

# Ankle arthritis

Ankle fusion  
(arthrodesis)

*A patient's guide*

## What is ankle arthritis?



The ankle joint is made up of the tibia, fibula and the talus. It allows the foot to move up and down during walking and running. The ankle joint has a smooth layer of cartilage which allows the joint to move freely and smoothly. This is seen as a space between the bones on the x-ray on the left.

Arthritis is a condition in which the cartilage layer becomes worn out as shown on the x-ray on the right. As the cartilage wears down, the joint becomes rougher and more friction occurs. This can cause pain and swelling. This can eventually result in total loss of cartilage and bone rubbing on bone. This can result in severe pain, swelling, deformity and loss of function and quality of life.



## What are the symptoms?

Arthritis is a gradual condition. Patients often seek medical attention due to pain, swelling, stiffness and/or deformity. This is usually activity related. There may be symptoms of cracking/popping/locking and giving way. As the condition worsens, the frequency and severity of pain increases. This can have a significant impact on function and quality of life.

## Who gets ankle arthritis?

Anyone can get ankle arthritis. Osteoarthritis tends to become commoner as we get older. Ankle fractures, repeated sprains, and inflammatory arthritis can cause arthritis to occur at a younger age.

## What are the treatment options?

Not all cases of ankle arthritis need surgery. It is advisable to initially treat it without surgery, and leave surgery as a last resort. Some of the non-operative treatments include:

- Painkillers – these can be topical or oral tablets. Ice packs can reduce swelling
- Activity modification – avoiding activities that create excessive impact on the ankle joint and taking up activities with are less load bearing (eg. Cycling). Some working roles may need to be re-considered.
- Footwear and orthotics – these include ankle braces, insoles and high top laced boots. A walking stick should be considered.
- Weight loss - the ankle has to bear 5 to 7 times the body weight during day to day activities, such as standing and

walking. Any amount of weight loss can reduce the load on the ankle joint and reduce pain.

- Physiotherapy and hydrotherapy – can help with stiffness and discomfort and keep the surrounding muscle in good condition

## What are the benefits of surgery?

In cases of severe chronic pain and significant decrease in function which is not responding well to non-surgical methods, then surgery may be a last resort to improve pain and function. The aim of surgery is to relieve pain and improve function and quality of life. Deformity can also be improved if present. Swelling, unfortunately, is usually permanent although may reduce to a degree after surgery.

## Summary of surgery.

The surgery is usually performed under general anaesthetic. You will generally require a few nights in hospital after the surgery.

There are different types of surgery undertaken for ankle arthritis. These are broadly categorised into fusion (arthrodesis) surgery or ankle replacement surgery.

## Fusion (arthrodesis) surgery

Fusion of the ankle to treat arthritis is the "tried and tested", traditional treatment for severe ankle arthritis. The joint is surgically prepared and permanently fixed using metalwork (screws and/or plates). This holds the joint in place to allow the bones to heal together and hence the fusion.



Ankle fusion – screws are used to hold the bones together to allow the bones to join and fuse together.

Fusion of the ankle is successful in over 90% of cases. It provides significant pain relief. The fusion of the ankle joint does result in stiffness. You may still retain some up and down movement due to compensating movement from other joints in the foot.

Fusion surgery can either be 'open' or by key hole (arthroscopic). The open procedure allows correction for significant deformity. This is usually carried out either with a surgical incision at the front of the ankle or the side of the ankle. The key hole technique involves smaller scars. The same joint preparation is performed in either technique and similar metalwork is used to secure the bones together. The rehabilitation after is the same for either technique.

In some circumstances where there is major deformity or where the arthritis affects more than one joint, your surgeon may recommend fusion of more than one joint. These may involve a rod or a large

metal nail inserted up to the middle of the shin bone through the heel.

## What are the risks with surgery?

The general risks with surgery include

- Bleeding – rarely may there be bleeding with results in a collection of blood under the wound. Bruising is common after this procedure
- Swelling – Elevation is key to reducing this. However some residual swelling is often permanent after major surgery.
- Stiffness – There will be stiffness in the ankle joint due to the nature of the procedure. This is likely to result in a limp.
- Infection – the risk is around 1-2%. Superficial infections can be treated with antibiotics. Deeper infections which are much rarer may require further surgery
- Nerve damage – This can result in numbness over the scar but is generally not a problem. Occasionally a scar may be sensitive. Most settle down, but very few may require further treatment. Very rarely can a nerve injury affect the muscle in the foot
- Clots in leg/lung – your risk of clots will be assessed prior to surgery and appropriate treatment/advice will be given.
- Wound healing problems – this can result in infection and potentially plastic surgery. Elevation is key in the first two weeks to minimize swelling and help the wound heal. Smoking predisposes to this problem and will usually preclude surgery even being carried out.

