

Pre-Op and Post-Op Guide for Ear Tube Placement with Adenoidectomy

These instructions are designed to inform you in an attempt to keep you safe before and after your surgery. We hope you take this information seriously, read it completely, and address any concerns with your doctor or the staff before surgery. Serious harm or death can occur from taking medications or following instructions incorrectly.

Ear infections are common in children, and by the age of five, nearly every child has experienced at least one episode. Most ear infections either resolve on their own (viral) or are effectively treated by antibiotics (bacterial). Sometimes, ear infections and/or fluid in the middle ear may become a recurrent or chronic problem causing hearing loss and/or speech problems. In these cases, insertion of ear tubes by an otolaryngologist (ear, nose, and throat surgeon) may be considered. While in place, ear tubes can reduce the risk of future ear infection, restore hearing loss caused by middle ear fluid, improve speech and balance problems due to ear fluid, and improve behavior and sleep problems caused by chronic ear infections. About 500,000 US children per year get ear tubes for the above conditions. Sometimes, the otolaryngologist will recommend removal of the adenoids (adenoidectomy) at the same time as ear tube placement. Adenoids are tonsil-like tissue located in the back of the nose next to the Eustachian tubes (that naturally drain the ears). Adenoidectomy is often considered when a second set of ear tubes are needed or the child is older or has chronic mouth breathing. Current research indicates that adenoidectomy concurrent with placement of ear tubes can reduce the risk of recurrent ear infection and the need for repeat surgery.

What Are Ear Tubes?

- They are tiny cylinders placed in the ear drum (tympanic membrane) to allow drainage of fluid behind the ear drum and allow for proper ventilation of the same area.
- Ear tubes also are called tympanostomy tubes, myringotomy tubes, ventilation tubes, or PE (pressure equalization) tubes.
- They are made out of silicone plastic, metal, or Teflon and are usually 2mm long x 1.5 mm wide.
- Two types: short-term and long-term tubes. Short-term tubes are used for nearly every patient and stay in for ½ year to 1 ½ years before painlessly falling out on their own. Long-term tubes ("T" tubes) have flanges that secure them in place for a longer period of time. Long-term tubes may fall out on their own, but removal by an otolaryngologist is sometimes necessary.

Who Are Candidates for Ear Tubes?

Anyone with:

- Repeated middle ear infections (acute otitis medias), > 4 in 6 months/6 in 12 months
- Chronic middle ear fluid (otitis media with effusion) with hearing loss, speech delay, developmental delay, or chronic weakening of the ear drum
- Congenital malformations of the ear drum, Down's Syndrome, cleft palate

How are Ear Tubes Inserted?

Ear tube placement is usually performed under a light general anesthetic (laughing gas) administered by an anesthesiologist. Adults can tolerate the procedure in the office with only topical anesthetic. Ear tubes are inserted after making a myringotomy (hole) in the ear drum with a tiny knife using a surgical microscope. If an ear tube wasn't inserted, the hole would close in a few days. After the incision is made, any fluid behind the ear drum is suctioned out and then the tube is placed. The procedure usually lasts less than 10 minutes.

- You may bring your/your child's favorite electronic device, iPad or similar video device to use in the preoperative area and on the way to the operating room. The hospital has free Wi-Fi. These distraction devices have been shown to keep kids calm in the minutes leading up to surgery even better than anti-anxiety medicine in most cases! Be sure the device is in a protective case.

What Are Adenoids and Adenoidectomy?

- Adenoids are tonsil-like tissue located in the back of the nose (nasopharynx), behind the soft palate.
- Adenoids (like tonsils) are part of the immune system, but are not important for immune functioning after 1 year of age.

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- Adenoids can contribute to ear infections, ear drainage after ear tubes, or recurrent infection after a 1st set of tubes.
- Adenoidectomy is the removal of the adenoids. The adenoids are accessed through the mouth behind the palate.
- This procedure takes 30 minutes and requires a general anesthetic with insertion of a breathing tube during surgery.
- Recovery requires 1-2 days off from school.

