Introduction

Under normal circumstances, the middle ear (space behind the eardrum) is filled with air. This air is necessary for the hearing mechanism to work properly and for prevention of ear infections. The Eustachian tube, which connects the middle ear to the back of the nose and throat, helps maintain the balance of air pressure on both sides of the tympanic membrane (eardrum). The ear-popping sensation you may sometimes experience signals equalization of the air pressure and is perfectly normal. Allergies, the common cold, or other ear, nose, and throat infections might cause closure of the Eustachian tube, blocking the normal exchange of air. As a result, a vacuum may develop in the middle ear space thus causing the development of negative pressure behind the eardrum. A painful earache or plugged ear sensation may develop. Eventually the vacuum will pull fluid from the lining of the middle ear causing hearing loss. Children are more susceptible to middle ear infections because a child’s Eustachian tube is straighter and shorter than an adult’s, thus providing easier access for infection to reach the middle ear space.

How is the surgery performed?

The operation is very short, usually about 15 minutes. Usually there is minimal pain after the operation. In the operation, a very tiny incision (MYRINGOTOMY) is made in the eardrum, the fluid is removed, and most of the time a small ventilating tube (TYPANOSTOMY TUBE) is inserted into the incision. The tube is roughly the size of the tip of a pen. The tube prevents the incision from closing prematurely and allows for the free exchange of air between the outer (ear canal) and middle ear space. In effect, the tube replaces the function of the Eustachian tube until it can resume its normal function.

Once in place the tube cannot be seen or felt, and it is rarely dislodged. It usually remains in place for an average of 12 months, although some fall out earlier while others remain longer. The tube works its way out naturally and the eardrum heals rapidly. Some patients still get ear infections with the tubes in place and it is noted as discharge, sometimes with small amounts of blood. After the tube falls out and the eardrum heals, if the ear becomes infected or if fluid recurs, another tube may have to be inserted.

Removal of the adenoids is sometimes performed in combination with M&T if they are swollen and blocking the opening to the Eustachian tube. Tonsils may also be removed if they are associated with recurrent infections.

How can I prepare my child for surgery?

The operation requires general anesthesia by an anesthesiologist which is initially administered by a mask. One parent may accompany the child in the operating room. Pre-operative sedatives may be administered orally or rectally at the discretion of the anesthesiologist. It is important to discuss the surgery and hospital with your child as this may otherwise be frightening. When your child wakes up from surgery you will be allowed to visit in the recovery room. There are many excellent books available that may help prepare your child for the operating room. One recommendation is “Curious George Goes to the Hospital” by Margaret Rey.
What are the possible risks and complications of M&T?

**Bleeding.** Minor bleeding may develop from the incision in the eardrum. There may be small specs of blood noticeable in the ear canal after the operation. Active bleeding greater than 24 hours is extremely rare.

**Infection.** Any surgical endeavor carries the risk of infection due to manipulation of the native tissues. If an infection develops after surgery it will be treated with appropriate antibiotics or ear drops.

**Pain.** Any surgical endeavor carries the risk of pain. Pain, if any, is usually minimal and controlled with Motrin or Tylenol.

**Persistent Hole in the Eardrum.** In ~1% - 3% of cases a persistent tiny hole will remain in the eardrum after the tube falls out. This may require additional surgical procedures to repair, or may need no treatment at all.

**Damage to Hearing, Ringing in the Ear (Tinnitus), and Dizziness (Vertigo).** Any manipulation of the ear or eardrum carries these general risks. However, development of these risks after M&T is extremely rare.

### Post-Operative Care Instructions

- It is not unusual to have some drainage out of the ears after surgery. This drainage may be clear, discolored, or even blood-tinged
- Keep ears dry until your scheduled follow-up appointment. Use cotton to plug the ear canal in the bath or shower if possible.
- Use ear drops as instructed by your surgeon.
- Take acetaminophen (Tylenol) or ibuprofen (Motrin, Advil) as needed for pain.
- You may get your ears wet after being seen by your surgeon at the post-operative visit. This includes swimming and bathing. However, you should always keep dirty water out of the ears. Dirty water is lake, river, or bathtub water. Use ear plugs in those situations. If when washing your hair you use clean water over the top of your head and not the bath water that should be fine. Also, if you are diving or jumping into any type of water then you should wear ear plugs.
- Keep your ear drop bottle. If you develop discolored drainage from the ear at any point weeks or months after the surgery, start using your ear drops 4 drops to the affected ear twice daily. If the drainage persists for 3 days, then contact the office.
- Schedule a post-operative appointment with your surgeon in approximately 2 to 3 weeks after surgery. You should also schedule an audiogram (hearing test) at the same time.