

# CLINICAL PRACTICE GUIDELINES

## PATIENT INFORMATION

### EAR TUBES - A CAREGIVER'S GUIDE

#### WHY ARE EAR TUBES RECOMMENDED?

Ear tubes are recommended for frequent ear infections or prolonged fluid in the ears. They will:

- Help decrease the number of ear infections
- Allow any future ear infections to be treated with antibiotic ear drops instead of antibiotics that are taken by mouth
- Help prevent fluid from backing up into the area behind the eardrum (middle ear)
- Improve hearing that is decreased because of fluid in the middle ear

#### HOW LONG WILL MY CHILD'S EAR TUBES LAST?

Most ear tubes last about 6 to 18 months. By the time the tube comes out about 80% of children will have much better ear function and will not need to have the tube replaced.

#### WHEN DOES MY CHILD NEED TO BE SEEN AGAIN AFTER THE TUBES ARE PLACED?

- **After Surgery:** We will see your child within 3 months to make sure that the ear tubes are in place and working. We often check your child's hearing at that visit.
- **Ongoing Follow-Up:** After this first visit, we should see your child regularly, usually every 6 months, while the tubes are in the ears to make sure that the tubes are working and to check for any possible problems, as discussed in the next section. Keep in mind that regular follow-up visits are important, even if your child has no obvious issues with ears or hearing, to prevent problems.
- **Final Visit:** Once the tubes fall out, your child should return after 6-12 months so your ear, nose, and throat doctor or other health care provider can check the ears to make sure they are healthy.

#### WHAT ARE THE POSSIBLE COMPLICATIONS, OR PROBLEMS, OF EAR TUBES?

- **Scarring.** A white mark from scarring (sclerosis) or a small depression or pocket may be seen on the eardrum, but this usually does not affect hearing or cause infections and is usually of no concern.
- **Perforation.** About 1-2 out of every 100 children will still have a hole (perforation) in the eardrum after a short-term tube falls out, with up to 1 in every 5 children having a perforation after a long-term tube. The hole will often close on its own, but if it does not, it can be repaired in the operating room as a day surgery procedure.
- **Tubes falling in.** Tubes almost always fall out of the eardrum into the ear canal. Very rarely a tube can fall into the middle ear, but usually does not cause any problem and can be removed, if needed.
- **Tubes not coming out.** Most tubes come out within 12 to 24 months. If the tube is still in after 2 to 3 years, or longer, it can be removed.
- **Tube coming out too early.** In rare cases the tube may fall out before 6 months, but many children will have improved by that time. For those who continue to get ear fluid or frequent ear infections a tube may need to be replaced.

#### DOES MY CHILD NEED EAR PLUGS WHEN EXPOSED TO WATER?

Your child will not usually need ear plugs for swimming and bathing while the tubes are in place and open. Head bands or other special efforts to keep water from entering the ear canal are also unnecessary, but may be helpful in the following situations:

- Pain or discomfort when water enters the ear canal
- Current fluid or drainage from the ear canal (an ear infection with the tube), or your child has had frequent drainage
- Swimming in lakes or non-chlorinated pools that are not clean
- Dunking head in the bathtub (soapy water passes through the tiny hole in the tube easier than plain water)

There are several types of soft ear plugs or ear putty available, as well as neoprene headbands to cover the ears. NEVER use Play-Doh or Silly Putty as an ear plug—these materials can become trapped in the ear canal and even require surgical removal.

## EAR TUBES AND EAR INFECTIONS

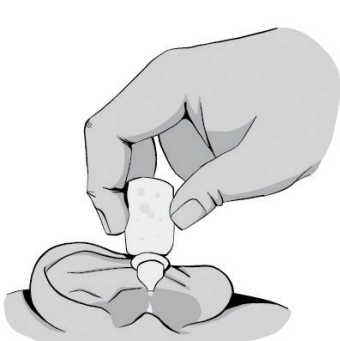
Ear tubes will help decrease the number of ear infections, but your child may still get an ear infection when he or she has ear tubes. When the tube is open and working, you may see drainage at the opening of the ear canal. Before ear tubes, this drainage would stay in the middle ear, trapped behind the eardrum, unless the pressure caused the eardrum to burst or rupture. Now that the tube makes an opening in the eardrum, drainage will come through the ear tube into the ear canal.

Drainage can be thin, thick, cloudy, yellow, or green, and even bloody. Most children do not typically have fever or pain when they have ear drainage with tubes in place.

