

## Repair of the middle ear

This leaflet explains the repair of the middle ear and what to expect when your child comes into hospital for their operation.

There are two different operations that can be carried out to repair the middle ear:

- **myringoplasty**, an operation to repair a hole in the eardrum
- **tympanoplasty**, an operation to repair the hearing mechanism in the middle ear. It usually involves repairing a hole in the eardrum and correcting any damage to the tiny bones that play a vital part in the hearing process.

### How does my child's ear work?

Normally, the outer ear (the part you see) collects sound waves that travel down the ear canal. These sound waves make the eardrum vibrate. This vibration is transmitted first through the tiny bones (ossicles) in the middle ear, then into the inner ear, where it stimulates nerve endings and sends messages to the brain. If any part of this complicated chain is

damaged then sound is not transmitted into the inner ear. There are many reasons why sound fails to get through, including a perforation in the eardrum or problems with the tiny bones in the middle ear.

### Why does my child need an operation?

Your child may need an operation for one or both of these two reasons. The first is to improve his/her hearing, and the second is to prevent the middle ear from becoming infected.

### What happens before the operation?

Information about how to prepare your child is included in your admission letter. Before the operation, your child should not have anything to eat or drink for the time mentioned in the letter. It is important to follow these instructions otherwise your child's operation may need to be delayed or even cancelled.

The doctors will explain the operation in more detail, discuss any worries you may have and ask you to sign a consent form.

An anaesthetist will also visit you to explain about the anaesthetic. If your child has any medical problems such as allergies, please tell the doctors.



### What does the operation involve?

Your child will have the operation under a general anaesthetic. The operation may be carried out in one of several ways. The surgeon may use your child's own tissue or a synthetic material to repair the problem.

The surgeon will probably need to make an incision (small cut) behind or in front of the ear to get a good view of the eardrum. A piece of tissue from near the ear is used, if necessary, to repair any hole in the eardrum. If the tiny bones need repairing then either a synthetic bone or sometimes part of the child's own bone can be used. The tissue is put in place carefully using very fine instruments while the surgeon looks at the area through a microscope.

The surgeon may also explore the mastoid (the air cavity behind the middle ear) during the operation if infection is suspected.

### What are the risks of the operation?

Every anaesthetic carries a risk but this is small. All surgery carries a small risk of bleeding during or after the operation. There are specific risks involved in all middle ear surgery:

- the greatest risk is that the operation may be unsuccessful – the hole in the eardrum may not heal because the graft does not take
- hearing may not improve afterwards or may worsen. In extremely rare cases the hearing may be lost altogether
- your child may feel a bit unsteady after the operation but this is usually temporary. Very rarely more severe dizziness may occur although again this is temporary
- the nerve that supplies the muscles of the face runs through the middle ear and there is a very small risk of this nerve being injured leading to facial weakness
- an infection may cause earache and discharge. This may result in the graft failing and the operation being unsuccessful.

There are other potential problems that we have not listed here. You will have the chance to discuss these with a member from the surgical team before signing the consent form.

### Are there any alternatives to this operation?

An alternative way to improve your child's hearing is to use a hearing aid. This will, however, mean that the original problem is not corrected and s/he will be at risk of further infections.

### What happens after the operation?

Your child may have a head bandage for about 24 hours after the operation. There may also be a pack or dressing in his/her ear which will be removed on the ward or in the out-patients department. Your child may have some stitches in the wound, which may need to be removed by your own doctor. You will be given instructions when leaving the ward.

Your child should keep his or her ear completely dry until the surgeon has checked that it is safe to let water into it. If the surgeon has prescribed antibiotics for your child, make sure s/he completes the course. If your child has any reaction to the drugs, you should call your GP who can change this to another type of medication.

Until the surgeon has checked that your child's ear has healed, your child should avoid the following:

- any exercise and sports
- sudden head movements
- straining and lifting heavy weights
- blowing his/her nose too vigorously or sneezing violently.

Air travel should be avoided for two months after the operation. The ward staff will give you the date and time of your out-patient appointment before you go home.

#### **When should I seek further medical advice?**

You should contact your GP or the ward where your child was admitted if any of the following occur.

- there is any discharge from your child's ear
- your child has a high temperature
- your child has a severe earache.

If you are at all worried please contact the ward you child attended, day or night.

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