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The Royal Liverpool
and Broadgreen
University Hospitals
NHS Trust

Patient information

Stapedectomy/ Stapedotomy /Surgery for Otosclerosis

Ear Nose and Throat Speciality

Your Consultant / Doctor has advised you to have a Stapedectomy / Stapedotomy / Surgery for Otosclerosis.

What is Stapedectomy?

It is an operation to replace the little bone in your middle ear called the stapes. The condition you probably have is called **Otosclerosis**.

What is Otosclerosis? (*)

Otosclerosis is a disease of the bone surrounding the inner ear. It can cause hearing loss when abnormal bone forms around the stapes, reducing the sound that reaches the inner ear. This is called conductive hearing loss. Less frequently, otosclerosis can interfere with the inner ear nerve cells and affect the production of the nerve signal. This is called sensorineural hearing loss.

How do we hear? (*)

The ear consists of the outer, middle and inner ear. Sound travels through the outer ear and reaches the eardrum, causing it to vibrate. The vibration is then transmitted through three tiny bones in the middle ear called the ossicles. These three ossicles are called malleus, incus and stapes, sometimes known as hammer, anvil and stirrup. The vibration then enters the inner ear which is a snail-shaped bony structure filled with fluid. 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.

Who gets otosclerosis? (*)

The cause of otosclerosis is not fully understood, although it tends to run in families and can be hereditary. People who have a family history of otosclerosis are more likely to develop the disorder. Otosclerosis affects the ears only and not other parts of the body. Both ears are usually involved in some extent. However, in some individuals, only one ear is affected. It usually begins in the teens or early twenties. Some research suggests a relationship between otosclerosis and the hormonal changes associated with pregnancy.

How can otosclerosis be treated? (*)

There is no known cure for otosclerosis. The individual with otosclerosis has several options: do nothing, be fitted with hearing aids, or surgery. No treatment is needed if the hearing impairment is mild.

Hearing aids amplify sounds so that the user can hear better. The advantage of hearing aids is that they carry no risk to the patient. Your specialist can discuss the various types of hearing aids available and make a recommendation

What are the benefits of having this procedure?

Stapedectomy will improve your hearing if successful.

If one ear is affected, the operation may help to locate the direction of sound and hear better in noisy background. If both ears are affected, the operation is usually done on the poorer ear. The patient may still need a hearing aid in the opposite ear. (*) 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.

How is the operation done? (*)

The operation is called stapedotomy/stapedectomy and usually takes about an hour. You might be asleep although some surgeons prefer to do the operation with only your ear anaesthetised so that they can monitor your hearing during the operation. Your surgeon should consult you before making such decision. A cut is made above the ear opening or inside the ear canal. The top part of the stapes is removed with fine instruments. A small opening is then made at the base, or "footplate", of the stapes into the inner ear. Some surgeons use laser to perform this procedure but it is not essential.

A plastic or metal prosthesis is then put into the ear to conduct sound from the remaining ossicles into the inner ear. You will have packing placed in the ear canal. All modern metal prostheses are not affected by MRI scan or airport scanner, should you need one in the future.



How successful is the operation? (*)

The chances of obtaining a good result from this operation by experienced surgeons are over 80 percent. This means that eight out of ten patients will get an improvement of hearing up to the level at which their inner ear is capable of hearing. You should enquire from your surgeon his/her personal success rate of stapedotomy.

There are some risks that you must consider before giving consent to this treatment. These potential complications are rare. You should consult your surgeon about his complication rate. (*)

What are the risks of having this procedure?

- **Failure.** A small plastic bone is placed into the middle ear after removal of the fixed stapes bone. There is a small chance this can become displaced at any time following the surgery making you deaf but the risks of this decrease. You **must not** do any strenuous exercise for at least two weeks following surgery.
- **Perforation.** Your eardrum may perforate. This may need another operation to correct this but is rare.
- **Infection.** This can be to the ear canal resulting in a chance of the operation failing, or the suture (stitch) line that may need to be treated with antibiotics into a vein or by mouth this may result in staying in hospital a few days longer.
- **Hearing loss/ dead ear.** There is a small risk that your hearing will be worse or completely lost after the operation; however every precaution will be taken to prevent this happening. You should discuss this with the surgeon.
- **Nerve damage.** There is a small risk of bruising or damage to the nerve that moves the side of your face; this would give a weakness on the affected side.
- **Taste disturbance.** The taste nerve runs close to the eardrum and may occasionally be damaged. This can cause an abnormal taste on one side of the tongue. This is usually temporary, but it can be permanent in one in ten patients. (*)
- **Dizziness.** Dizziness is common for a few hours following stapedotomy and may result in nausea and vomiting. Some unsteadiness can occur during the first few days following surgery; dizziness on quick head movement may persist for several weeks. On rare occasions, dizziness is prolonged. (*)
- **Tinnitus.** Sometimes the patient may notice noise in the ear, in particular if the hearing loss worsens. The uncommon risk of total loss of hearing, disturbance of balance or taste could have a serious implication to certain employments. You should discuss with your specialist about these concerns. Some specialists also advise against scuba diving, sky diving or use of firearm following a stapedotomy operation. (*)

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 family doctor (GP) to arrange a second opinion with another specialist.

Are there any alternative treatments available?

Your consultant can advise you of the possibility of having a hearing aid to improve your hearing. If this is not possible then your symptoms will continue.

What sort of anaesthetic will be given to me?

You will be given a general anaesthetic. General anaesthesia is drug-induced unconsciousness: it is always provided by an anaesthetist, who is a doctor with specialist training. Unfortunately, general anaesthesia can cause side effects and complications.

Side effects are common, but are usually short-lived: they include nausea, confusion and pain. Complications are very rare, but can cause lasting injury: they include awareness, paralysis and death.

