



Pre-op/Post-op Teaching: EAR TUBE PLACEMENT with or without ADENOIDECTOMY

Brennan T. Dodson, MD

Ear infections are common in children – 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). But sometimes, ear infections and/or fluid in the middle ear may become a recurrent or chronic problem causing hearing loss and speech problems. In these cases, insertion of ear tubes by an otolaryngologist (ear, nose, and throat surgeon) may be considered. 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. 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.

What Are Ear Tubes?

- They are tiny cylinders placed in the ear drum (tympanic membrane) to allow drainage of air/fluid behind the ear drum
- Also 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 2 mm 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 often necessary.

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.
- 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.
- I use a device called a Coblator to gently dissolve the adenoids and control bleeding (usually 1/5 of a teaspoon).
- Recovery requires 1-2 days off from school and doesn't usually require any prescription pain medicine. This procedure takes 10 minutes and requires a general anesthetic with insertion of a breathing tube during surgery. We will discuss this procedure if it should be done with the ear tubes.

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 Syndrome, cleft palate,
- Chronic eustachian tube dysfunction what doesn't respond to medication

How Are Ear Tubes Inserted?

Ear tube placement is usually performed under a light general anesthetic (laughing gas) administered by an anesthesiologist at Bozeman Deaconess Hospital. Adults 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 tube is inserted, any fluid behind the ear drum is suctioned out and antibiotic ear drops are placed. The procedure usually lasts less than 10 minutes.

Hearing Testing (Audiogram)

- Hearing testing is required BEFORE and AFTER any ear tube surgery.**

What to Expect After Ear Tube Surgery under General Anesthesia?

- Surgical recovery takes 45 minutes. Children can have a bottle 15-20 minutes after the surgery is over.
- There is little or no postoperative pain but anesthesia-related grogginess, irritability, and/or nausea may occur.
- Hearing loss due to ear fluid is immediately resolved by surgery and 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 differently



Brennan T. Dodson, MD

Restrictions After Surgery

- Wear ear plugs** when swimming in unclean water (lakes, rivers, hot springs). Get the silicone putty kind (see your pharmacist) or order/buy Doc's Pro Plugs (<http://www.proplugs.com>) a silicone, semi-custom re-useable plug
- No ear plugs are needed surface swimming in chlorine pools, in the bath or shower
- DO NOT get the head 6 inches underwater EVER** (regardless if ear plugs are in place)
- If swimming >2-3 hours/in the ocean/etc, use ear plugs AND the Ear Bandit. This is a headband designed to hold ear plugs or ear molds in place while engaging in water activities. Available at Helton Hearing: (406)586-0914 or online: <http://www.earbandit.com>

Post-op Medications

- ✓ Pain Meds: Pain after surgery is minimal (like an ear infection for about 1 day); use acetaminophen (Tylenol) or ibuprofen (Advil). If Adenoidectomy is done, ibuprofen and Tylenol is okay. Rarely, a narcotic pain medicine will be prescribed.
- ✓ Antibiotic Ear Drops: Ear drops are used to keep the tubes from getting clogged and/or to treat ongoing infection.
- ✓ Tips on using Ear Drops correctly:
 - Place the bottle in your pocket for 10 min to warm it to body temp (cold drops sting)
 - Place child on his/her side, lying with affected ear up
 - Put bottle in ear canal and give it a squeeze to deliver the drops (you 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 thru the eardrum and tube. Repeat for other ear if needed.
 - Usually, you will be given a bottle of drops (ofloxacin) used in surgery- you will use these at home for the next 10 days. A back-up prescription will also be sent to your pharmacy in case you run out or need more in the future.

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 should be patched (via paper patch, myringoplasty or tympanoplasty depending on size)
- ✓ Scarring of the ear drum: 5% of children get this. Recurrent ear infections and ear tubes may cause it. Called tympanosclerosis or myringosclerosis, it's usually only cosmetic and doesn't affect hearing.
- ✓ Hyper-Nasal Speech: Rarely occurs after adenoidectomy temporarily and is permanent in 1 in 10,000.

Follow-up Visits

- Ear tubes must be checked **by an otolaryngologist (ENT) every 4 months until they fall out.** Ear tubes that do not fall out on their own after 1-1/2 to 2 years will 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 bleeding
- ✓ If you have persistent pain not relieved by the medication
- ✓ Elevated temperature over 101.5°F orally
- ✓ If you have nausea/vomiting more than 4 hours after you leave the hospital

Dr. Dodson can be reached by calling the office at 406-556-9798. The doctor can also be reached by calling the Bozeman Deaconess Hospital operator at 585-5000. The hospital operator will be able to reach the doctor or they will put you in touch with the Emergency Room.

Ref and Modified from: <http://www.entnet.org/healthinfo/ears/Ear-Tubes.cfm>

1648 Ellis Street, Suite 301 • Bozeman, MT 59715 • Tel 406.556.9798 • Fax 406.556.9795