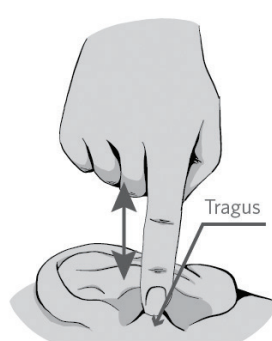
If you see drainage from the ear, we recommend the following:

1. Antibiotic ear drops, without oral antibiotics, are all that is needed in most cases (usually ofloxacin or ciprofloxacin-dexamethasone). Do NOT use over the counter ear drops.
2. Ear drainage may build up or dry at the opening of the ear canal. Remove the crusting with a cotton-tipped swab dipped in hydrogen peroxide or warm water. If the drainage is thick, you can also roll up a piece of tissue or toilet paper to help soak up the drainage out before you use ear drops.
3. Do not swim during infections when there is drainage or discharge coming from the ear. During bathing, use silicone ear plugs, or coat a small cotton ball with petroleum jelly and use it to cover the opening of the ear canal.
4. Use the ear drops only for the amount of time recommended by your doctor, because using them too long could result in a yeast infection.
5. Antibiotics taken by mouth are not needed for most ear drainage with tubes in place. Sometimes they may be needed if your child has another reason to be on an antibiotic, or the infection does not go away after using only ear drops.

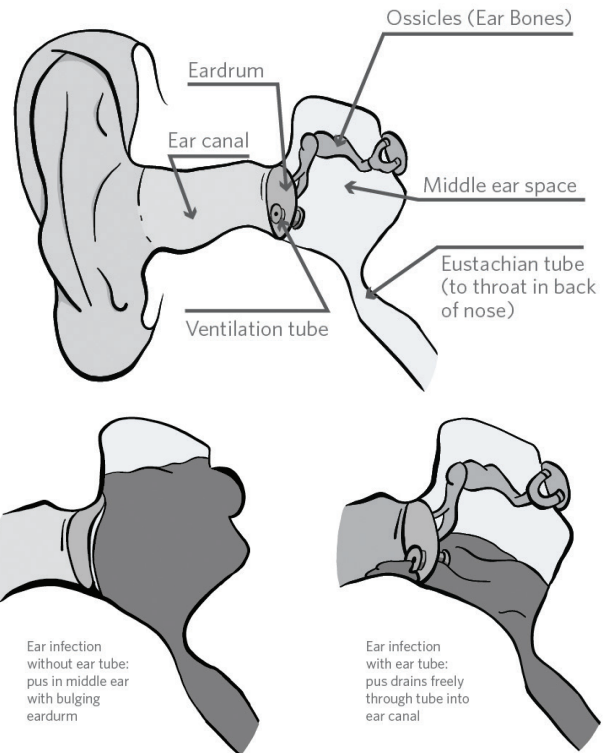
When using ear drops, do the following to help pump the drops in the ear canal and get down to the ear tube:



1. Have your child lay down on their side. Put ear drops into opening of ear canal.



2. Push down on tragus 4-5 times (small piece of cartilage in front of ear canal opening). This will help pump the drops into the canal.



### What are possible reasons why my doctor or health care provider may diagnose an ear infection when we haven't seen drainage yet?

1. The tube is open and drainage has started but is not yet seen at the ear canal opening. This suggests an early stage of infection for which antibiotic ear drops will help it go away quickly.
2. The tube is not working or is blocked, so the ear infection is treated as if the tube was not there. This is a time when antibiotics by mouth may be needed. The blocked tube does not do any harm (and will not cause a problem), but it also will not drain the infection. Use acetaminophen or ibuprofen for pain.
3. The tube is open but there is no drainage in the tube opening or ear canal. In this case no special treatment is necessary, even if the eardrum appears red or irritated, which can occur when your child cries or has fever without an ear infection.

### When to Call the Ear Doctor (Otolaryngologist):

1. Your child's regular doctor or health care provider can't see the tube in the ear, or the tube is blocked.
2. Your child has a hearing loss, continued ear infections or continued ear pain/discomfort.
3. Ear drainage continues for more than 7-10 days without improvement with treatment.
4. Drainage from the ear occurs frequently or more than you think should happen.
5. There is wax build-up in the ear canal that doesn't allow the tube to be seen.

**SOURCE:** Rosenfeld RM, Tunkel DE, Schwartz SR, et al. Clinical Practice Guideline: Tympanostomy Tubes in Children (Update). *Otolaryngol Head Neck Surg.* 2022;166(1\_suppl):S1-S55.

### ABOUT THE AAO-HNS/F

The American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) represents approximately 12,000 specialists worldwide who treat the ear, nose, throat, and related structures of the head and neck. The AAO-HNS Foundation works to advance the art, science, and ethical practice of otolaryngology-head and neck surgery through education, research, and lifelong learning.