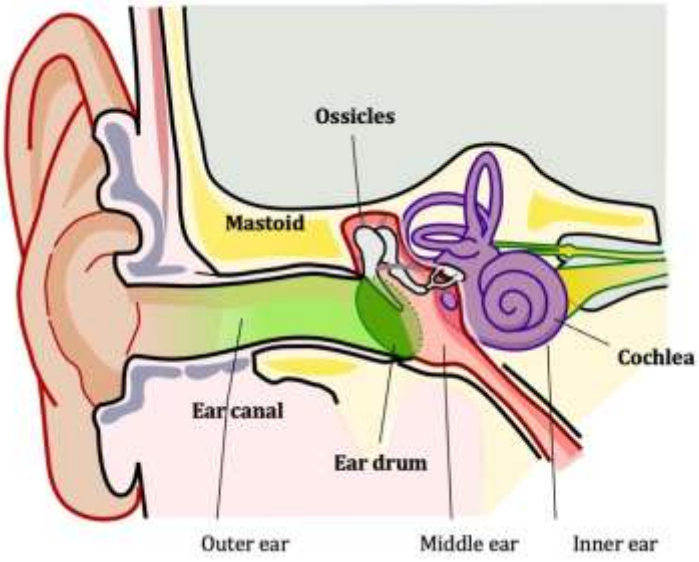
Royal United Hospitals Bath
NHS Foundation Trust

Tympanoplasty (Ear Surgery)

Ear, Nose & Throat Department

This information sheet is designed to help you make an informed decision about having an operation on your ear/s. If you have any further questions, please discuss these with our staff before your operation.

The ear consists of the outer, middle and inner ear. Sound travels through the outer ear and reaches the eardrum, causing it to vibrate. The vibration is then transmitted through three tiny bones (the ossicles) in the middle ear. The vibration then enters the inner ear (cochlear) where the sound wave is converted to an electrical signal, which travels to the brain and is interpreted as sound. Middle ear disease, such as infections, can alter the normal function of the ear resulting in hearing loss and tinnitus.



What does Tympanoplasty surgery mean?

The terms ‘tympanoplasty’, ‘atticotomy’, ‘cartilage tympanoplasty’ and ‘canalplasty’, cover a range of operations on the ear canal, ear drum, middle ear, and hearing bones. They are designed to access and repair the eardrum, and to remove infection and disease

from the ear. The ear drum may be reconstructed with cartilage at the time of surgery to try and reduce the risk of the ear drum collapsing again.

A **Tympanoplasty** means operating on the ear drum. This can be a relatively simple procedure to fix a hole in the ear drum (perforation) called a myringoplasty but can also be a much more complex procedure when the ear drum is retracted or abnormal.

A **Canalplasty** involves widening the ear canal and is often performed at the same time as a tympanoplasty to improve access to the ear drum.

An **Atticotomy** involves removing bone adjacent to the ear drum to allow access to an abnormal ear drum such as when the ear drum is retracted or there is a small cholesteatoma.

An **Ossiculoplasty** involves operating on the small bones of hearing (ossicles) to reconstruct/repair or replace to try and improve your hearing. This may be performed at the same time but may also be performed at a later date.

Your surgeon will discuss the plan with you, but we may not know exactly what is necessary until during the operation itself. We will always aim to do what is necessary to give you a safe, clean dry ear and preserve or restore your hearing as best we can.

Why is the surgery performed?

Most commonly this is because of damage to the middle part of the ear by an area of the ear drum being sucked inwards (‘retracted', ‘a pocket’) resulting in:

- Damage to the ear canal or hearing bones
- Recurrent infection
- Cholesteatoma (or because your ear is *at risk of* developing a cholesteatoma)
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What is Cholesteatoma?

Cholesteatoma is a sack full of skin. It usually forms when the ear drum gets sucked in and forms a pocket or retraction. The skin cells get stuck in the pocket and then get infected. Many people who have cholesteatoma have smelly pus coming from the ear. The sack gets bigger very slowly and can damage the hearing bones. The sack eventually grows backwards into the spaces of the mastoid bone.

Other more unusual consequences of cholesteatoma can include:

- Deafness when the inner ear is damaged causing permanent, severe deafness
- Facial weakness due to the facial nerve (which passes through the ear) being damaged
- More serious infection including brain abscess or meningitis (these are rare)
- Vertigo or dizziness

The only effective way to get rid of the cholesteatoma is with surgery. The aim of the operation is to give a safe, dry ear by removing the cholesteatoma and repairing the eardrum. The second aim of the surgery is to preserve or partly restore hearing, if possible. When it is not possible to repair or preserve the hearing, a hearing aid may be recommended in the future.

How is the surgery performed?

The surgery is performed under general anaesthetic, so you will be asleep. There are several ways of performing the operation, depending on the extent of the problem. Some patients will have had a CT scan done to help the surgeon plan the operation. The surgery can take up to three hours. In some cases the surgery can be performed entirely down the ear can using an endoscope (camera in the ear canal). Otherwise a cut is made in the skin behind the ear allowing the surgeon to remove access the middle ear using a microscope.

