



About otosclerosis and stapedotomy

Information for patients from the Ear, Nose, and Throat (ENT) Department

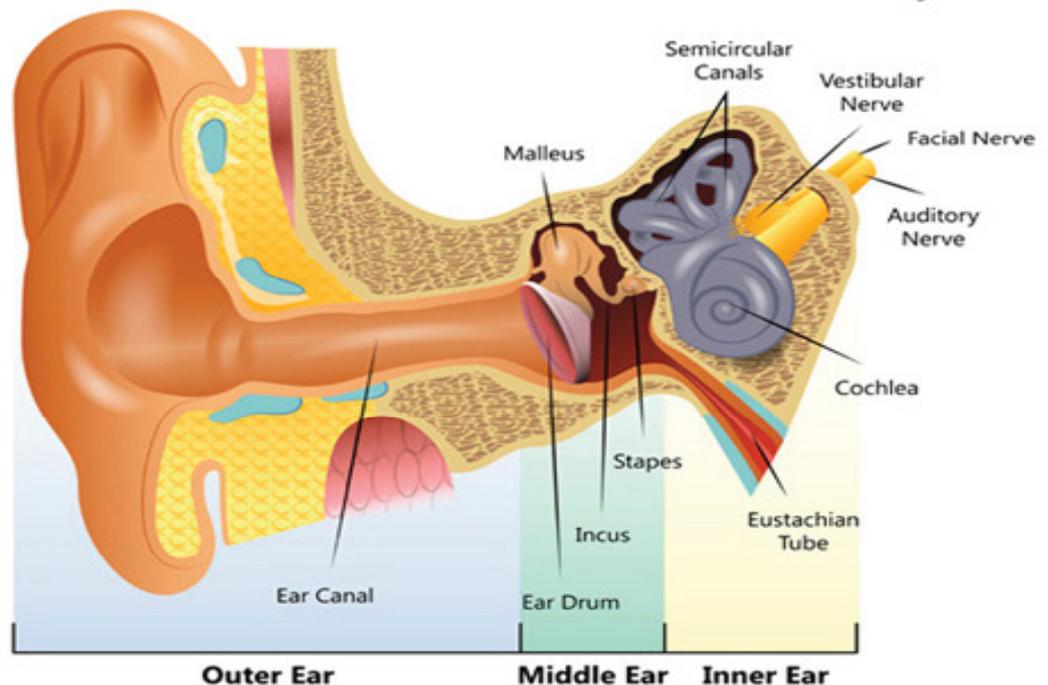
You have been recommended by your surgeon to have a stapedotomy to try and improve your hearing. Here we explain some of the aims, benefits, risks, alternatives, and all about the operation.

We want you to be informed about your choices so that you can be fully involved in making any decisions about your operation. Please ask about anything you do not fully understand or wish to have explained in more detail.

How does the ear work?

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, called the ossicles. The three ossicles are called malleus, incus, and stapes, sometimes known as hammer, anvil, and stirrup (see diagram below).

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 signals which are carried to the brain, where they are interpreted as sound.



What is otosclerosis/otospongiosis?

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

What is the cause of otosclerosis/otospongiosis?

The cause 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 can be involved to some extent, however, in most individuals, only one ear is affected. Hearing loss usually begins in your 20s.

What are the symptoms?

The most common symptom is hearing loss but it may take many years before you become aware of it. The degree of hearing loss may range from slight to severe. It can be conductive, sensorineural, or both.

In addition to hearing loss, some people with otosclerosis may experience tinnitus or noise in their ear. The intensity of the tinnitus is not necessarily related to the degree, or type of hearing loss. Very rarely, otosclerosis may also cause dizziness.

How is otosclerosis diagnosed?

An examination by an otolaryngologist is needed to rule out other disease or health problems that may cause the same symptoms. The amount of hearing loss and whether it is conductive or sensorineural can be determined only by careful hearing tests.

How can otosclerosis be treated?

There is no known cure for otosclerosis, but you do have several options.

- **Do nothing** - no treatment is needed if the hearing impairment is mild.
- **Be fitted with hearing aids** - 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. An audiologist can discuss the various types of hearing aids available and make a recommendation based on your specific needs.
- **Surgery** - details of this are outlined in this leaflet.

What is the aim of the operation?

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

What happens before my operation?

- Most patients attend a preadmission clinic led by a nurse.
- At this clinic, we shall ask you for details of your medical history and carry out any necessary clinical examinations and investigations. This is a good opportunity for you to ask us any questions about your procedure, but please feel free to discuss any concerns at any time.
- You will be asked if you are taking any tablets or other types of medication – these might be ones prescribed by your doctor or bought over the counter in a pharmacy. It helps us if you bring with you details of anything you are taking.
- Stopping smoking helps you heal quicker, amongst other benefits. The Stop Smoking Service offers free support, so please ask if you would like a referral.

Will I have an anaesthetic?

This procedure involves the use of general anaesthesia (you are asleep) or local anaesthesia (you are awake but the area is numbed).

Will I have to stay in hospital overnight?