The specific risks to this surgery include

- Deformity – there may be some residual deformity if it was initially very severe. This may or may not require further surgery
- Bones not healing (non-union / delayed union) – Sometimes the bones can take longer than expected to heal (up to 6-8 months). Approximately 10% of fusions do not heal. This usually does not cause any major problems, but rarely further surgery may be required.
- Metal prominence – Sometimes the metalwork can be prominent under the skin. This can be removed at a later date, usually after a year.
- Metatarsalgia – Sometimes other parts of the foot may undergo undue pressure when walking. This is often treated with insoles.
- Fracture – If the bone fractures, this will be fixed immediately.
- Arthritis in other joints – because the ankle joint is stiffened, the surrounding joints are exposed to higher stress. This may result in arthritis in these joints after many years but many patients do not usually require treatment for this.
- Damage to blood vessels – rare with this sort of surgery and great care is always taken to prevent this. One consequence includes amputation but this is incredibly rare as per below
- Chronic regional pain – This is excessive pain after surgery and is a very rare complication.
- Amputation – this is extremely rare. However deep infections, vessel injury or chronic pain may necessitate amputation.

## Is an ankle replacement better than a fusion?

Ankle fusion is considered the 'gold standard'. Although the joint is permanently stiffened in a fusion operation, it does allow patients to hopefully maintain a very active lifestyle. Different shoe styles can make walking easier after a fusion. Joint replacement does aim to maintain movement however it is less predictable in its long-term outcome, especially in younger active individuals

The ankle replacement often still results in some stiffness and, whilst motion is usually better, it is often not normal. If the ankle is initially very stiff, then a replacement is still likely to have significant stiffness. It is important that you discuss the likely range of movement you should expect with your surgeon before having your surgery, as this helps you to have realistic expectations. If there is severe deformity or instability of the ankle, then this may put extra strain on the replacement causing it to fail early.

Long term results for ankle replacements are not as good as those for hips or knee replacements. Approximately 80-90% of ankle replacements will still be in place 10 years after surgery, while some ankle replacements will loosen early (within 1-2 years) and require surgery sooner rather than later. Current registry data in the UK show that at 5 years over 90% are still doing well.

The decision to go for either a fusion or replacement is usually straight forward. On some occasions, there maybe no 'correct' answer and is therefore a matter of personal preference after discussion with your surgeon.

## After your ankle surgery

After surgery, the limb will be immobilized in a partial below knee cast. This will be changed to a full below knee cast at a later stage (usually 2 weeks after surgery).

You will have to wear the cast for at least 6 weeks, and this may be followed by a period in a walking boot or sometimes another cast for a further 6 weeks. You will need crutches or a frame to help you walk during this period.

Patients are non-weightbearing immediately after surgery. Depending on your situation, your surgeon will allow you to put weight on your ankle after about six weeks and sometimes sooner. You should discuss your post-operative care with your surgeon.

Because you are immobilised after surgery, it is usually recommended that you have blood-thinning medication to prevent blood clots whilst in the cast. This usually involves a daily self-administered injection which will be explained while you are in hospital.

After the plaster cast is removed, you may require an ankle brace or a walking boot for a few more weeks. You will then be able to wear your normal shoes. Often foot wear changes may be necessary after surgery (wider/larger shoes).

## Advice after surgery

The foot should be strictly elevated for the first 2 weeks to avoid excessive swelling which could compromise the wound. Aim to keep the foot elevated for 55 minutes of every hour

The cast dressings should not be disturbed unless there is a concern with the wound. At around 2 weeks after surgery, you will return to the clinic to have the cast and stitches removed. A new full cast will be applied at this time.

You must keep the cast and leg dry and clean during the time the cast is on.

Your surgeon will inform you of when you are allowed to bear weight in cast. You will need crutches or a frame. The physiotherapist will show you how to use them.

It may take several months before you can drive. Please check with your insurer.

Going back to work depends on the activity undertaken at work and should be discussed with your surgeon.

Most patients go back to recreational walking and light activities (such as cycling and golf). Although more vigorous activities such as squash, tennis or football may be possible, we do not recommend them as they put a lot of stress across the other joints, which will eventually wear and become painful. This can also result in early loosening of an ankle replacement. Similarly, walking or hiking on rough and uneven ground is possible but will put more stress on the adjacent joints or implant. You can protect the adjacent joints by wearing a sturdy above-ankle walking boot. Swelling is often permanent following major surgery and a full recovery can take up to 18 months. This is a normal recovery. Often a full recovery takes much longer than one would expect.

## If I have any questions or concerns?

These guidelines are to help you understand your operation. This level of detail may cause concern, anxiety, or uncertainty. Please let your doctor or nurse know so that we may address these issues.

We aim to see you back in the clinic at regular intervals to monitor your progress and answer any questions you may have during your recovery.

If there is concern regarding the wound, such as increased redness, pus, discharge, or pain, then seek medical attention either at your GP or nearest Emergency department.

Above all else, please do not proceed with surgery unless you are satisfied and understand all you want to know about the operation.

## Further information

There are a number of places that you can look at for further information. These days commonest and easiest way is to look in the internet. You can also ask your surgeon or General Practitioner. Below are a few web sites that you may find useful.

[www.bofas.org.uk](http://www.bofas.org.uk)

[www.arthritiscare.org.uk](http://www.arthritiscare.org.uk)

[www.nhs.uk](http://www.nhs.uk)

[www.westhertshospitals.nhs.uk](http://www.westhertshospitals.nhs.uk)

## Useful contact numbers

Plaster room at Hemel Hempstead Hospital – 01442 287118

Plaster room at Watford General Hospital – 01923 217173

Day surgery at St. Alban's City Hospital - 01727 897 418

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