There is a risk of damage to teeth, particularly caps or crowns and veneers. Your anaesthetist will take every care, but occasionally damage can occur.

The risks of anaesthesia and surgery are lower for those who are undergoing minor surgery, and who are young, fit, active and well.

For more information, please ask for a copy of the leaflet **“You and Your Anaesthetic”** (PIF 344).

You will be given an opportunity to discuss anaesthetic options and risks with your anaesthetist before your surgery.

If you are worried about any of these risks, please speak to your Consultant or a member of their team.

Getting ready for your operation

- You will be seen in the pre-operative clinic before you are admitted to hospital. Here you may have blood tests and a heart trace if necessary. You will be assessed to see if you are fit for the anaesthetic.
- The nurse practitioner will ask routine questions about your general health, the medicine you take at the moment and any allergies you may have.
- You will be able to discuss the operation with a nurse practitioner and you will be asked to sign a consent form to say that you understand the procedure, and what the operation involves.

The day of your operation

- You will come into hospital the day of your operation.
- Before your general anaesthetic, you must not eat for a minimum of six hours or drink for a minimum of 3 hours. You will be told when this is to start.
- Please leave all cash and valuables at home. If you need to bring valuables into hospital, these can be sent to General Office for safekeeping. General Office is open between 8.30 and 4.30 Monday to Friday. Therefore, if you are discharged outside these times we will not be able to return your property until General Office is open. The Trust does not accept responsibility for items not handed in for safekeeping.
- Please bring any medication you take into hospital with you.
- You will be asked to remove jewellery - plain rings can be worn but they will be taped.
- Please do not wear any makeup.
- Please leave body piercings at home. False nails and nail varnish will also need to be removed.
- If you are on regular medication, you will be told to take this if necessary.

- You will be asked put on a gown and disposable underwear. You may bring in with you a dressing gown and slippers.
- A bracelet with your personal details will be attached to your wrist.
- A porter will take you to the operating theatre.
- If you have dentures, glasses or a hearing aid they can stay with you on your journey to the operating theatre. They will be removed whilst you are in the anaesthetic room and kept with you until you arrive in the recovery area. Once you are wake they can then be put back in place.
- When you arrive in the waiting area, a theatre nurse will check your details with you. You will then be asked to put on a disposable hat. you will then be taken to the anaesthetic room

What should I expect after my operation?

- After your operation you will be kept in the theatre recovery room before being transferred to the ward.
- A nurse will check your pulse, blood pressure, and breathing and wound regularly.
- It is important that if you feel any pain you must tell the nursing staff, who can give you painkillers to help.
- The nursing staff will also advise you when you can start taking sips of water.
- Anaesthetics can make some people sick. If you feel sick we advise you not to drink until this feeling has passed. The nursing staff may offer an injection to help this sick feeling go away.
- You may have a small pack in your ear; this may stay in until you are discharged. You may experience a headache, some pain or discomfort after this operation, please inform the nursing staff should you need any tablets for this.
- It is usual that patients experience **dizziness** after the operation; this can carry on for several days but gradually subsides. **Please ask for help to mobilise after your operation.** If your symptoms are severe, medication will be prescribed to help stop any dizziness and feelings of sickness.

Going Home

Your doctor will normally discharge you on the day of your operation. You may need to make arrangements for someone to be with you as you may still be experiencing some dizziness after the operation.

You have had a general anaesthetic, for the next 24 hours **you must not**

- Travel alone.
- Drive any vehicle e.g. car or ride a bicycle.
- Operate machinery (including domestic appliances such as a kettle).

- Climb ladders.
- Make important decisions; sign any business or legal documents.
- Drink alcohol.

You should

- Take it easy for the rest of the day, avoid strenuous activity.
- Take your medications as usual.
- Let someone else care for anyone you usually look after, such as children or elderly or sick relatives.

Discharge Information

Pain relief and medication

The nursing staff will advise you about painkillers before you leave the hospital. Please tell the nurses what painkilling tablets you have at home.

Your ear

- You must keep the wound dry especially after washing; this helps to prevent infection.
- Put cotton wool smeared with Vaseline into the ear canal when bathing / showering.
- If you wear glasses, be careful the arm does not irritate the wound at the back of your ear as this can cause infection.
- If you have stitches the ward nurse will advise you when and where to get them removed after your operation. If you have any problems with your wound before this contact your GP.
- You should not fly for at least a month or until cleared by your surgeon. (*)
- You should consult the surgeon if there is a sudden onset of deafness, dizziness or severe pain after you are discharged from the hospital. (*)
- When you sneeze, you should keep your mouth open to reduce the pressure in your ear, which may dislodge the graft.
- Do not blow your nose fiercely as this increases the pressure in you ear and may also dislodge the graft.
- Avoid any straining or heavy lifting. If you are constipated, use a laxative for the same reasons as before.
- Hearing may not return to normal for up to three months. (*)
- You are advised to avoid diving or flying when you have a cold if possible. (*)

Getting back to normal

Remember that you have just had an operation, and you will take some days to recover. It is normal to feel more tired than usual for a few days after having an operation. If you are a parent or a carer you will need some support during this time.

Returning to work

Due to infection risks, you will require two weeks off work. You can self-certify for the first seven days of sickness. Before you are discharged, a medical certificate (fit note) can be issued at your request by the ward staff to cover the expected time off you will need. For further fit notes you will have to see your GP.

Further Appointments

Your follow up appointment will be sent to you for three weeks after your operation.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Patient Notes:

Further information

If you have any queries or concerns, please contact the ward where you had your surgery or the Nurse Practitioners

ENT Nurse Practitioners

Helene Bryant / Sue Bragan / Christine Burton

Tel: 0151 706 2290

Text phone number: 18001 0151 706 2290

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All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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