

Repair of the middle ear

A close-up photograph of a young child's face, showing their eyes, nose, and mouth. The child has light brown, curly hair and is looking directly at the camera with a neutral expression. The background is a soft, out-of-focus light color.

Information for families

**Great Ormond Street Hospital
for Children NHS Foundation Trust**

These are the three different operations that can be carried out to repair the middle ear:

- **Myringoplasty**

A myringoplasty is an operation to repair a hole in the eardrum.

- **Ossiculoplasty**

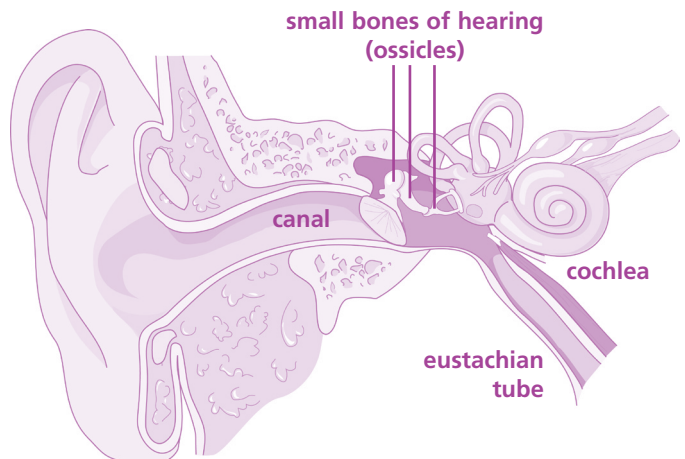
An ossiculoplasty is an operation to correct any problems with the tiny bones that are responsible for transmitting sound from the eardrum to the inner ear.

- **Tympanoplasty**

A tympanoplasty is 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 soundwaves which travel down the ear canal. These soundwaves 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 two reasons. The first is to improve his or her hearing. The second is to prevent the middle ear from becoming infected.

What happens before the operation?

Information about how to prepare your child for the operation 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 several ways. The surgeon may use your child's own tissue or a sympathetic material to repair the problem.

The surgeon will probably need to make an incision (a 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.

How long is the operation?

The length of the operation depends on how much needs to be done. It may be as short as 20 minutes for repair of a small hole or between one and three hours if more work is necessary. Your child will return with a large head bandage which stays on overnight and is removed the next morning before you go home.

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 which we have not listed here. You will have the chance to discuss these with a member of 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 he or she will be at risk of further infections.



What happens after the operation?

There may be a pack or dressing in his or her ear which will be removed on the ward or in the outpatients department. Your child may have some stitches in the wound which will need removing. Your own doctor will do this and you will be given instructions on leaving the ward. Children have an overnight stay on the ward before going home.

Your child should keep his or her ear completely dry until the surgeon has checked that it is safe to let water into your child's ear.

If the surgeon has prescribed antibiotics for your child, make sure he or she completes the course. If your child has any reaction to the drugs, you should call your family doctor (GP) who can change this to another type of medication.

Until the surgeon has checked 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 or 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 outpatient appointment before you leave.

Contact your family doctor (GP) or Peter Pan Ward if:

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

If you have any questions or concerns, please contact your GP or Peter Pan Ward at Great Ormond Street on 020 7829 8825

Notes

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