Hearing Testing (Audiogram):

- Hearing testing is often performed BEFORE and AFTER any ear tube surgery.

What to Expect after Ear Tube Surgery under General Anesthesia:

- Patients leave the hospital 45 minutes after the surgery ends. Children can have a bottle 15-20 minutes after the surgery is over.
- There is little postoperative pain but anesthesia-related grogginess, irritability, and/or nausea may occur for 1-2 days.
- Hearing loss due to ear fluid is immediately resolved by surgery, and as a result, some children will complain normal sounds are too loud.
- Some children may dig their fingers into their ear canals for a few days because things feel “funny.”

Restrictions after Surgery:

- Use common sense on when your loved one should return to full activity. Most patients do so by 1-2 days after surgery.
- Ear tubes require no daily maintenance. But please STOP using Q-tips as they only pack wax in the ears, making them hard to examine.
- Ear plugs are recommended for bathing/showering, swimming, and even, diving to 4-5 feet underwater. If ear drainage/infection/pain occurs because of a water exposure, then prior to any additional water exposure, consider using ear plugs like Doc's Pro Plugs (<http://www.proplugs.com>) (a silicone, semi-custom re-useable plug) or the silicone putty type. (Mack's Wax)

Post –op Medications:

- Pain Meds: Pain after surgery is minimal (like an ear infection for about 1 day); use acetaminophen (Tylenol) or ibuprofen (Advil),
- Antibiotic Ear Drops: used to keep the tubes from getting clogged or to treat ongoing infection which may be presented at the time of surgery.
 - Tips on using Ear Drops correctly:
 - Place the bottle in your pocket for 10 minutes to warm it to body temp (cold drops sting).
 - Place child on his/her side, lying with affected ear up.
 - Put bottle near the ear canal and give it a squeeze to deliver the drops (you often won't be able to count the number).
 - Pump the ear tragus (triangular cartilage in front of ear canal) in and out 5 times to force the drops through to the eardrum and tube. Repeat for other ear if needed.
 - Usually, you will be given a bottle of drops used in surgery. You will use these at home for the next several days. A back-up prescription may be sent to your pharmacy in case you run out or need more in the future.

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Possible Complications (from most common to least common):

- Ear drainage (otorrhea): 10% of children will get this once during the life of their tubes. It's easily treated with ear drops and rarely needs oral antibiotics.
- Ear Tubes which come out too early or stay in too long: 1% of children will have this problem. May require re-insertion or surgical removal for tubes that stay in too long. This can prevent an ear drum perforation.
- Ear Drum Perforation: 0.5% of children will have this problem. It can happen after a tube comes out normally or stays in too long. If the hole doesn't heal in 3 months, it can be patched (via paper patch, myringoplasty or tympanoplasty depending on size).
- Bleeding from the adenoids is rare, but can happen. May show up as nasal bleeding or bleeding down the back of the throat.
- Scarring of the ear drum: 5% of children get this. Recurrent ear infections and ear tubes can cause scarring of the ear drum; called tympanosclerosis or myringosclerosis. This is usually only cosmetic and doesn't affect hearing.
- Hyper-Nasal Speech: Rarely occurs after adenoidectomy, but if hyper-nasal speech occurs, it is generally temporary, and is permanent in 1 in 10,000.

Follow-up Visits:

- Ear tubes must be checked **by an otolaryngologist (ENT) every 3 months until they fall out.**
- Ear tubes should fall out on their own after 6-12 months. If not, they may need to be surgically removed to prevent a permanent hole in the ear which will require a more extensive surgical procedure.

WHEN TO CALL THE DOCTOR:

- If you have persistent ear or nose bleeding
- If you have pus-like ear discharge
- If you have persistent pain not relieved by the medication
- Elevated temperature over 102.5 °F orally
- If you have nausea/vomiting after you leave the hospital