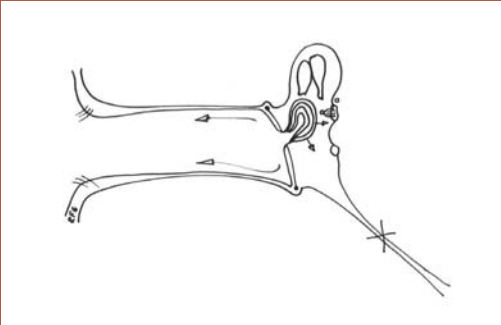


How does the ear work?

The ear consists of the outer, middle and inner ear. The outer ear is covered by skin. The middle ear is covered by a mucus producing membrane. Sound travels through the outer ear and reaches the eardrum, causing it to vibrate. The vibration is then transmitted through three tiny bones (ossicles) in the middle ear. The vibration then enters the inner ear where the nerve cells are. The nerve cells within the inner ear are stimulated to produce nerve signals. These nerve signals are carried to the brain, where they are interpreted as sound.

What is the mastoid bone?

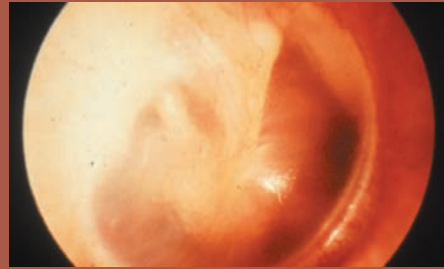
The mastoid bone is the bony prominence that can be felt just behind the ear. It contains a number of air spaces, the largest of which is called the antrum. It connects with the air space in the middle ear. Therefore ear diseases in the middle ear can extend into mastoid bone.



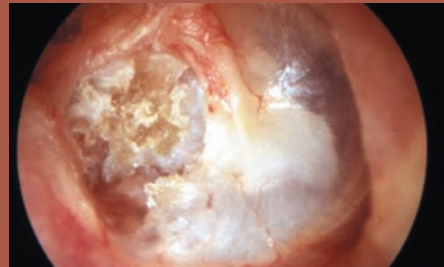
Why is mastoid surgery done?

Operations on the mastoid may be necessary when ear infection within the middle ear extends into the mastoid. Most commonly this is a pocket of skin growing from the outer ear into the middle ear, known as cholesteatoma. This causes infection with discharge and some hearing loss. The pocket gets slowly larger, often over a period of many years, and causes gradual erosion of surrounding structures. Erosion of the ossicles can result in hearing loss. The only effective way to get rid of this pocket of skin is surgery.

You may change your mind about the operation at any time, and signing a consent form does not mean that you have to have the operation. If you would like to have a second opinion about the treatment, you can ask your specialist. He or she will not mind arranging this for you. You may wish to ask your own GP to arrange a second opinion with another specialist.



A normal ear drum.



A cholesteatoma.

How is mastoid surgery done?

Usually a general anaesthetic is used. There are several ways of doing the operation, depending on the extent of the ear disease and the surgeon. They have various names such as atticotomy and mastoidectomy and take between one and three hours. The surgeon should discuss with you about his choice before the operation. It involves a cut either above the ear opening or behind the ear. You may also wish to discuss with your GP or do your own research before signing the consent form.

The bone covering the infection within the mastoid cells is removed. The resultant bony defect is called a mastoid cavity. Some surgeons leave the mastoid cavity open into the ear canal. This allows the surgeons to inspect the mastoid cavity easily. Other surgeons close up the mastoid cavity with bone, cartilage or muscle from around the ear. You should discuss with your surgeon his/her preferred approach. At the end of the operation, packing will be placed in your ear while it heals.

Does it hurt?

The ear may ache a little but this can be controlled with painkillers provided by the hospital.

How successful is the operation?

The chances of obtaining a dry, trouble free ear from this operation by experienced surgeons are over 80 percent. In some patients it is possible to improve the hearing as well. You should enquire from your surgeon the likelihood of success in your particular case.

Possible complications

There are some risks that you must be aware of before giving consent to this treatment. These potential complications are rare. You should consult your surgeon about the likelihood of problems in your case.

Loss of hearing:

In a small number of patients the hearing may be further impaired due to damage to the inner ear. If the disease has eroded into the inner ear, there may be total loss of hearing in that ear.

Dizziness:

Dizziness is common for a few hours following mastoid surgery and may result in nausea and vomiting. On rare occasions, dizziness is prolonged.

Tinnitus:

Sometimes the patient may notice noise in the ear, in particular if the hearing loss worsens.

Weakness of the face:

The nerve that controls movement of the muscles in the face runs inside the ear and may be damaged during the operation, but this risk is rare. If it happens, the face may lose its movement on one side but it is usually temporary.

What happens after the operation?

You will usually go home the day after the operation after the head bandage is removed, or sometimes the same day. There is sometimes some dizziness but this usually settles quickly. The stitches are removed 1 to 2 weeks after the operation.

There may be a small amount of discharge from the ear canal. This usually comes from the ear dressings.

Some of the packing may fall out. If this occurs there is no cause for concern. It is sensible to trim the loose end of packing with scissors and leave the rest in place.

The packing in the ear canal will be removed in the ENT Department after 2 or 3 weeks. You will need to attend the ENT Department occasionally for follow up of your ear for up to 5 years after the operation.

You should keep your ear dry. Plug the ear with a cotton wool ball coated with Vaseline when you are having a shower or washing your hair. If the ear becomes more painful or is swollen then you should consult the Ear, Nose and Throat department or your General Practitioner.

How long will I be off work?

2 weeks.

Is there any alternative treatment?

The only way to remove the infection completely is a mastoid operation. In patients who are unfit for surgery, the only alternative is the regular cleaning of the ear by a specialist and the use of antibiotic eardrops. This at best could only reduce the discharge.

If you have any problems or questions, please contact:

Please insert local department routine and emergency contact details here

Disclaimer: This publication is designed for the information of patients. Whilst every effort has been made to ensure accuracy, the information contained may not be comprehensive and patients should not act upon it without seeking professional advice.

Last updated: November 2010 - **Review due:** November 2012

MASTOID SURGERY

By Iain Swan

ENT-UK is the professional Association for British Ear, Nose and Throat Surgeons and related professionals. This leaflet provides some background information about mastoid surgery. It may be helpful in the discussions you have with your specialist when deciding on possible treatment. This information leaflet is to support and not to substitute the discussion between you and your specialist. Before you give your consent to the treatment, you should raise any concerns with your specialist.



ENT.UK
The Royal College of Surgeons of England
35-43 Lincoln's Inn Fields
London WC2A 3PE



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