

## Operation for Cholesteatoma

### **Mastoid exploration**

Drilling of the bone behind the ear and lifting the ear drum to look into the ear.

The mastoid bone is the bone behind the ear. Under the hard outer surface there are many spaces like caves. These connect 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.

Cholesteatoma is a sack full of skin cells. It usually forms when the ear drum gets sucked in and forms a pocket. 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 little bones in the middle ear that help you hear. The sack eventually grows backwards into the spaces of the mastoid bone. It is difficult to know how much the sack has grown backwards. Scans are only helpful in certain cases.

### **Reason for the procedure**

The main problems for many patients with cholesteatoma are the smelly infection of the ear and hearing loss. Rarely the disease damages the nerve to the face and the balance system. The infection occasionally spreads to form an abscess in the brain. This serious complication is very rare, (1 in 10,000). The aim of the operation is to:

- 1) Remove the cholesteatoma (skin sack)
- 2) Stop the smelly pus (we call this discharge)
- 3) Improve the hearing, is possible
- 4) Prevent the rare but serious complications of having the disease. (Brain abscess, damage to the nerve to the face and balance system).

## **Preparation**

You will need a hearing test within a month of your operation. You will have a general anaesthetic. The nerve to your face will be monitored during the operation. This helps the surgeon know exactly where the nerve is and when the disease is close to it. After you have been anaesthetised six needles will be put into the muscles of the face to do this.

## **The Operation**

The operation involves lifting the ear drum by making a cut in the ear canal. You will also have a cut behind the ear over the mastoid bone. The skin sack will be removed very carefully, this part sometimes takes several hours. To remove the disease it is often necessary to remove a bone called the incus (anvil). This bone connects two other bones in the middle ear, the bone is often damaged by the disease. To replace this connection it is sometimes possible to put in a piece of bone or man made material.

The aim of the operation is to preserve as much normal anatomy as possible. Sometimes it is impossible to get all the sack out without removing the bone at the back of the ear canal. This results in a mastoid cavity being formed. If this is done you may need to attend the ENT clinic to have the cavity cleaned out from time to time. If the normal ear canal is preserved it is necessary to have a further operation to check that the disease has not recurred. This is done from 6 months to a year after the first operation. Occasionally several operations are needed to clear the disease.

## **After the operation**

You will have a bandage around your head when you wake which stays on until the next morning. Some surgeons use stitches or clips to seal the cut. These will need to be removed in the ENT Department after 1 week. You should be given this appointment before you leave after your operation.

You will have a dressing or cream in the ear and a piece of cotton wool. Bleeding from the ear canal often occurs in the first few days. You will need to change the cotton wool. You may be prescribed antibiotics and ear drops. The details will vary and you will be told exactly what to do by the nursing staff. It is important that you see a doctor a few weeks after your operation and you will be given an outpatient appointment after your surgery for between 1-4 weeks later for this.

The surgeon will discuss your operation with you as soon as possible after the surgery. This will then be explained again when you are seen in outpatients. Most patients stay in hospital overnight and leave early the next day. Occasionally you may need to stay longer.

### **Alternatives**

There are no medical alternatives to cure the condition. Regular cleaning of the ear can sometimes help reduce infection but does not cure the disease. The small risk of a brain abscess may be acceptable to a patient who has greater risks of a general anaesthetic. Some patients may prefer to wait until a complication has occurred before considering surgery. If you do not want to consider an operation, this will be discussed with you in detail.

### **Side effects and risks of the operation**

- 1) Recurrence of the disease. The likelihood depends on the exact procedure, the extent of the disease, the age of the patient, other factors which are still unknown.
- 2) Damage to the facial nerve. This results in the face drooping on the side of the operation. Cosmetically this is a very serious complication and is difficult to correct. The likelihood of this happening is said to be 1% but in the last 600 operations in this department there have been none.
- 3) Dizziness. Usually temporary and not severe
- 4) Hearing loss. At worst the hearing in the ear could be lost completely. This is very uncommon. Partial hearing losses may be corrected at later operation.
- 5) Tinnitus (ringing in the ears). May occur if the hearing is reduced.
- 6) Altered taste. This is common after the operation. It is due to a nerve that provides a small part of your taste being cut during the operation.
- 7) Wound infection. Uncommon
- 8) Ear sticking out. Usually temporary. If permanent it can be corrected.
- 9) Infected ear. Can be associated with mastoid cavities or recurrent disease.

## **Common Questions**

### **How long is the operation?**

Approximately 3 hours

### **How painful is it?**

You will be given painkillers in the first few hours after the operation. At home you will need to take paracetamol for a few days.

### **When can I get the ear wet or swim?**

For the first week you should keep the ear dry. After that you should place a piece of cotton wool in the ear when taking a shower. We do not recommend swimming until your surgeon has seen you in outpatients and discussed this with you. It is often a couple of months before you can go swimming.

### **When can I fly?**

Do not fly until you have been seen after the operation in Outpatients at the hospital. Discuss this with the surgeon who will know the exact details of your operation.

### **Is cholesteatoma a tumour?**

No. Some of the internet sites refer to it as a tumour. It is not. The skin sac grows slowly and if any skin is left in at the end of the operation it will recur.

## **Summary**

Mastoid exploration involves looking inside the ear through the ear canal and through a cut at the back of the ear. The disease (cholesteatoma) is removed but may not improve any hearing loss. The most serious side effect which is very rare is damage to the nerve to the face.

### **External sources for more information:**

<http://www.earsurgery.org/cholest.html>