What are the possible complications of surgery?

All surgical procedures are associated with some risk. Despite the highest standard of care, complications are possible. It is important that you have enough information to weigh up the benefits and risks of surgery. Most of the complications that can occur following surgery, can also occur if the cholesteatoma is left untreated. Most people will not have complications, but your surgeon will mention the following risks before asking you to agree to the surgery:

- **Bleeding** – is usually minimal during ear surgery. Major bleeding is rare.
- **Infection** – is possible after surgery but is usually limited to the wound behind the ear and can be treated with antibiotics if necessary. More serious infection leading to long term complications is very unusual.
- **Taste disturbance** – the taste nerve runs close to the eardrum and may occasionally be damaged or need to be removed to clear the disease from the ear. This can cause an abnormal or reduced taste on one side of the tongue. This is usually temporary but occasionally it can be permanent.
- **Tinnitus** – sometimes patients notice noise in the ear after surgery, though this is usually temporary. It may be more noticeable if there is also hearing loss.

- **Dizziness** – is common for a few hours following surgery. On rare occasions, dizziness can last for up to a few weeks, or very rarely be permanent.
- **Loss of hearing** – the hearing bones may be worn away by the pocket or cholesteatoma or may have to be removed to clear the disease during surgery. Even with reconstruction there may be a worsening of hearing loss after surgery. In a small number of patients the hearing may be further impaired due to damage to the inner ear. Partial hearing loss can usually be treated with a hearing aid once the ear has fully healed. If the disease has eroded into the inner ear, there may be a permanent, total, loss of hearing in that ear after the operation, but this is very rare.
- **Facial weakness** – The facial nerve is found in the middle ear and mastoid. It moves the muscles of the face. If the nerve is injured during surgery, there may be weakness on one side of the face. This could affect closing of the eye, smiling and raising the forehead. The weakness can either be temporary or permanent but fortunately is extremely rare.
- **Cerebrospinal fluid leak** – Surgery can very rarely result in a leak of the fluid (CSF) that surrounds the brain. This occurs if the lining of the brain is disrupted by cholesteatoma or the surgery itself. If the leak is seen during surgery, it is repaired at the time. Sometimes the leak becomes apparent later and a second operation is needed because an unrepaired leak can rarely lead to meningitis.
- **Residual or recurrent disease** – Sometimes ear problems like this can recur. It is extremely important you attend regular follow up to ensure that there is no further problems. MRI scans may be recommended to monitor your ear. Revision surgery may be needed if further disease is seen, or in a small number of patients if the ear does not heal as well as usual, even if there is no cholesteatoma.

Is there any alternative to surgery?

Sometimes we can monitor your ear to look for progression of an abnormal ear drum. If it is stable, you may opt to manage things without surgery. However, the only way to remove cholesteatoma completely is with surgery. Patients who choose not to have surgery, or are unfit for surgery, may be advised to have their ear cleaned regularly by a specialist in the ENT department and to use antibiotic eardrops when required. Hearing can in many cases be improved with a hearing aid.

How long will I need to stay in hospital?

The operation is usually performed as a day case, so you will be able to go home on the same day as your surgery. You will not be able to drive and will need to have a responsible adult to be with you for the first 24 hours after your operation.

How long will I be off work?

The exact time needed off work varies between patients, but as a guide you may need up to two weeks off work.

What happens after the operation?

When you come round from surgery you may have a dressing or bandage in or over your ear. Your surgeon will advise you when this can be removed. You may have some packing in your ear. This may all be absorbable but is often a dressing and is removed at your follow up appointment two weeks later. Ideally the dressing will remain in place until then, but if it starts to come out of the ear there is no cause for concern. It is sensible to trim the loose end of the packing with scissors and leave the rest in place. Do not pull the dressing out.

Some other points to note:

- You may notice some discharge from the ear for a few weeks after the operation. This may include some blood. This is normal and should slowly settle. Your surgeon may recommend a course of ear drops to try and reduce this.
- You may experience some dizziness which usually settles quickly.
- The ear may ache a little, but this can normally be controlled with painkillers. It may feel a little numb, this is quite normal and should settle down.
- The wound behind the ear needs to be kept dry for the first week after surgery.
- Avoid any water from entering the ear canal until you have been told that it is safe. We suggest a bathing cap, or cotton wool smeared with Vaseline to cover the ear canal entrance. We advise against water sports or swimming until your ear has fully healed.
- There are no stitches to be removed (they are usually dissolvable) but sometimes there will be sticky paper strips or skin-glue covering the wound. Sticky strips can be gently peeled off after one week. Glue will peel away naturally.
- An increase in pain, swelling or smelly discharge can be signs of an infection. If this occurs consult your GP or the ENT outpatients department.
- You should avoid blowing your nose for the first few weeks after surgery as this could damage the graft that was used to repair the eardrum.
- Your surgeon will advise you for how long you should avoid flying after surgery – usually between four and eight weeks depending on the type of surgery you have had.

Contact us-

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If you would like this leaflet in email form, large print, braille or another language, please contact the Patient Support and Complaints team on 01225 825656.

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