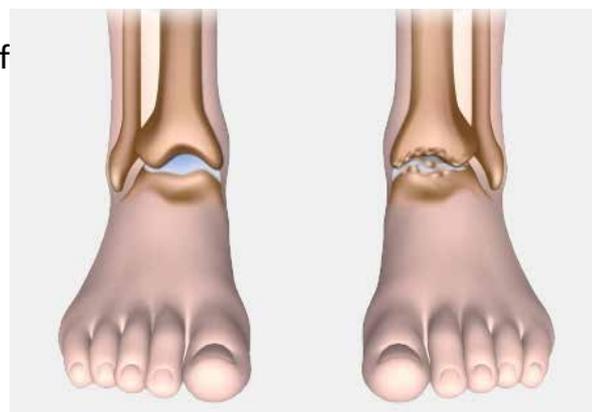


Ankle Arthritis: Total Ankle Replacement and Ankle Arthrodesis (Fusion) *(page 1 of 8)*

The ankle joint is formed by the lower end of the tibia (shin bone) and the talus (ankle bone), also known as the tibiotalar joint. In normal joints there is a layer of cartilage which acts as a shock absorber and allows a smooth gliding motion. In osteoarthritis the cartilage is worn and bone starts to rub on bone, causing pain. Often extra bits of bones form osteophytes (called spurs) which, together with scarring of the joint lining, cause joint stiffness.

We have 26 bones and more than 33 joints in our feet, so even when the ankle joint is stiff the other joints can compensate, allowing much of the movement to be retained.

Most cases of ankle arthritis result from injury. For example it can happen years after an ankle fracture or even after several severe sprains. It can also be caused by rheumatic conditions such as rheumatoid arthritis, or gout, which can lead to damage and destruction of joints.



Normal

Arthritis

In some cases of ankle osteoarthritis there is no known cause (other than genetic) and this is known as primary osteoarthritis. In this situation, other joints may be affected such as your hands, knees, or hips and there may be a family history of similar problems.

Diagnosis is usually made by a specialist orthopaedic foot and ankle surgeon, based on a history of your condition as well as a careful examination, and a series of standing (weight bearing) X-rays. The X-rays may show a loss of the normal joint space as well as other signs of arthritis.

Treatment options

Non-surgical

Before considering any form of surgery it is important to ensure all non-surgical measures including physiotherapy, bracing (supports and painkillers) before going ahead with ankle replacement surgery. The alternative is to adapt your activities and life style to accommodate and managing the pain with painkillers.

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You are entitled to a copy of any letter we write about you. Please ask if you want one when you come to the hospital.

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The evidence used in the preparation of this leaflet is available on request. Please email: patient.information@salisbury.nhs.uk if you would like a reference list.

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Diet – If you are above your ideal weight, losing weight will reduce the strain on your ankles.

Medication - Painkillers such as paracetamol or ibuprofen can reduce the pain. Ice packs can help reduce swelling.

Exercise - Physiotherapy helps build the strength of the muscles, which can take the strain off the joint. Non-impact activities such as swimming or cycling may be more comfortable than other exercises.

Activity modification - Avoid running, squatting and carrying heavy loads.

Ankle supports - There are many different types of ankle braces and your physiotherapist can help you find the best option for you.

Footwear adjustment - Supportive boots, modified shoes or corrective insoles may help.

Walking aids - A walking stick can be very helpful.

Surgical options

You will be offered surgical treatment if most or all of the above non-surgical measures have failed to control your symptoms, at which point you are considered to have 'end-stage ankle arthritis'.

We will discuss surgery with you if your symptoms:

- affect your quality of life
- affect your activities of daily living , for example going up and down stairs
- affect your ability to carry out your work
- mean you can no longer enjoy recreational activities
- affect your sleep
- have not responded to non-surgical options.

This information sheet describes both procedures in more detail. Your surgeon will discuss this with you and make a recommendation as to which procedure is most appropriate for you.

Ankle Arthrodesis (Fusion)

The worn-out arthritic joint is "fused" together so that it cannot move. Although this joint is unable to move, the foot has many other joints which remain mobile, and mean you can still move your foot up and down.

Total ankle replacement

The worn-out arthritic ankle joint is resurfaced with metal components and a plastic insert is placed in between them to allow gliding motion.

Aims of surgery

- Improved pain relief and less need to take painkillers
- Improved quality of life
- Less need for orthotics/ankle braces.

