



## Middle Ear Infections or Otitis Media

The most common reason that children see a physician other than for well child care is for treatment of middle ear infections, otherwise known as otitis media. There has been an increase of otitis media in the past 25 years, likely due to the increase use of day care facilities.

### Cause of Middle Ear Infections

Otitis media can be caused by a bacterial, viral or fungal infection to the middle ear. Ear infections can often be seen in association with an upper respiratory tract infection.

### Signs and Symptoms of Middle Ear Infections

Signs and symptoms of a middle ear infection include fever, irritability, decreased appetite, pain, tugging at the ear, loss of balance, lack of hearing, and possible fluid draining from the ear. These infections should be differentiated from an external otitis, or swimmer's ear, which is an infection of the external ear canal.

### Treatment of Middle Ear Infections

Treatment may involve administration of oral antibiotics. However, observation without medical treatment may be appropriate in some children over 2 years of age. Recurrent or chronic problems may prompt a visit to the ear, nose and throat physician. When ear infections are recurrent or if the fluid associated with the infection does not clear, there is a surgical option. A tympanostomy tube may be appropriate. Additionally, removal of the adenoids may be helpful in some children who have had repeated problems or who have severe nasal obstruction.

### Frequently Asked Questions

#### ***What are tympanostomy tubes?***

A tympanostomy tube is a tiny, hollow tube that looks like an empty spool. They are used to treat chronic middle ear problems, such as ear infections, fluid, or negative pressure. Tubes come in different shapes, sizes, and materials. They are inserted into the eardrum to ventilate the middle ear.

#### ***Why does my child need tympanostomy tubes? How do they work?***

Some children develop frequent ear infections or retain fluid in their middle ear after an infection. This is generally because the eustachian tube, a structure that connects the middle ear to the back of the throat, is not working well enough to ventilate the middle ear. Ear infections can be very painful and usually require multiple courses of antibiotics to treat. By allowing ventilation of the ear, the tubes help decrease the tendency for your child to develop ear infections. Fluid in the middle ear can

impair hearing and speech development. The tube prevents accumulation of fluid, maintaining normal hearing.

***How are the tubes placed?***

The procedure is done under general anesthesia. It takes approximately 10 minutes. A small incision is made in the eardrum and fluid in the middle ear is removed. The tube will be inserted in the eardrum. Your child will then be taken to the recovery room to awaken from anesthesia and will be reunited with you as soon as they are awake.

***Is the surgery painful? How long is the recovery period?***

The surgery is not painful, and your child will be unaware of the tubes in his/her ears. If your child seems to be in pain or irritable after the surgery, you may administer Tylenol for relief. You should expect your child's activity level to return to baseline shortly after you leave the hospital. There is no need to miss school or daycare the following day.

***What else should we expect after the surgery?***

There may be drainage, which may be blood-tinged, from one or both ears for a few days. This is not worrisome and is treated with antibiotic ear drops.

***Will my child continue to get ear infections after the tubes are placed?***

Some children will never have another ear infection with the tubes in place. Other children who continue to develop infections can expect the severity, duration, and frequency of ear infections to be less than that experienced without ear tubes.

***How long will the tubes stay in my child's eardrums?***

The tubes are usually pushed out naturally by the eardrum. This typically occurs between 9 - 18 months, but may be earlier or later depending on the type of tube used. If your child continues to suffer from ear infections after the tubes have fallen out, it is possible that the tubes will need to be reinserted.

***How will I know when the tubes have fallen out?***

The tubes are very tiny, and most parents do not find the tubes when they fall out. Routine visits with your surgeon every 4-6 months is recommended to monitor the placement of the tubes and to manage any issues that may arise. The tubes do not always fall out at the same time.

***Should I protect my child's ears from water after the tubes are placed?***

In the past it was thought that all children with ear tubes needed water protection. The concern was that contaminated water would go through the tube and allow bacteria to settle in the middle ear, causing an infection. Recent data suggests that water exposure is not generally associated with infection. Some types of water, such as lake, beach, or river water, seem to be more of a problem. The type of tube used, the age of the child, type of water exposure, and physician preference are important factors in deciding if your child would benefit from using ear plugs. Specific recommendations will be tailored to the needs of your individual child.

***What are the possible complications from ear tubes?***

The most common problem encountered after placement of ear tubes is recurrent or persistent drainage from the ears. This occurs in approximately 10-15% of patients. There is a 2% risk that the incision in the eardrum does not heal after the tube comes out. This perforation may heal spontaneously or may require an operation to repair it. In some cases (<1%) the tube may not extrude from the eardrum in the time that we would expect it to do so. If the tube remains in the eardrum for 2-3 years, and the ear problems have resolved, then the tubes may need to be removed surgically and a patch applied to the opening in the eardrum to assist with healing.