

Surgery for Cholesteatoma

Ear, Nose & Throat Department

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

What is cholesteatoma?

Cholesteatoma is a collection of dead skin cells in the middle ear. This occurs when the ear drum has been sucked into the middle ear and skin cells from the outer ear accumulate in the pocket created. This pocket of cells slowly grows bigger over time causing destruction to surrounding structures such as the bones of hearing. The sack can also grow backward into the honey comb like bone called the mastoid bone.

A cholesteatoma will produce an offensive smelling discharge that doesn't get better with treatment, such as antibiotics or drops and often causes a hearing loss.

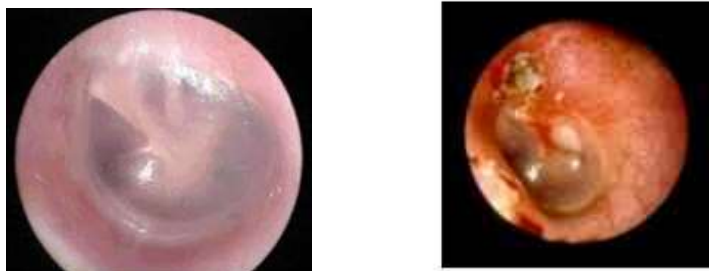


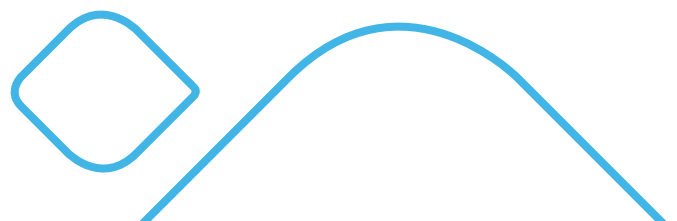
Figure 1 – picture of a normal ear drum and an ear drum with cholesteatoma

The mastoid bone: The mastoid bone is a prominent bone that can be felt behind the ear. Under the hard outer surface there are many air filled spaces like honey comb. The mastoid bone connects with the middle ear that is underneath the ear drum. The exact function of the mastoid bone is unknown but the air filled spaces help to prevent pressure changes in the ear.

Why is surgery needed for a cholesteatoma?

The most common symptoms that patients suffer with are recurrent infections and hearing loss. However the main concern associated with a cholesteatoma is a small risk of serious complications including:

- Complete hearing loss



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- Damage to the balance system
 - Damage to the nerve of the muscle that controls the movements of the face (facial nerve)
 - Brain abscess or infection such as meningitis

The aim of the operation is to remove the cholesteatoma (skin sac) and make the ear clean, safe and dry, preventing the risk of these serious complications. In some cases it may also be possible to improve the hearing.

How is surgery for cholesteatoma done?

The surgery is done under a general anaesthetic and in most cases done as a day case. A small number of patients stay overnight and your surgeon will discuss this with you. The surgery can take several hours to complete.

There are different ways of performing the surgery and will depend on the extent, size and spread of the Cholesteatoma. These are:

- Tympanoplasty
- Mastoidectomy
- Combined Approach tympanoplasty

In each of the methods the ear drum is accessed via a cut above or behind the ear, or if the cholesteatoma is small it can, in some cases, be access down the ear canal. It may not be possible to know which method will be required until the time of surgery but your surgeon will discuss the potential methods required before the surgery.

During the surgery the ear drum is lifted up and the cholesteatoma sac with the contents is carefully removed. The eardrum is then reconstructed with a graft. This graft is taken from different areas depending on what is required to reconstruct the ear drum. This can be cartilage from the tragus (the prominence in front of your ear) or from the conchal bowl (bowl like part of you outer ear), or temporalis fascia (a sheet of tissue overlying the muscle above your ear).


Sometimes it is also possible to reconstruct the bones of hearing if they have been eroded by the cholesteatoma but a second surgery may be required for this.

If the cholesteatoma has spread into the mastoid bone ('honey-comb' like bony prominence behind the ear) then the surgeon will remove some of the bony air cells to remove all the cholesteatoma. This leaves a defect called a mastoid cavity.

