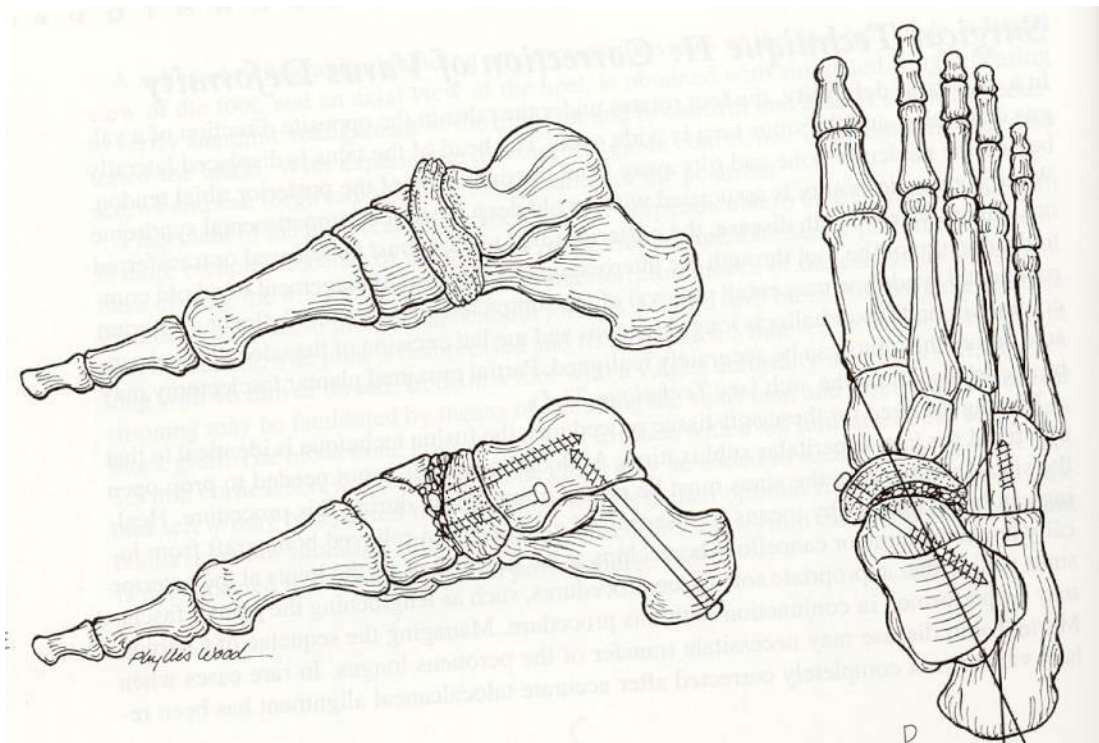


Patient Information

Triple Fusion



Orthopaedic and Fracture Clinics

What is it?

This is an operation to "fuse" or stiffen the three main joints of the back part of the foot (hence "triple fusion"). The ankle joint is not fused so 'up-down' movement is not affected.

Why would it be done?

Triple fusions are done for two main reasons:

- arthritis of the joints, because of a previous injury that has damaged the joints, a generalised condition such as osteoarthritis or rheumatoid arthritis, or because the joint is just wearing out for some other reason



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- severe deformity of the foot, such as a flat foot, high-arched or "cavus" foot, a club foot or other deformity. Sometimes these can be corrected by breaking and reshaping the bones, but in other cases it is best to stiffen the joints in the corrected position, particularly if the joints are already stiff or the foot is weak.

If the damage or deformity is limited to one or two of the foot joints it may be possible to treat it by a more limited operation. However, as these joints work together, damage to one is often accompanied by damage to others.

What does it involve?

Two cuts are made, one along the outer side of the foot and one on the inner side. Usually these are 4-5 cm long. Each of the three joints are opened up and the joint surfaces removed and, if necessary, reshaped to correct a deformity. The joints are then put in the correct place and fixed together with screws, pins or plates. The heel ("sub-talar") joint is usually fixed with a screw passed through a small cut in the back of the heel. The other joints are fixed through the main cuts.

It is sometimes necessary to put some extra bone into a triple fusion to get it to heal and to fill any gaps in the fusion left by correcting deformity. Often this extra bone can be obtained from the bone that is cut out to prepare the fusion. Occasionally, there is not enough bone from this and bone has to be taken from the pelvis just above the hip, or sometimes artificial bone graft is used.

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. Weak muscles may be compensated by the tendons of normal muscles to do the work of the weak ones.

This might be done at the same time as a triple fusion, or it may be best to do it at another operation. These "tendon transfer" operations are planned individually and your surgeon will discuss this with you.

Some people with deformities of the foot also have deformed toes. Again, these may be corrected at the same time or at a later operation.

