

Tympanoplasty and Mastoidectomy

If tympanoplasty or mastoidectomy has been recommended for you, your likely diagnosis is **chronic otitis media** (long standing perforation of the eardrum and infection of the middle ear) or **cholesteatoma**. *Cholesteatoma* (a benign but invasive skin cyst) is an abnormality of the ear that develops if skin starts growing in the middle ear space. When a perforation of the tympanic membrane and chronic drainage exist, the ossicles (bones of hearing), mastoid bone, inner ear, and facial nerve are at risk of damage. In such cases cholesteatoma is often present. This cyst will continue to grow slowly, causing destruction of the hearing bones and other structures of the ear mentioned above. Cases of *infected cholesteatoma* are most dangerous because the destructive power of the disease is greatly increased. Infection can many times be made to subside with medical treatment (antibiotic drops or pills), but there is no medical treatment for cholesteatoma. Cholesteatoma must be surgically removed.

The primary goal of tympanoplasty is to remove cholesteatoma and infected tissue, and to build a new eardrum. An incision is made behind the ear to provide better exposure and access to the ear. Your surgeon will use a microscope and microsurgical technique for most of the operation. In some cases your surgeon may elect to use a laser. After diseased tissue is completely removed, a tissue graft is used to create a new eardrum. The most commonly used material for a new eardrum is the covering of the muscle above the ear (fascia) and covering of ear cartilage (perichondrium). If a diseased ear bone is removed and the ossicle chain is not reconstructed, your hearing may actually be worse after this stage of the repair. (See Hearing section.) If this is your first operation, eardrum grafting is successful in over ninety percent of the patients resulting in a healed and dry ear. Smokers may not achieve as high a success rate because nicotine causes spasm of regenerating blood vessels after surgery and impairs wound healing. It is strongly recommended that you quit smoking for at least 2 weeks before and for 2 weeks after surgery to improve chances of proper healing.

Mastoidectomy is necessary in cases of mastoid infection or cholesteatoma extension into the mastoid. In such cases the disease cannot be adequately addressed through the ear canal alone. The mastoid is a bony honeycomb of air pockets immediately behind and continuous with the middle ear space. A mastoidectomy involves drilling open these air pockets and making the honeycomb one cavity. This provides access to the middle ear from another route.

Hearing improvement or reconstruction is a secondary, but important, goal of tympanoplasty surgery. This goal is usually accomplished at a

second stage operation 6 to 12 months after the first operation. For many years the goal of surgical treatment for chronic otitis media was to control infection and prevent serious infections such as meningitis and brain abscess. Advancements in surgical techniques have now made it possible to rebuild the hearing mechanism in most cases. Hearing loss is frequently due to diseased or destroyed ossicles (hearing bones). Diseased ear bones may be replaced by a plastic or artificial bone prosthesis, or, in the case of a partly diseased bone, it may be reshaped and repositioned to reconnect the ossicle chain. Often times, when a prosthesis is placed in an area that was infected, it will be rejected by the body, thus voiding the hearing gain and also destroying the tympanoplasty. For this reason hearing reconstruction is done at a second operation after the middle ear returns to a normal state. At the second stage, the ear is carefully inspected for any residual or recurrent cholesteatoma, and hearing is restored. This operation is shorter than the original surgery and is usually performed under local anesthesia.

What are the **side effects** of tympanoplasty?

1. Pain is usually worst in the immediate post-operative period (2 to 4 days) and subsides quickly thereafter. This is usually well controlled with oral pain medicine.
2. Taste disturbance and mouth dryness are not uncommon for a few weeks following surgery. In some patients the disturbance is prolonged and permanent. This is due to involvement of a small nerve that passes through the middle ear that may be involved with the disease process. It supplies taste sensation to only one part of the tongue.
3. Tinnitus (head noise) is often present temporarily after surgery. It may persist for one to two months and then decrease in proportion to the hearing improvement or it may persist.
4. Ear Numbness is due to loss of skin sensation in and about the ear due to cutting of tiny skin nerves. Sensation usually returns within 6 months.
5. Soreness or stiffness in the jaw is often seen after ear surgery because the jaw joint is just in front of the ear canal. It usually goes away by 4 to 6 weeks.
6. Ear popping, pressure, and mild equilibrium disturbance may occur from packing in the middle ear. These symptoms are generally transient and resolve in 4 to 6 weeks.

Patients may generally return to work in seven to ten days, but this varies from one person to another. Healing is usually complete in eight weeks. Hearing improvement may not occur for two to three months even if the ossicle chain is intact.

It is not the intention of this brochure to provide specific medical advice, but rather to provide the reader with information to better understand their disorder and their diagnosis. Specific medical advice will be provided by the doctor, and this brochure does not replace consultation with a qualified physician for diagnosis and answers to your personal medical condition.

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