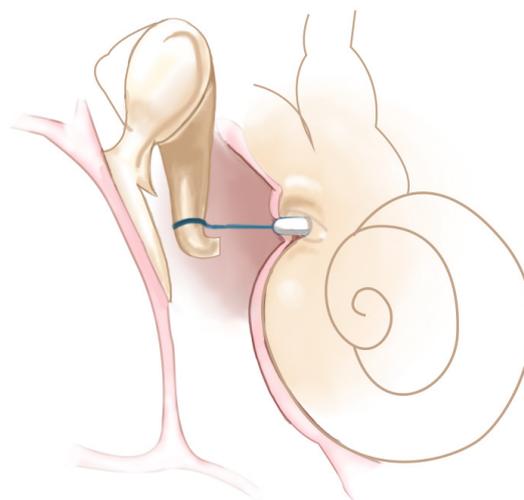
Most people who have this type of procedure will be discharged on the same day. Sometimes we can predict whether you will need to stay for longer than usual – your doctor will discuss this with you before you decide to have the operation.

How is the operation done?

The operation usually takes about one to two hours. You might be put to sleep (general anaesthetic) although it might be performed with only your ear anaesthetised (local anaesthetic).

A cut is made inside your 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 your inner ear. Some surgeons use laser to perform this procedure.

A plastic or metal prosthesis (implant) is then put into your ear to conduct sound from the remaining ossicles into your inner ear (see image). You will have packing placed in your inner ear and may be asked to use drops on top of the packing.



Stapes replacement

How successful is the operation?

The chance of getting a good result from this operation by experienced surgeons is over 90%; this means that nine out of 10 patients will get an improvement of hearing up to the level at which their inner ear is capable of hearing.

You should ask your surgeon the general success rate with stapedotomy.

Are there significant, unavoidable, or frequently occurring risks 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 complication rates.

Loss of hearing

In a small number of patients the hearing may be further impaired due to damage to the inner ear. It can even result in a severe loss of hearing in the operated ear. This may be to the extent that one cannot obtain benefit from a hearing aid in that ear. For experienced surgeons, this complication happens in around one in 100 patients. Therefore the poorer hearing ear is normally selected for surgery first.

Dizziness

Dizziness is common for a few hours following stapedotomy and may result in nausea (feeling sick) and vomiting. Some unsteadiness can happen during the first few days following surgery; dizziness when moving your head quickly may continue for several weeks. On rare occasions, dizziness will continue longer than this.

Taste disturbance

The taste nerve runs close to your eardrum and may occasionally be damaged. This can cause a strange taste on one side of your tongue. This is usually temporary but it can be permanent in one in 10 patients.

Reaction to ear dressings

Occasionally your ear may develop an allergic reaction to the dressings in the ear canal. If this happens, the pinna (outer ear) may become swollen and red. If this happens, you should tell your surgeon so that they can remove the dressing from your ear. The allergic reaction should settle down after a few days.

Tinnitus

Sometimes you may notice noise in your ear, in particular if the hearing loss worsens. This noise is known as tinnitus.

Other complications

The uncommon risk of total loss of hearing, disturbance of balance, or taste could have a serious implication to jobs. You should discuss with your specialist about these concerns. Some specialists also advise against scuba diving, sky diving, or using a firearm following a stapedotomy operation.

How will my ear feel after the procedure?

Your ear may ache a little after your procedure, but this can be controlled by painkillers provided by the hospital. A slight amount of dizziness is normal after the operation.

There may be a small amount of discharge from your ear canal. This usually comes from the ear dressings. The packing in your ear canal will be removed after three weeks.

Your hearing may not return to normal for up to three months.

When can I resume normal activities?

We will help you to become mobile as soon as possible after your procedure. This helps improve your recovery and reduces the risk of certain complications. You may need to take two or three weeks off work after your operation.

How do I look after my wound following the procedure?

- You will have dressings inside your ear canal. Please leave them in place until your appointment in clinic three weeks after your operation.
- You should keep your ear dry for the first few weeks. Plug your ear with a cotton wool ball coated with vaseline when you are having a shower or washing your hair.
- There may be a small amount of discharge from your ear canal. This usually comes from the dressings.
- Avoid straining/lifting anything heavy for the first few weeks after surgery.
- Only blow your nose gently.
- Avoid air travel for two months.
- You are advised to avoid diving or flying when you have a cold, if possible.

Will I have a follow-up appointment?

You will receive an appointment to return to the clinic three weeks following surgery to remove the packing and check your ear. The appointment will either be given to you before discharge or posted to you.

We will see you again at three months following surgery where we will check your ear and perform an audiogram; any further treatments will be discussed then. Please get in touch with us if you have not been given an appointment so that we can arrange one for you.

What if I have any concerns or questions?

If you have any questions about your procedure or your ear becomes more painful or swollen then you should contact the **ENT Department on Rotary Ward at William Harvey Hospital on 01233 616234**.

This leaflet has been produced with and for patients

If you would like this information in **another language, audio, Braille, Easy Read, or large print** please ask a member of staff.

Any complaints, comments, concerns, or compliments please speak to your doctor or nurse, or contact the Patient Advice and Liaison Service (PALS) on 01227 783145 or 01227 864314, or email ekh-tr.pals@nhs.net

Further patient leaflets are available via the East Kent Hospitals web site www.ekhuft.nhs.uk/patientinformation