



## Eardrum repair FAQ

### **What are the basics of eardrum repair?**

Dr. Biavati may recommend eardrum repair surgery if there is a persistent hole in your child's eardrum from chronic ear infections or prior injury. The eardrum is a thin membrane that separates the outer and middle ear. Problems caused by a hole in the eardrum include: drainage from the ear; discomfort in the ears when swimming or bathing; and hearing difficulties. If these problems continue or happen over and over, your child would be a candidate for eardrum repair surgery.

Eardrum repair is typically performed as an outpatient day surgery under general anesthesia. The type of surgery for eardrum repair depends upon the size of the hole in the eardrum. Although eardrum repair is a delicate surgery, it is not considered major surgery so your child can usually return to normal activities in a day or so. While recovery time is short, complete healing can take up to six to eight weeks. During the healing process, precautions need to be taken to keep the inside of the ear canal dry to prevent infection and possible failure of the surgery.

### **What are the types of eardrum repair?**

The simplest type of eardrum surgery is a tympanic membrane repair, or paper patch. Tympanic membrane repair is usually recommended in situations where there is an ear tube that has not extruded and needs to be removed. In these cases, the hole is typically covered with a fibreless paper patch.

Sometimes a tissue graft may be necessary. This happens when there is a persistent opening in the eardrum. For smaller perforations, a procedure called a myringoplasty may be recommended. In these cases, the surgeon takes a small piece of tissue from behind the ear. This piece of tissue is used to patch the hole in the eardrum. Packing is placed in the ear canal to hold the graft in place during healing.

For larger holes in the eardrum, tympanoplasty is the typical surgical procedure. During this procedure, the eardrum is exposed through an incision behind it or it may be approached directly through the ear canal using an endoscope. This approach allows the surgeon to better see the ear bones and middle ear space (area behind the eardrum). A small piece of tissue is harvested from within the incision or from the tragus (the bump in front of the ear canal) for use as a graft. Packing is then placed in the ear to hold the graft in place.

### **What is the success rate for eardrum surgery?**

In general, the success rate for eardrum repair is high. Healing depends on the size of the hole being repaired, the presence of infection or drainage, and the blood supply to the eardrum. Overall, complete healing should be expected in about 85% of cases for young children, and upwards of 90% for older children and teenagers. Even if complete healing does not occur, the size of the perforation is often reduced to the point where the hole no longer causes symptoms.

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### **What are common problems with eardrum repair?**

Sometimes, a new hole may occur in the eardrum. This can result from an infection after surgery. In other instances, mucous can re-accumulate behind the eardrum. If this occurs, replacement of an ear tube (grommet) may be necessary.

Additionally, drainage from the ear can sometimes occur – this typically means there is an infection that can affect healing. If drainage occurs, you need to bring your child to the ENT Care for Kids office so the ear canal can be suctioned and medicine applied.

Pain can occur following ear surgery. This is usually only an issue in myringoplasty or tympanoplasty where there is a tissue graft put in place. When the surgeon anticipates there will be pain after surgery, you will be given a prescription for a narcotic pain medication to give to the patient as needed.

Other common problems include numbness of the ear that was operated on. This is typically only a problem with a tympanoplasty and when an incision is made behind the ear and there is a division of the sensory nerve to the external ear.

### **What are rare complications of eardrum repair?**

Serious complications of eardrum repair are extremely rare, so the benefits always outweigh the risks. The risk of serious complications is mostly associated with tympanoplasty procedures where an incision is made behind the ear or through the ear canal.

Because the nerve for facial muscles travels through the middle ear space, there is a risk of temporary or permanent injury to the facial nerve resulting in paralysis of facial muscles on that side of the face. This risk mostly applies to tympanoplasty. To minimize the risk of injury, the surgeon monitors the nerve to the facial muscles throughout the procedure. If nerve injury does occur, nerve function typically returns. Even if injured, rarely does the nerve function not return. In general facial paralysis is a very rare complication of ear surgery.

Additionally, one of the nerves supplying nerve fibers to the taste buds travels through the middle ear. During surgery, this nerve can be injured, resulting in altered taste or loss of taste. This is uncommon to happen and the problem usually resolves with time.

Another risk is loss of hearing in the ear. In most cases, hearing will be the same or improved following eardrum repair. Loss of hearing can be due to conductive causes or nerve deafness. Conductive loss due to stiffness of the ear drum or ear bones is potentially reversible. Nerve deafness is extremely rare and may result in partial or total hearing loss, which is permanent. Either type of hearing loss typically can be treated with a hearing aid.

Other potential problems include dizziness or ringing in the ears. These complications are often associated with nerve deafness. These problems are rare and typically will resolve without treatment in almost every case.