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Ear Tubes
Myringotomy and Pressure Equalizing Tubes

Indications

Pressure equalizing (PE) tubes are placed for recurrent ear infections (or recurrent otitis media), and/or persistent fluid in the ears (chronic otitis media with effusion). Fluid in the middle ear causes reversible hearing loss, and if prolonged may affect speech development or learning. Symptoms of otitis media include fever, earache, hearing loss, increased fussiness or irritability in children. Most ear infections clear with antibiotics, however, when infections recur very frequently or persist for months, PE tubes may be indicated.

Why Infections Recur

In children, the most common reason that ear infections occur relates to the development of the eustachian tube. This tube connects the middle ear to the back of the nose. It is responsible for draining fluid from this space and allowing air to travel from the nose to the middle ear. In children the eustachian tube is shorter and more horizontal than in adults. Therefore the tube is less efficient and may allow infections to become frequent or persist. Poorly functioning eustachian tubes are more common in children exposed to tobacco smoke, in children who have a strong family history of airborne allergy, in children with cleft palate, and in children whose parents or siblings had ear infections. In older children, the adenoids, which are located next to the eustachian tube opening in the back of the nose, may also affect the eustachian tube function and predispose to ear infections or fluid. Eventually in most children the eustachian tube begins to function better and ear infections become less frequent and children “outgrow” the problem. In adults, the eustachian tube problems can be more chronic and difficult to treat

Tubes

PE tubes are small grommets or plastic vents that are inserted through the eardrum. The tube allows air and liquid to enter or exit the middle ear through the ear canal rather than through the eustachian tube. Benefits typically include immediate improvement of hearing, a decrease in the sensation of ear fullness and pressure, and usually a marked decrease in the frequency and severity of infections. The tubes stay in for some time and effectively act as an artificial eustachian tube. Some tubes are designed to stay in the eardrum for a very long time and require removal. Other tubes stay in for shorter times and fall out on their own. Ask your doctor about the type of tube and planned length of treatment. Myringotomy tubes are placed during a short outpatient surgical procedure. In children, a general anesthesia is used which typically requires no shots, IV’s, or breathing tube that is usually done under general anesthesia in the Operating Room. The procedure takes about 10 minutes, after which your child

will spend 30 to 60 minutes in the Recovery Room. Your child will go home the same day and typically be back to normal in several hours. In adults tubes can be done in the operating room with sedation only or general anesthesia. Many adults choose to have tubes placed in the office with only local anesthesia.

Using a microscope to visualize the eardrum, the surgeon makes an incision. Any fluid will be drained and a small plastic tube is inserted. The tube is about the size of the tip of a ballpoint pen and fits like a rivet or a grommet in the eardrum. It is open and permits air to enter and blood and other fluids to drain. In children, the first set of tubes is not permanent and generally falls out after 12 to 24 months. The tubes may be retained longer and your ENT surgeon may discuss a procedure to have them removed. Only about 10% of children require a second set of tubes. A few children may continue to have ear infections despite placement of tubes. In those children removal or other procedures may be required.

Hospital Stay

The operation is performed as a same day admission, which means there is no overnight stay in the hospital.

Anesthesia

Children are usually given anesthesia gas through a mask. Needles and I.V.'s are not usually necessary. The anesthesiologist will meet with you before surgery.

Potential Risks of Surgery

As with any surgery, risks exist. Rarely frequent ear infections persist after surgery. An ear infection with a PE tube is different than one with an intact eardrum. Typically infections are less painful with a tube since the eardrum does not bulge with pressure. Infections are also readily noticed since the pus or blood from behind the eardrum leaks out of the ear. This can be messy or disconcerting to the family occasionally. The ear infections are typically more easily controlled when tubes are present. Often antibiotic eardrops are all that are needed to stop the infection. Rarely the tube can act as source of infection and promote inflammation or bacterial growth. In these rare cases the tube may need to be removed or replaced. On rare occasions, when the tube is dislodged or removed, the eardrum fails to heal. The risk of perforation varies with the type of tube placed and the length of time the tube is in the ear. Rates vary from 1 – 10%. If a perforation occurs it may be repaired surgically. When present a perforation may be minimally symptomatic or cause hearing loss or other problems. Additional risks include hearing loss, scarring of the eardrum, cholesteatoma (skin trapped behind the eardrum), and other less common risks.

Diet Instructions

After surgery there are no dietary restrictions.

Bleeding/Drainage
Drainage from the ear can occur right after the surgery or anytime while a tube is in the eardrum. Drainage right after surgery is yellow or blood-tinged. Don't be alarmed. Blood comes from the edges of the incision in the eardrum and will stop on it's own. Discharge in the external ear may be cleaned with a Q-tip soaked in hydrogen peroxide. Do not put the Q-Tip in the ear canal or let the hydrogen peroxide run into the ear canal. If the drainage persists for more than 3 days call the office.

Ear Drops
Eardrops are typically prescribed after tubes are placed. Use 3 drops in both ears 3 times per day for 3 days. Apply the drops as follows. Warm the bottle in your hand for a few minutes. Gently pull the external ear back and put the drops in the ear canal. After the drops are in, press on the bump in front of the ear, called the tragus, to pump the drops down the ear canal. A small cotton ball should be put in the external ear for fifteen minutes to collect any excess liquid draining from the ear.

Post-Operative Pain
Cracking and popping sounds may be heard during the first few days. Pain is unusual and typically mild. It can be relieved with Tylenol (acetaminophen). Sometimes the world sounds very loud to children who have had fluid for a long time. The may startle easier or be alarmed by noises after surgery.

Post-Operative Fever
Fevers are rare but can occur following surgery. Usually fevers are due to unrealted illness that coincides with surgery. If the fever is over 102, please call the clinic.

Swimming/Bathing
Patients should keep their ears dry until the postoperative visit. At the visit future water precautions will be discussed, but are typically not necessary. Until that visit avoid getting water in the ear by using a Vaseline coated cotton ball while bathing or showering.

Post-Operative Visit
The first office visit is usually 1-2 weeks after surgery. Follow up visits are typically every 3-6 months until the tubes fall out and the ears are shown to be normal.

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