

ENT13 Stapedectomy (Stapedotomy)

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If you would like this information in different languages or formats (e.g. audio, Braille or large print), please ask a member of the healthcare team.

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What is the stapes bone?

The stapes bone is the innermost of the three hearing bones in your middle ear. The bones (ossicles) move together, transferring sound waves from your eardrum (tympanic membrane) to your inner ear. Sometimes the stapes bone can get stuck, and locks in place. This decreases the sound being carried across to your inner ear (conductive hearing loss). The problem is usually caused by otosclerosis, a condition that causes the stapes bone and bony capsule of your inner ear to thicken. The problem can also be caused by brittle bone disease.

Your surgeon has suggested a stapedectomy. However, it is your decision to go ahead with the operation or not. This document will give you information about the benefits and risks to help you to make an informed decision.

If you have any questions that this document does not answer, it is important that you ask your surgeon or the healthcare team. Once all your questions have been answered and you feel ready to go ahead with the procedure, you will be asked to sign the informed consent form. This is the final step in the decision-making process. However, you can still change your mind at any point.

How does otosclerosis happen?

Otosclerosis affects only the bones in your ears. The condition usually affects both ears, starting in early adulthood, and can take up to 15 years to cause deafness. Otosclerosis can also affect the bone of your inner ear, preventing the nerves from sending hearing messages to your brain (sensorineural hearing loss). Surgery cannot treat sensorineural hearing loss. You may also get tinnitus (ringing in your ear) and dizziness.

Otosclerosis sometimes runs in families. It is more common in women, becoming worse in pregnancy.

What are the benefits of surgery?

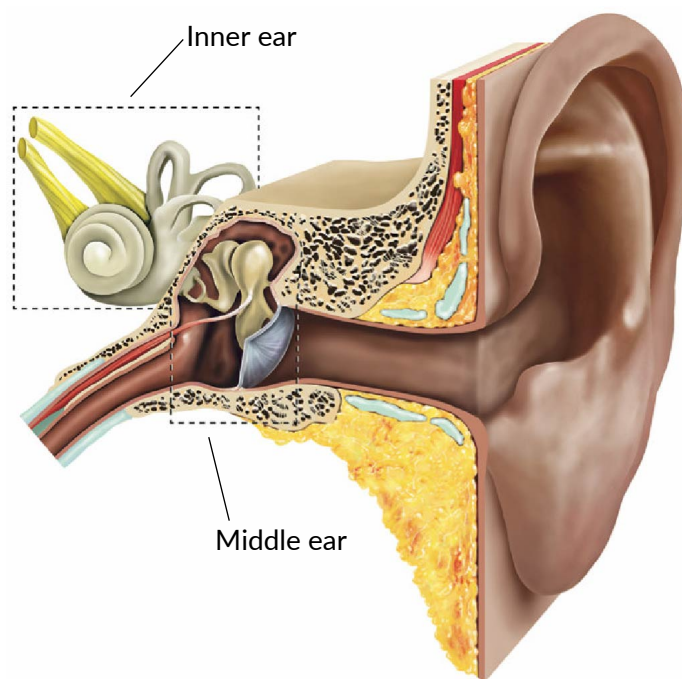
Your conductive hearing loss should improve so you will usually not need to wear a hearing aid. However, sensorineural hearing loss tends to get worse over time so you may need to wear a hearing aid in the future.

Are there any alternatives to surgery?

A normal hearing aid or sometimes a special bone-anchored hearing aid can often help you to hear better.

What will happen if I decide not to have the operation?

Your conductive hearing loss will gradually get worse as will any symptoms of tinnitus and dizziness. You will eventually need a hearing aid to hear.



