*visual reinforcement audiometry*).

*Otoacoustic emissions (OAE)* are inaudible sounds emitted by the cochlea when the cochlea is stimulated by a sound. When sound stimulates the cochlea, the outer hair cells vibrate. The vibration produces an inaudible sound that echoes back into the middle ear. The sound can be measured with a small probe inserted into the ear canal and determined to be within a normal range or not.

*Auditory brainstem response (ABR)* is an auditory evoked potential that originates from the auditory nerve. Electrodes are placed on the head (similar to electrodes placed around the heart when an electrocardiogram is run), and brain wave activity in response to sound is recorded.

## How hearing loss affects children?

It causes delay in the development of receptive and expressive communication skills (speech and language).

The language deficit causes learning problems that result in reduced academic achievement.

Communication difficulties often lead to social isolation and poor self-concept.

It may have an impact on vocational choices.

Information adapted from the American Speech-Language Hearing Association at [www.asha.org](http://www.asha.org).