Risks of surgery

If you are healthy the risk of a serious complication from an operation nowadays is small. The general risks relate mainly to having an anaesthetic, such as allergic reactions, or heart or lung problems. It is important that you tell your surgeon and anaesthetist about health problems and treatments. If you smoke, your risk of such a complication is greatly increased. You will be advised to stop smoking before surgery and signposted to support services. Specific surgical risks are described later for each procedure.

Before coming into hospital

There are a number of matters that need to be considered before you have the operation. for example:

- Can someone help you carry out everyday tasks such as shopping and preparing food?
- If you have stairs, how will you get up and down them? Do you have sturdy hand rails?
- If your only toilet is downstairs, would it be easier to move your bed downstairs until you have recovered and are able to negotiate the stairs safely?

It is a good idea to get things organised for your discharge from hospital. Below is a list of things it might be a good idea to organise:

- Help with household tasks
- Food cupboards stocked up with frozen food/ready meals
- Help with shopping
- Help with children, pets and anyone you care for organised for your return home
- Someone to bring you to and from the hospital.

What to bring with you to hospital on admission

Please bring a flat sturdy shoe to wear on the un-operated foot after surgery. If you use a walking stick or crutches, please bring these with you too.

Total Ankle Replacement

What is involved in this operation?

The operation is carried out under general anaesthesia. An ankle replacement is performed through an incision over the front of the ankle. The cut is larger than that required for ankle arthrodesis; therefore there is a higher risk of wound complications.



The surgery takes over 2 hours and to reduce bleeding you will have a tourniquet applied around your thigh during the surgery. The metal parts have a special coating to encourage the bone to grow into them and are pressed directly in to the bones. A plastic bearing is fitted between the metal components allowing your ankle to move.

When is ankle replacement surgery not recommended?

Not everyone is suitable for an ankle replacement. We do not recommend an ankle replacement if you have any of the following:

- Infection
- Collapse of talus (ankle bone)
- Poor foot sensation
- Poor skin condition
- Poor blood circulation to the legs
- Severe deformity of ankle.

Risks associated with having a total ankle replacement

In addition to the general risks of surgery, there are some risks specific associated with total ankle replacement surgery.

- Stiffness of the foot and ankle
- Bleeding from the cuts
- Swelling
- Wound complications
- Infection
- Pain
- Injury to nerves – numbness or tingling can occur at the wound or in the foot. This is usually temporary but in some rare cases it may be permanent
- Blood clots- deep vein thrombosis (DVT) or pulmonary embolism (PE) - is rare. If you or your family have a history of this please let us know.
- Need for further surgery
- Failure or loosening of the metal parts. If the ankle does wear out, becomes loose or “fails”, then it can be removed and revised. Revision can involve either another ankle replacement, or conversion to an ankle arthrodesis (fusion). An arthrodesis following ankle replacement is usually successful, but is a bigger operation than if it was done in the first place
- Fracture (break) of one or more of the bones can occur during the operation. The medial malleolus (bone on the inside of the ankle) is most commonly affected. Any fracture will be stabilised (fixed) during the operation if required.

Current data suggests that 90% of ankle replacements are still working well after 10 years.

Ankle Arthrodesis (Fusion)

What is involved in this operation?

Ankle fusion/arthrodesis involves removing the surfaces of the damaged ankle joint and holding them together with metalwork, so that the previously separate bones heal and knit together becoming one solid bone with no joint remaining. This converts a stiff painful joint into a fully stiff but pain-free one.

The surgeon will aim to ensure the ankle joint is fused in a position so that the foot is lined up with the leg and can be placed flat to the ground. The surgery can usually be performed through small keyhole incisions, but occasionally a larger incision is needed. Sometimes if the arthritis is also affecting neighbouring joint, most commonly the 'subtalar joint' beneath the ankle, then these neighbouring joints may need to be fused at the same time also. The surgery may take up to 2 hours, and will involve a tourniquet being placed around the thigh during surgery to reduce bleeding.

Risks associated with ankle arthrodesis

In addition to the general risks of surgery, there are some specific risks for ankle fusion surgery.

- The bones may not heal in the exact position intended. This may either be due to the fact that the position was not achieved at the time of surgery or that the bones have shifted while in plaster. This does not usually cause any major problems but, rarely, further surgery may be required to correct this.
- Occasionally the bones will fail to unite (not fuse together). Smoking increases the risk of non-union.
- Because the ankle joint has been stiffened, more stress will be absorbed by adjacent joints, which, with time, are at risk of arthritis. Signs of arthritis in the adjacent joints are common on X-rays after 10 years, but many patients do not require treatment for this.
- Sometimes the screws become prominent under the skin. If this happens, they can be removed but only about one in 10 patients need the screws to be taken out. If screws need removing, we usually advise you to wait at least a year after surgery to give the bones time to become strong.



