Tarsometatarsal (mid-foot) Fusion

Following your consultation you have been diagnosed with arthritis in your mid-foot. This section aims to give you additional information about your condition and the treatment. It is designed to give you some general details about the recovery from surgery if necessary and the common risks and complications. It is not for self-diagnosis. Please ask your surgeon if you have any further questions.

What is a tarsometatarsal fusion?

This is an operation to "fuse" or stiffen one or more of the small joints in the middle of the foot (the "tarsometatarsal" joints).

Why would it be performed?

Tarsometatarsal 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.
- Severe deformity of the foot, usually a flat foot where the tarsometatarsal joints are wearing out and may have collapsed. 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. In other people, a tarsometatarsal fusion may be performed to correct the front of the foot and a fusion of the heel (“sub-talar") joint or a reshaping operation on the heel bone ("calcaneal osteotomy") done to correct the rear part of the foot. If you need this, it will be discussed with you.

We usually inject local anaesthetic and steroid into damaged joints before any surgery is considered, to see whether this helps the pain. For some, the pain goes and surgery is not necessary. For others, pain relief does not last but the results of the injection help us to decide which joints to fuse.

What does it involve?

One or more cuts about 3-4 cm long are made on the upper or inner surface of the foot. Each joint that has to be fused is opened up. The joint surfaces are removed and, if necessary, reshaped to correct a deformity. The joints are then put in the correct place and fixed together with screws, plates or staples It is usually necessary to put some extra bone into a tarsometatarsal fusion to encourage it to heal and to fill any gaps in the fusion left by correcting the deformity. Usually this extra bone can be obtained from the bone that is cut out to prepare the fusion. Sometimes there is not enough bone from this and bone has to be taken from the top of the shin bone just below the knee. Some

people with deformities of the foot also have deformed toes. These may be corrected at the same time or in a later operation.

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 preoperative assessment beforehand. After the operation, your foot will tend to swell up quite a lot. You will, therefore, need to rest with your foot elevated to help the swelling go down. Once the immediate swelling has reduced, your foot will be put into a below knee plaster. The physiotherapists will show you how to walk with crutches, initially not putting any weight on your operated foot. If you get up too quickly, this may cause problems with the healing of your foot. You can then go home. Most people are in hospital for 2-3 days.

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

The operation can be performed under general anaesthetic (asleep). Alternatively, an injection in the back, leg or around the ankle can be given to make the foot numb while you remain awake. Local anaesthetic injections do not always work and, in that case, you may have to go to sleep if the operation is to be performed. Your anaesthetist will advise you about the best choice of anaesthetic for you. In addition, local anaesthetic may be injected into your leg or foot while you are asleep to reduce the pain after the operation even if you go to sleep for the surgery. You will also be given painkilling tablets as required.

Will I have a plaster on after?

You will need to wear a plaster from your knee to your toes until the joints have fused usually 8-12 weeks. For the first 2 weeks you should avoid putting any weight on your foot and rest with it elevated as much as possible.

What will happen afterwards?

By the time you go home, you will have mastered walking with crutches. You should go around like this for 2 weeks. Two weeks after your operation you will be seen again for a follow-up. Your plaster will be removed and the cuts and swelling on your foot checked. The stitches will be removed and you will be put back in plaster. You should continue walking with your crutches. You will be able to start putting half your weight through your foot. After 6 weeks you can put all your weight through your foot.

8-12 weeks after your operation, you will come back for the plaster to be removed and to have an x-ray. If this shows that the joints have fused, you will be left out of plaster

and can take the full weight through the whole of your foot. If the surgeon thinks the joints have not fused you may need to have a new plaster or brace put on. You will then have further x-rays over the next few weeks, exactly when and how often will be determined by how well your foot is healing. When the x-rays show that the joints are fused enough to take your weight, the plaster will be removed and you can start walking without it. We sometimes give people a brace to wear at this point, if they need some support as they get used to walking without the plaster. This is usually worn for about a month.

How soon can I ...

Walk on the foot?

You will be taught by the physiotherapist how to walk non-weight bearing in your plaster with crutches for the first 2 weeks at least. You will be advised when you can start putting some weight through your foot. In the first 2 weeks after your Tarsometatarsal fusion, it is very important that you keep your foot highly elevated for most of the time to reduce swelling, aid the healing process and make it more comfortable. You will be advised by your surgeon when you are able to put some weight through your foot. Then you will be given a special shoe for your plaster.

Go back to work?

If your foot is comfortable, you can keep it elevated and work with it in a special shoe, you can go back to work within 4-6 weeks of surgery. 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 6 months off work. How long you are away from work will depend on where your job fits between these two extremes.

Drive?

Most people prefer not to drive until the plaster is off, they can wear a shoe and are able to fully weight bear. Drive short distances before long ones. If you cannot safely make an emergency stop your insurance will not cover you in the event of an accident. If only your left foot is operated on and you 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.

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 tarsometatarsal fusion because the foot is stiffer. Most people cannot play vigorous sports such as squash or football after a tarsometatarsal fusion.

Risks

- 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 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 concern to many people. If you are worried about the swelling of your foot, ask your surgeon or physiotherapist whether the amount of swelling you have is reasonable for your stage of recovery.
- If you need to have a bone graft taken from your tibia, this is sometimes painful for a couple of weeks, and some people have a little numb area beneath the scar. 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 in 100 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 necessary. You may then need 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 10-15 in 100 fusions do not heal properly and need a further operation to get the bones to fuse basically another tarsometatarsal fusion.
- Minor infections in the wounds are slightly more common and normally settle after a short course of antibiotics.
- Sometimes, the cuts are rather slow to heal. This usually just requires extra dressing changes and careful watching to make sure the wound does not become infected.
- Research shows that 5 in 100 tarsometatarsal 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 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 1 in 10 of our patients needs a screw taken out.

- Deep vein thrombosis and pulmonary embolism (blood clots)

There are general risks with any operation that include blood clots, anaesthetic complications and tourniquet complications. Generalised pain, swelling and stiffness can occur (chronic regional pain syndrome - CRPS).

What can I do to help?

Most patients find that simple measures can make a big difference to the outcome of surgery. The evidence from studies and our experience supports this: Take simple Vitamin C and vitamin D tablets or multivitamins – needed for healing. STOP smoking – smoking slows down healing and is linked to increased complications. Keep fit and a healthy weight – many foot problems are improved by losing weight.