Are there any alternatives?

Other forms of treatment will usually have been tried. These include painkillers or anti-inflammatory tablets, steroid injections, and most commonly some form of foot or ankle support / insole. If these have been helpful then usually a triple fusion will not be recommended.

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



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awake. Your anaesthetist will advise you about the best choice of anaesthetic for you.

Increasingly surgery is carried out with a regional block – the leg is numb below the knee by injections adjacent to the nerves behind the knee. You can choose to have sedation so that you sleep lightly during the operation. The block can last 24-48 hours giving good pain relief, but you will also be given pain-killing tablets as required.

How long would I be in hospital?

Most people come into hospital on the day of surgery, having had a medical check-up two to three weeks beforehand.

After surgery your foot will tend to swell up quite a lot, especially if you have had extra surgery such as a tendon transfer or toe straightening procedure. You will therefore have to rest with your foot raised to help the swelling to go down. You will be in a plaster back-slab from toes to just below the knee. This is soft at the front to allow for swelling.

When the foot is comfortable enough (usually one to two days) you can get up with crutches and go home. The physiotherapist will teach you how to walk with crutches. Most people are in hospital for one to two days, but some will go home the same day as surgery.

Will I have a plaster on afterwards?

You will need to wear a plaster from your knee to your toes until the joints have fused - usually 12 weeks. For the first six weeks you should not put any weight on your foot as it may disturb the healing joints. (Touching your foot to the ground for balance is ok but no more).

What will happen after I go home?

By the time you go home you will have mastered walking on crutches, or a walking frame, without putting weight on your foot. For the two weeks you should only be up on your crutches for five minutes per hour maximum to avoid swelling.

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 you will be put into a light-weight plaster. You should continue walking with your crutches, **non weight bearing**.

About six weeks after your operation you will come back to the clinic for an x-ray. If this shows the joints are healing in a good position you can start putting weight through the plaster/boot (with a special shoe) gradually building up to full weight.

About 12 weeks after the operation the plaster cast will be removed and X-rays taken to check that the joints have fused. If so, then you can start to walk without the plaster.



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Usually the foot will still be swollen and the bones and joints will ache. This should gradually improve, but may take 6-12 months.

How soon can I....

Go back to work?

If your foot is comfortable, and you can keep your foot up and work with your foot in a plaster cast, you can go back to work within two to three 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?

If you have only your left foot operated on and have an automatic car you can drive within a few 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 difficult after a triple fusion because the foot is stiffer. It is unusual to play vigorous sports such as squash or football after a triple fusion.

What can go wrong?

The main problem is the swelling of the foot, which may take many months to go down fully, and some people's feet always remain slightly puffy. You may find that only trainers are comfortable for several months. Keeping your foot up, applying ice, wrapped in a towel, or wearing elastic stockings may help to keep the swelling down. Swelling is part of your body's response to surgery rather than the operation "going wrong" but it is a nuisance to many people who may be concerned that something has indeed gone wrong.

If you need to have a bone graft taken from your pelvis, this is often quite painful for a couple of weeks, and some people have a little numb area beneath the scar. Again, this is normal, but can be irritating.

The most serious thing that can go wrong is infection in the bones of the foot. This only happens in about 1% of people, but if it does it is serious, as further surgery to drain and remove the infected bone and any infected screws or pins will be



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necessary. You may then need yet more surgery to get the foot to fuse in a satisfactory position. The result is not usually as good after such a major problem as if the foot had healed normally

About 10% of triple fusions do not heal properly and need a further operation to get one of the joints to fuse. Minor infections in the wounds are slightly more common and normally settle after a short course of antibiotics.

Sometimes the cuts, especially the one on the outer surface of the foot where the blood supply is not so good, are rather slow to heal. This usually just requires extra dressing changes and careful watching to make sure the wound does not become infected.

There is a small risk of developing a deep venous thrombosis (clots in the veins of the leg) after this type of surgery. We will assess if your individual risk is high enough for you to need blood-thinning (heparin) injections while you are in plaster.

Research shows that 5-10% of triple 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". Occasionally the position is a problem and further surgery is required to correct it.

Sometimes screws or pins, especially the screw through the heel, become loose as the bone heals and cause pain or rub on your shoe. If this happens they can be removed - usually a simple operation which it is often possible to do under local anaesthetic. We find that about 20% of our patients need a screw taken out.

Smoking will not be permitted on any NHS site in England. Smoking will not be permitted within any of our buildings or anywhere outside on our sites. Smoking facilities will not be provided. Please be considerate of others when vaping in hospital grounds

This information sheet is available to order in other languages and formats. If you would like a copy, please contact us on 01793 604031 or email gwh.pals@nhs.net

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