

## *Ear, Nose & Throat Center of Austin*

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### **Eardrum Repair**

**Alternate Names** : Myringoplasty, Tympanoplasty

Eardrum repair is performed for three problems. These include:

- a hole in the eardrum, called a perforation
- calcium deposits
- a deformity known as a retraction pocket

The most common reason is perforation caused by infection, injury, or previous placement of tubes. Tubes are used to allow drainage and equalize the pressure in the space behind the eardrum.

#### *Who is a candidate for the procedure?*

The main purpose of repairing holes in the eardrum is to protect the sensitive part of the ear behind the eardrum. In this sense, perforation repair is primarily a safety issue. People who have holes in their eardrum usually suffer some degree of hearing loss. They often undergo surgery to try to correct this problem.

#### *How is the procedure performed?*

This surgery can be done under general or local anesthesia. General anesthesia is when a person is put completely to sleep to prevent pain. Local anesthesia is when "numbing" medicine is applied in the area of the surgery to prevent pain while the person is awake. The surgery is almost always done on an outpatient basis. This means that the person is admitted to a hospital or surgery center for the procedure and goes home on the same day.

There are several ways to repair a hole in the eardrum.

If the hole is small, its edges are removed. A tiny piece of fat is placed into the hole. Blood vessels from the fresh edges of the hole grow into the small fat graft. The graft then becomes incorporated into the eardrum.

Larger holes in the eardrum can be repaired in two ways. The first method involves peeling off the skin lining the bony ear canal and the eardrum. Next, a piece of tissue covering the temple area is removed and placed over the perforation. As the skin layer grows back over the ear canal and outside the surface of the eardrum, it also grows over the graft. This closes the perforation.

The second method involves removing the edges of the hole. The eardrum is then lifted and a piece of muscle, generally removed from the temple area, is placed under it. After that, the eardrum is folded back into position. The eardrum regrows over the graft, closing the perforation.

A different technique is used when the surgery is done to remove calcium deposits in the eardrum. This condition is called tympanosclerosis. The problem often develops when the eardrum remains inflamed over a long period of time. It can become stiff and heavy. This makes it hard for the eardrum to transmit sound so that it can be heard. To remove the calcium deposits, the surface skin layer of the eardrum first has to be removed. Next, the calcium deposits are peeled off. The skin layer then grows back over the outer surface of the eardrum.

The other common form of eardrum surgery is the repair of a retraction pocket. This is when pressure forms in the air space behind the eardrum. This pressure pulls the eardrum inward, called a retraction. The eardrum is stretched as it is pulled inward. This may eventually lead to hearing loss or damage to the structures deep inside the ear. To fix this condition, the eardrum is lifted up and the retraction pocket is removed. A piece of cartilage from the ear is used to reinforce that area of the eardrum. The cartilage is strong enough to resist the pressure behind the eardrum. This prevents the formation of more pockets.

### ***What happens right after the procedure?***

The person usually has soft packing material inside their ear canal after the procedure. After 1 or 2 hours of recovery time, people can usually go home. Someone else should drive the person home. This is because the pain medicines given can affect a person's ability to drive.

### ***What happens later at home?***

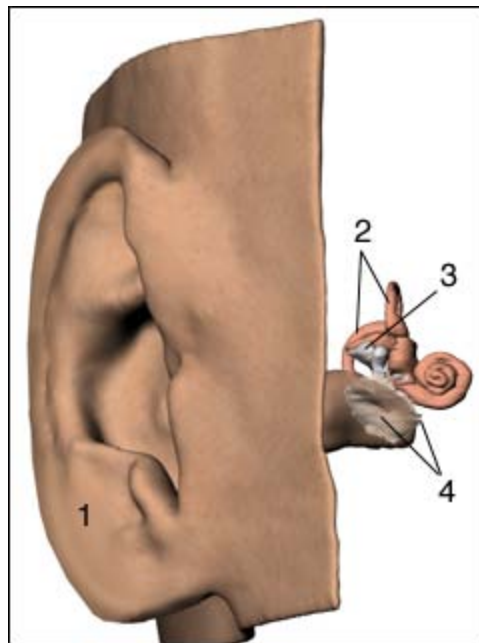
Pain and bleeding are usually mild. No changes in activity or diet are needed following the procedure. However, the person must keep water out of their ear. Also, the person must not blow his or her nose. This might dislodge the graft. Antibiotics may be prescribed and pain relievers should be taken as needed. Corticosteroid and antibiotic eardrops are often used to keep the ear canal free of infection. The drops also keep the packing in the ear canal moist so it can be easily removed later on. Plane flights and altitude changes need to be avoided for several weeks after the surgery.

### ***What are the potential complications after the procedure?***

All surgery carries a risk of bleeding, infection, and reactions to pain medicines. The main complication specific to the surgery is a disturbance in taste. This may happen if a certain nerve is injured. This nerve runs right behind the eardrum. It brings taste information to the tongue. As with any ear surgery, there are also the risks of dizziness and nerve deafness.

Eardrum repair is not always successful. For eardrum repair, success means both closing the hole and restoring normal hearing. Closing the eardrum is the primary goal because it protects the ear. Hearing is usually tested before and after surgery. Success depends on the size of the area to be repaired, and whether or not there are problems with other parts of the ear. If both eardrums are perforated, the success rate is lower. For calcium deposits in the eardrum, a successful result is restoring normal eardrum function. Ideally, hearing will improve as a result. Success for retraction pocket surgery involves repairing the pocket area and halting any problems the pocket is causing.

*Pictures & Images*



**Ear**

1. Pinna (External Ear)
2. Inner Ear
3. Middle Ear
4. Eardrum