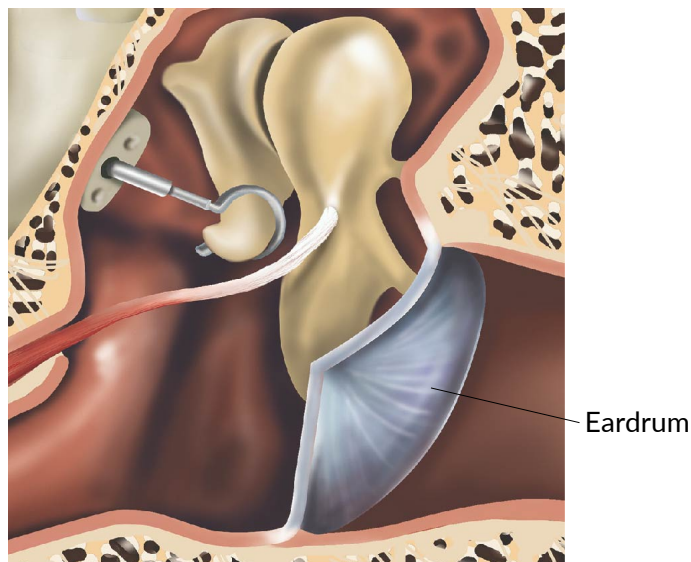
The stapes bone is in the middle ear

What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for and on the correct side. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

The operation is usually performed under a general anaesthetic but a local anaesthetic can be used. Your anaesthetist will discuss the options with you. You may also have injections of local anaesthetic to help with the pain after the operation.

The operation usually takes an hour to 90 minutes and involves replacing the stapes bone with an implant made of metal or plastic.



The implant in the middle ear

Your surgeon will perform the operation either through a small cut in front of your ear or through a cut around your ear canal inside your ear. They will lift your eardrum so they can see the ossicles.

Your surgeon will remove the top part of the stapes bone, leaving the base or footplate that connects to your inner ear. They will use a drill or laser to make a small hole in the base and then fit the implant, connecting it to the incus. Your surgeon may use a vein graft, usually taken from the back of your hand, to place over the base of the stapes before they attach the implant.

They may place a small pack in your ear canal. Your surgeon will discuss this with you.

What should I do about my medication?

Make sure your healthcare team knows about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter.

How can I prepare myself for the operation?

If you smoke, stopping smoking now may reduce your risk of developing complications and will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

You can reduce your risk of infection in a surgical wound by keeping warm around the time of the operation. Let the healthcare team know if you feel cold.

If you have not had the coronavirus (Covid-19) vaccine, you may be at an increased risk of serious illness related to Covid-19 while you recover. Speak to your doctor or healthcare team if you would like to have the vaccine.

What complications can happen?

The healthcare team will try to reduce the risk of complications.

Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you. Some risks are higher if you are older, obese, you are a smoker or have other health problems. These health problems include diabetes, heart disease or lung disease.

Some complications can be serious and can even cause death.

You should ask your doctor if there is anything you do not understand.

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

General complications of any operation

- Bleeding during or after the operation. This may cause the area around your ear to be bruised. Rarely, a blood clot may develop under your skin and you will need another operation to remove it.
- Allergic reaction to the equipment, materials or medication. The healthcare team is trained to detect and treat any reactions that might happen. Let your doctor know if you have any allergies or if you have reacted to any medication or tests in the past.

- Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straight away if you think you might have a DVT.
- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. Let the healthcare team know straight away if you become short of breath, feel pain in your chest or upper back, or if you cough up blood. If you are at home, call an ambulance or go immediately to your nearest Emergency department.
- Chest infection. If you have the operation within 6 weeks of catching Covid-19, your risk of a chest infection is increased (see the 'Covid-19' section for more information).