What can I expect after the operation?

You will wake up following the surgery with a head bandage which can be removed the following morning. If the surgery has been completed down the ear with no wounds on the outer skin, a head bandage will be applied.

The surgeon will have filled your ear with dressing or cream and then some cotton wool in the chonchal bowl. You will need to change the cotton wool but the dressing inside the ear canal will need to stay there until your outpatient appointment which will be 2-4 weeks following your operation. Depending on the dressing used, you may be given ear drops to use until your



follow-up appointment. You will be given instruction from the ward staff before you are discharged.

Sometimes this packing comes out on its own, this is not a problem and does not need to be replaced. It is normal to have a small amount of discharge, which can be blood stained, from the ear due to a combination of the packing, drops and/ or cream.

The stitches used during the surgery are absorbable and therefore do not need to be removed. They do however take several weeks to disappear.

When can I go back to work?

Most patients require 1-2 weeks off work. This will, however, depend on the extent of the surgery required and also what your job involves. You will be able to discuss this with your surgeon before the operation.

What are the risks?

As with all operations, there are risks involved which you need to be aware of before consenting to the surgery. There is a small risk of infection. Keeping the ear dry and using the antibiotic ear drops will reduce this risk. This operation can be uncomfortable but the pain can be controlled with pain killers provided by the hospital.

- **Infection:** The risk of infection following surgery is small. It is normal to have blood stained discharge from the ear and you will be given antibiotic ear drops to use until your follow-up. Sometimes some antibiotic packing is used instead of drops. It is important that you keep your ear dry following the surgery. Avoid swimming, and when showering use cotton wool and Vaseline® in the outer part of your ear to stop excess water dripping in.
- **Scar and skin numbness:** You may have a scar behind the ear if an incision is required. This tends to heal to a thin line and is hidden behind the ear. Sometimes a small amount of your hair is shaved to keep the wound clean and this will grow back.

There are some risks which are specific to ear surgery:

- **Hearing damage:** You can expect a temporary hearing loss due to the healing process, packing and dressing. This can be permanent if the cholesteatoma has eroded the bones of hearing. There is also a small risk of complete hearing loss if there is damage to the inner ear. This affects less than one in a hundred patients.
- **Dizziness (vertigo):** The ear is part of the balance system. It is common for patients to feel dizzy following cholesteatoma but this is temporary and often will settle on its own after a few hours. Rarely it will last longer and may need some medications to help with the nausea and vomiting.
- **Tinnitus (ringing in the ear):** You may notice noises in your ear following surgery especially if the hearing has become worse. This is temporary and settles with time.
- **Altered taste:** One of the nerves that supplies taste to your tongue runs through your ear. There is small risk of your taste being altered and this is often temporary.
- **Facial paralysis:** The nerve that controls the muscles that move your face passes through the middle ear. Extremely rarely, the facial nerve may be damaged which may result in a temporary or permanent weakness of one side of the face.

Can I get my ear wet?

After the surgery it is important to keep your ear dry to help with the healing process. Avoid swimming and putting your head under water when having baths. When showering we advise using cotton wool with Vaseline® in the ear to stop excess water getting in the ear. You will need to do this until the ear has fully healed which can take a few weeks.

Will I need any further treatment or surgery?

Due to the risk of recurrence of cholesteatoma you will be monitored following surgery. In some cases, with a small cholesteatoma, monitoring can be done with examining your ear in clinic. In other cases your surgeon may arrange for you to have MRI scans at certain intervals or you may require further surgery for a second look. Your surgeon will be able to advise what will be required following your surgery once the extent of the cholesteatoma has been assessed.

Following cholesteatoma surgery, some patients also require long term follow-up for cleaning of their ear.

Are there any other alternatives to surgery?

There are no medical alternatives to cure the condition. The only alternative is regular cleaning of the ear to help reduce the infection and risk of complications but this does not cure the disease. This can be more appropriate in patients who have greater risk of a general anaesthetic. If you do not want to consider an operation, this will be discussed with you in detail.

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