What to expect after total ankle replacement or ankle arthrodesis (fusion)

After both ankle replacement and ankle arthrodesis you will have stitches or staples with a dressing covering the wounds. Your leg will be in a plaster cast back slab (half plaster) from toe to knee. This is a temporary cast that is usually left on for about 2 weeks, at which point we will check the wounds and change it for either a boot or a full cast. You need to make sure that you do not get the plaster wet. If you have any concerns with your plaster after you have gone home please contact:

Orthopaedic Outpatients on 01722 336262 extension 2441 or

Plaster room on extension 4139.

It is important to keep your leg elevated to above groin level for 55 minutes in every hour for the first 2 weeks after the operation. This helps to reduce swelling. It is then important that you continue to elevate your leg regularly over the next few weeks/months.

A physiotherapist will see you on the ward and show you how to walk using a walking aid. You are not allowed to put weight through your operated ankle while it is in the plaster cast. If you have to use stairs at home, you will be taught the safest way to use them.

Outpatient review

After 2 weeks your consultant will see you in Outpatient Clinic. Your plaster will be removed and the wound will be checked. Your stitches will be removed.

Timeline	Total Ankle Replacement	Ankle Arthrodesis
2 weeks after surgery	You will be fitted with a walking boot and advised on increasing the weight through your leg You can start some gentle movements	A full light weight cast will be applied. You must remain non-weight bearing Continue with exercises
6 weeks	Consultant review and X-ray You will be referred to the physiotherapists. They will advise you on reducing the use of the boot and starting to use an ankle brace	Consultant review and X-ray Your cast will be removed and a walking boot fitted. You will be referred to the physiotherapists who will advise on increasing your weight bearing over the next 6 weeks
12 weeks	Consultant review and X-ray Continue physiotherapy to work on walking, strength and movement	Consultant review and X-ray Start to wean out of the walking boot Gentle movement exercises
6 months	Continue physiotherapy progressing to balance exercises and individual goals. Long term management plan	Consultant review and discharge if appropriate. Continue with physiotherapy progressing to walking unaided if appropriate Long term management plan
1 year	Consultant review and X-ray	

This is advisory information only, your experiences may differ from those described and will be guided by your individual healing and progress. You should not progress your exercises until advised to do so by your consultant or physiotherapist.

Exercises

When you are elevating your ankle, we recommend that you complete the following exercises every hour during the day.

1. Active toe movements

Bend and straighten your toes



2. Static Quads

Brace your knee back tightening your thigh muscles. Hold for 5 seconds and repeat 10 times



3. Straight leg raise

Lift your leg off the bed keeping your knee straight. Hold for 5 seconds and then slowly lower.

Repeat 10 times.



Things to look out for

Following any lower limb surgery it is important to be aware of the following:

- **Swelling** – you should expect some swelling after your operation, this is normal. If swelling continues or gets worse, seek advice from a member of the foot and ankle team or your GP.
- **Infection** – any operation has a risk of infection. Fortunately it is not common in this type of surgery but a small number of patients do get a wound infection and these normally settle after a short course of antibiotics. In rare circumstances the infection may be more severe and require further surgery to remove infected tissue and administer a longer course of antibiotics.
- **Blood clots** – Deep vein thrombosis (DVT) or pulmonary embolus (PE) are rare but can occur. Please inform the team if you have had a DVT or PE in the past or if you have a family history of clotting disorders. It is important that you continue the circulation exercises included in this information and given to you by the physiotherapist and drink lots of fluids. You may be prescribed medication to thin your blood to help prevent clots. Your consultant will discuss this with you.
- **Numbness or tingling** – this can occur at the surgical site if small nerves are cut or more major nerves are stretched. This is normally temporary; however, patchy numbness or sensitised areas may be permanent. In rare circumstances the nerves can become hypersensitive, in a condition called Complex Regional Pain Syndrome. This can lead to severe pain as well as colour and temperature changes in the foot. If this happens, your consultant will discuss treatment with you.
- **Wound healing** – if blood supply to the area is not good, wounds may be slow to heal. If this is the case, more frequent wound dressings may be required to ensure that the wound does not become infected.
- **Scarring** – any type of surgery will leave a scar. Occasionally this can cause pain and irritation. If this happens, please speak with your consultant.

You must go immediately to your nearest Emergency Department if you develop severe pain, massive swelling, chest pain, excessive numbness or pins and needles.

Contacts

If you have any queries, please contact:

- Orthopaedic Outpatients: 01722 336262 ext 2441
- Orthopaedic Therapy 01722 336262 ext 3111