Specific complications of this operation

- Complete loss of hearing if a lot of fluid from your inner ear leaks from around the implant (risk: 2 in 1,000). Let your surgeon know straight away if you get dizziness or your hearing gets worse.
- Worse hearing (risk: less than 3 in 100).
- Dizziness, if fluid from your inner ear leaks from around the implant (risk: less than 2 in 100). You may need another operation.
- Tinnitus. If you already have tinnitus, it usually settles but sometimes you may get new symptoms (risk of developing new tinnitus or tinnitus getting worse: 7 in 100).
- Change of taste, as the nerve responsible for taste passes over the stapes bone and may be stretched or damaged (risk: 1 in 2 in the first week with taste returning to normal after a few months, 1 in 20 notice some change after a year).
- Facial weakness, as the facial nerve passes through your middle ear and may be overheated by the drill or laser (risk: less than 1 in 100). You should recover in a few weeks and may need a course of steroids. Permanent weakness can happen if the facial nerve is not in the usual place and gets damaged.

- Infection of the surgical site (wound). Let your surgeon know if you get a discharge from your ear, or your ear becomes red or swells. An infection usually settles with antibiotics but you may need special dressings and your wound may take some time to heal. In some cases another operation might be needed. Do not take antibiotics unless you are told you need them.

- Allergic reaction to the pack material, which results in pain, swelling and discharge from your ear. Let your surgeon know if you are allergic to iodine.

Covid-19

A recent Covid-19 infection increases your risk of lung complications or death if you have an operation under general anaesthetic. This risk reduces the longer it is since the infection. After 7 weeks the risk is no higher than someone who has not had Covid-19. However, if you still have symptoms the risk remains high. The risk also depends on your age, overall health and the type of surgery you are having.

You must follow instructions to self-isolate and take a Covid-19 test before your operation. If you have had Covid-19 up to 7 weeks before the operation you should discuss the risks and benefits of delaying it with your surgeon.

Consequences of this procedure

- Pain. The healthcare team will give you medication to control the pain and it is important that you take it as you are told to reduce discomfort.
- Unsightly scarring of your skin, although stapedectomy wounds usually heal neatly.

How soon will I recover?

In hospital

After the operation you will be transferred to the recovery area and then to the ward. You may be able to go home the same day. However, your doctor may recommend that you stay a little longer.

If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

Returning to normal activities

If you had sedation or a general anaesthetic and you do go home the same day:

- a responsible adult should take you home in a car or taxi and stay with you for at least 24 hours;
- you should be near a telephone in case of an emergency;
- do not drive, operate machinery or do any potentially dangerous activities (this includes cooking) for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination; and
- do not sign legal documents or drink alcohol for at least 24 hours.

To reduce the risk of a blood clot, make sure you carefully follow the instructions of the healthcare team if you have been given medication or need to wear special stockings.

It is not unusual to get mild dizziness for a few days.

Your surgeon will tell you when you can return to normal activities. You should be able to return to work after about 2 weeks. Do not lift anything heavy or do strenuous exercise.

Do not blow your nose for a few days. Keep your mouth open when you sneeze.

Your surgeon will be able to tell you when it is safe for you to fly.

Protect your ear from water using cotton wool and Vaseline, and do not swim until your surgeon has told you that your ear has healed. This will usually take about 6 weeks but can take longer.

Regular exercise should help you to return to normal activities as soon as possible. Before you start exercising, ask the healthcare team or your GP for advice.

Do not drive until you can control your vehicle, including in an emergency, and always check your insurance policy and with the healthcare team.

Ask your healthcare team if you need to do a Covid-19 test when you get home.

The future

Most people make a good recovery with better hearing. You will need to come back after 2 to 3 weeks to have the pack removed.

Otosclerosis can continue and cause further hearing problems.

Summary

Otosclerosis can cause the stapes bone to lock in place, causing conductive hearing loss. A stapedectomy can improve your hearing without the need for a hearing aid.

Surgery is usually safe and effective but complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Some information, such as risk and complication statistics, is taken from global studies and/or databases. Please ask your surgeon or doctor for more information about the risks that are specific to you, and they may be able to tell you about any other suitable treatments options.

This document is intended for information purposes only and should not replace advice that your relevant healthcare team would give you.

Acknowledgements

Reviewer: Ruth Capper (MD, FRCS (ORL-HNS))

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