

Ankle fusion (Arthrodesis)

What is the ankle fusion (Arthrodesis)?

This is an operation to "fuse" or stiffen the ankle joint to alleviate pain usually from osteoarthritis.

Why is the operation necessary?

Ankle fusions are done for two main reasons:

1. arthritis of the joint, because of a previous injury that has damaged the joint, a generalised condition such as osteoarthritis or rheumatoid arthritis, or because the joint is just wearing out for some other reason.
2. severe deformity of the rear part of the foot, such as a flat foot, high-arched or "cavus" foot, a club foot or other deformity, in which the ankle joint is also deformed, unstable or damaged.

It is now possible to treat some arthritic ankle joints by replacing the joint, in the same way as arthritic hips and knees can be replaced. However, this is only suitable in older patients without major foot deformities, or people with rheumatoid arthritis or similar diseases.

Total ankle replacement would not be suitable in the following:

1. the young (usually under 45) or very physically active
2. patients with a severe foot deformity
3. an unstable ankle
4. previous infection in the ankle or the bones around it
5. the bone under the ankle (the talus) has collapsed

In these situations a fusion would be advised instead. If you have a severe foot deformity you may be advised to have this corrected at the same time as your ankle fusion by fusing other joints and/or realigning the foot bones. This would be discussed by your surgeon at the same time as your ankle fusion and we have other information sheets which give information about major foot fusions.

We are sometimes asked if a fusion can be changed to an ankle replacement later. This is not possible, as the muscles that work the ankle become too stiff for an ankle replacement to work.

How would I know if the operation was necessary?

Surgeons who operate on joints are skilful at injecting local anaesthetic or steroid into damaged joints, before any surgery is considered. This is both to confirm the diagnosis and as treatment to see whether this relieves the pain and avoids surgery. In some people, this gets rid of the pain totally and surgery is not necessary. In others, pain relief does not last but the results of the injection helps the surgeon to advise on which joints to fuse.

What does fusion involve?

Ankle fusion is now nearly always performed by an arthroscopic (telescope) technique. This involves inserting a telescope into the ankle and by using specialised instruments we can remove the joint surface to allow the two bones to heal together. The bones are held rigidly by two screws inserted from the inner aspect of the leg just above the ankle joint. The operation will involve therefore 4 small cuts of approximately 1cm around the ankle.

Some people who have foot deformities have a tight Achilles tendon ("heel cord"), or weak muscles, or both. The Achilles tendon may be lengthened during surgery by making three small cuts in the calf and stretching the tendon.

How long would I be in hospital?

Most people who are reasonably fit can come into hospital on the day of surgery, having had a medical checkup 2-3 weeks beforehand.

After surgery your foot may swell and if this happens you will have to rest with your foot raised to help the swelling to go down. This may take anything from 2 days to a week.

Once the swelling goes down and the cuts on your foot are healing your foot will be put in plaster and you can get up with crutches and go home. The physiotherapist will teach you how to walk with crutches. We will get you up as soon as possible! Most people are in hospital for 2 days.

Will I have to go to sleep (general anaesthetic)?

The operation can be done under general anaesthetic (asleep). Alternatively, an injection in the back can be done to make the foot numb while the patient remains awake. Local anaesthetic injections do not always work and in that case you may have to have a general anaesthetic if the operation is to be done. General anaesthesia is now safer than ten years ago. Your anaesthetist will advise you about the best choice of anaesthetic for you.

In addition, before the end of the operation local anaesthetic may be prescribed by your surgeon while you are asleep to reduce the pain after the operation. You will also be given pain-killing tablets after your surgery as required. These are best accepted about six hours after surgery as the local anaesthetic lasts a good 8 hours. Having the pain relief early eases you into the discomfort following surgery.

Will I have a plaster on afterwards?

You will need to wear a plaster or brace from your knee to your toes until the ankle has fused - usually 3-4 months.

What will happen after I go home?

By the time you go home you will have mastered walking on crutches without putting weight on your foot. You should go around using crutches to take the weight from the operated foot for 2 weeks.

10-14 days after your operation you will be seen again in the clinic. Your plaster will be removed and the cuts and swelling on your foot checked. If all is well the sutures will be removed and you will be put back in plaster or a brace. You should continue walking with your crutches but at this stage you can begin putting a little weight through your foot.

About 6 weeks after your operation you will come back to the clinic for an X-ray. If this shows the joint is healing in a good position you can start putting about most of your weight through the plaster or brace. The physiotherapist will teach you how to do this.

You will have further X-rays once 3 months have elapsed. If the X-rays show that the joint is fused enough to take your weight, the plaster will be removed and you can start walking without it. Some people need to stay in plaster longer than 3 months

How soon can I....

Walk on the foot?

As explained above, you should not walk on the foot for at least 2 weeks after surgery. Your surgeon will advise you when you can start taking some weight on the foot.

When you start putting weight on your foot we will give you a special shoe that you can wear over your plaster.

Go back to work?

If your foot is comfortable, and you can keep your foot up and work with your foot in a special shoe, you can go back to work within 3-4 weeks of surgery. On the other hand, in a manual job with a lot of dirt or dust around and a lot of pressure on your foot, you may need to take anything up to six months off work. How long you are off will depend on where your job fits between these two extremes.

Drive?

You need to decide when you are safe to drive. A good indication of return of adequate function and safety is the ability to hop on the affected leg again (this is the "Hardy Hop Test"). Many can drive within 3-4 weeks of the operation.

If you have only your left foot operated on and have an automatic car you can drive within 2 weeks of the operation, when your foot is comfortable enough and you can bear weight through it. Most people prefer to wait till the plaster is removed and they can wear a shoe.

Play sport?

After your plaster is removed you can start taking increasing exercise. Start with walking or cycling, building up to more vigorous exercise as comfort and flexibility permit. Obviously, the foot will be stiffer after surgery and you may not be able to do all you could before. However, many people find that because the foot is more comfortable than before surgery they can do more than they could before the operation. Most people can walk a reasonable distance on the flat, slopes and stairs, drive and cycle. Walking on rough ground is more difficult after an ankle fusion because the foot is stiffer. It is rare but not forbidden to be able to play vigorous sports such as

squash or football after an ankle fusion. Patients that limp because of pain often return to walking without a limp.

What are the risks of fusion?

The most serious thing that can go wrong is infection in the bones of the ankle. All patients have bacteria on the skin. If that bacteria gets into the wound after surgery the patient usually notices pain swelling, redness and heat. If this happens you should attend your General Practitioner for assessment and rapid treatment. Minor infections in the wounds are slightly more common and normally settle after a short course of antibiotics. Infection of the bone happens in only less than 1% of people. However, if it does it is serious, as further surgery to drain and remove the infected bone and any infected screws or pins will be necessary. You may then need yet more surgery to get the ankle to fuse in a satisfactory position. The result is not usually as good after such a major problem as if the ankle had healed normally.

About 5-10% of ankle fusions do not heal properly. This is termed non-union. This complication needs a further operation to get the bones to fuse - basically another ankle fusion.

Research shows that 10% of ankle fusions do not heal in exactly the position intended, either because the position achieved at surgery was not exactly right or because the bones have shifted slightly in plaster. Usually this does not cause any problem, although the foot may not look "quite right". Rarely, the position is a problem and further surgery is required to correct it.

Sometimes the screws become loose as the bone heals and cause pain or irritation of the patient's skin. If this happens the stainless steel screws can be removed - usually a much more simple operation which it is often possible to do under local anaesthetic. We find that about 10% of our patients need the screw taken out.

Should you require any more information please make an appointment with your surgeons at London or Bristol - we would be glad to advise.