

NORTH COUNTY EAR, NOSE AND THROAT –
HEAD AND NECK SURGERY
Pediatric and Adult
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TYMPANOPLASTY

Repair Ear Drum Perforations and Restore Hearing

Tympanic Membrane Perforations

The ear drum is also called the tympanic membrane. It is a thin piece of skin about 1 inch deep in the outer ear canal. It separates the outer ear canal from the middle ear. A hole in the ear drum is called a tympanic membrane perforation. Perforations can occur from infections, flying, diving, or trauma, such as from a Q-tip or being hit in the ear. A perforation may be the cause of bleeding, pus, or other drainage from the ear. It can also cause hearing loss. If water gets through the hole when showering or swimming, it can cause pain, dizziness, and/or an infection. Some perforations will heal on their own. Others require surgery.

Some, but not all perforations, cause some degree of hearing loss. Sometimes whatever caused the perforation also damages the small bones behind the ear drum called the ossicles. This leads to additional hearing loss. The health of the ossicles usually cannot be determined by the exam in the office. An audiogram (hearing test), CT scan, temporary patching of the ear drum in the office, and/or exploratory surgery may be required to determine if these small bones have been injured.

Persistent or frequently recurring ear drainage may indicate that there is a problem deep behind the perforation in an area called the mastoid bone. The mastoid bone is the hard bone that you feel if you press behind your ear. Within this bone there is an air-filled space called the mastoid cavity. This cavity can become infected or be the site of a benign tumor of skin called a cholesteatoma. A CT scan of the ear, (temporal bone CT scan), may be necessary if a mastoid infection or cholesteatoma are suspected.

The nose and sinuses also need to be considered when ear surgery is being contemplated. Chronic sinus or nasal congestion can infect or congest the ears, causing ear infection, perforation, and other ear problems. Therefore, any significant nasal or sinus problems need to be treated before, or along with, treating the ear.

In-Office Procedure

Smaller perforations sometimes can be repaired with an in-office procedure. Patient age, shape of the ear canal, location of the perforation within the ear drum, and size of the perforation are all factors in this decision. The in office procedure involves injecting behind the earlobe with a novacaine-type anesthetic and some additional injections in the outer ear canal. Once the ear is anesthetized, scar tissue from the edges of the perforation is removed. Sometimes a patch will also be placed on the outer surface of the eardrum. These techniques stimulate the eardrum to heal.

For larger perforations and those that don't heal with the in office technique, surgery will be necessary to close the perforation. This is called *tympanoplasty*.

Tympanoplasty surgery

A tympanoplasty is a reconstruction of the tympanic membrane and, if needed, replacement of one or more of the bones behind the ear drum. It is done under general anesthesia, usually with the patient going home the same day.

The procedure is done looking through a microscope and working through the ear canal. Often it also requires an incision behind the ear. The tissue used to reconstruct the eardrum is usually taken from under the skin that is just above the ear.

If opened from behind, the ear is then stitched back in place. Sometimes the stitches are buried in the skin and do not have to be removed later. The dressing may vary from a simple cotton ball in the ear canal to a large, bulky dressing with a band that goes around the head. Generally, you can return home within two to three hours. Antibiotics are given along with a pain reliever.

Patients are seen several times in the office during the 1st 4 to 6 weeks after surgery. The hearing improves over this time. The surgery is successful in 90 percent of cases.

Precautions after surgery

For six weeks after surgery, patients need to avoid contact sports, getting any water in the ear, nose blowing, jumping, or other activities that could dislodge the new eardrum. Light cardiovascular activity is allowed after 4 weeks but no heavy weight lifting for six weeks. A cotton ball lined with a thin layer of vaseline or antibiotic ointment is needed in the shower. When sneezing, it is important to sneeze with the mouth open.

Risks

Bleeding - Minor bleeding from the ear canal and any incisions for 2 - 3 days after surgery is expected. The doctor needs to be notified if the bleeding seems excessive as it could dislodge the new eardrum.

Infection - The ear can become infected after surgery. This can result in graft failure. It is critical to adhere to all medication instructions (antibiotic pills are prescribed immediately after surgery and ear drops are prescribed later).

Graft failure - In general, there is a 10% chance of failure of tympanoplasty. This can occur either from an immediate infection during the healing period, from water getting into the ear, or from displacement of the graft after surgery. Most patients can expect a full "take" of the grafted eardrum and improvement in hearing.

Failure for hearing to improve - This is associated with graft failure or other factors in the healing process such as excessive scarring.

Further hearing loss - There is a 5% chance of worsened hearing, usually due to unexpected scarring. A total hearing loss from tympanoplasty surgery is rare. This occurs in less than 1% of patients and may or may not be permanent. *For all patients, hearing will seem worse for 3 - 4 weeks after surgery while the bandage in the ear canal is dissolving and swelling is resolving.*

Dizziness and imbalance - This is common and present for about a week after surgery. It is usually mild. If the ear becomes infected postoperatively, the dizziness may worsen. Generally, all imbalance and dizziness will resolve after a week or two.

Tinnitus - Tinnitus, or noises in the ear, particularly an echo-type feeling, may be present as a result of the perforation itself. Usually, with improvement in hearing and closure of the eardrum, these sensations clear up. However, tinnitus is unpredictable. Usually it gets better. But it may not change and rarely it could get worse.

Taste problems – The taste nerve is directly under the eardrum. On occasion the surgery injures the nerve leading to a temporary abnormal taste sensation on that side of the tongue. Rarely, the sense of taste is lost on that side.

Facial paralysis - The nerves that control the muscles of the face run through the ear. It is possible, but extremely rare for this nerve to be injured during eardrum surgery. Injury to this nerve causes paralysis of that side of the face.

Please contact the office with any questions or concerns.

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