

Middle Ear Infections

Middle ear infections occur in many young children. About 80% of children will have an ear infection by the time they are three years old. Infections need to be addressed quickly for children who have a permanent hearing loss because it can further reduce their ability to hear speech sounds.

Tympanometry is a test used to check the middle ear. A soft tip is placed in the ear canal to measure the movement of the eardrum. Your child needs to sit still during the test to get accurate test results.

The middle ear space is normally filled with air. During an ear infection the space fills with fluid and this can be painful. Sometimes the eardrum breaks from the pressure, and fluid leaks into the ear canal, as shown in the picture on the right.

Tympanometry creates a graph called a tympanogram. Tympanograms have three main shapes. The shapes are labeled with letters. A is for a normal tympanogram shape. B indicates there is fluid in the ear, and C indicates there is negative pressure in the middle ear.

The type A tympanogram looks like a mountain. The peak will be in the shaded area. This shape means the eardrum is moving normally.

The type B tympanogram looks like a flat line. There is no peak. This shape means there is likely fluid in the middle ear space.

The type C tympanogram has a peak, but it is shifted to the left side of the graph. This shape means the air pressure in the middle ear is negative, that is, the eardrum is being pulled inward. This can happen when your child is congested. Oftentimes the air pressure returns to normal on its own. A tube in the middle ear, called the Eustachian tube, regulates the air pressure.

If you are concerned and think your child may have an ear infection, or has had several ear infections, talk with your pediatrician. You may need a referral to see an Ear Nose and Throat doctor to resolve the problem.