



## Bone-Surgeon.co.uk

### Patient Information: Big Toe Fusion Metatarsophalangeal (MTP)

### What is a 1st MTP joint fusion?

The joint at the base of your big toe can become painful and stiff as a result of arthritis. (Hallux rigidus).

This may have been caused by an old injury, previous surgery or a long-standing bunion deformity. Pain at the joint can start to affect your daily activities and even your sleep pattern.

In addition, the joint itself can develop a bony ridge due to arthritis and this can affect your ability to wear certain shoes. 1st MTP fusion is carried out to permanently fuse (stiffen) the two bones adjacent to the joint, thereby preventing any movement at the joint.

### How is 1st MTP joint fusion carried out?

You will be asked to wash your feet thoroughly on the day of operation and keep them clean, as this will reduce the rate of infection.



The operation can be done as a day case but if your mobility is poor, you will be kept in hospital overnight. The operation takes about 1 hour to do.

The procedure is usually performed under general anaesthesia but may be carried under local anaesthetic with sedation, spinal or epidural anaesthetic.

You will have an opportunity to discuss these options with your anaesthetist and specialist before your operation.

A cut is made over the joint area and the ridges of bone next to the joint and cartilage are removed. Your big toe is then repositioned and then stabilised using a special plate and screws, to hold your bones together to allow healing to take place.



What are the benefits of having a 1st MTP joint fusion?  
The aim of the procedure is to reduce pain and discomfort. This surgery should allow you to wear your footwear more comfortably.

### **Possible risks/complications of surgery** **Common but minor risks can include:**

**Pain** – This can be worse in the first few days after surgery but responds to the prescribed painkillers. As time passes and your body starts to heal, this pain will reduce and you will only need simple painkillers (like anti-inflammatories or Paracetamol) until the pain settles completely.

**Swelling** – Operated feet tend to swell and this can last for 8–12 months.

**Infection** – as with all invasive procedures there is the risk of infection, more so in those patients who are diabetic, suffer from rheumatoid disorders or smoke.

**Scarring** – any type of surgery will leave a scar, occasionally this will be painful and inflamed.

**Blood or fluid leaking from the wound** – This is common and usually stops after a day or so.

**Bruising or discolouration** – This is almost inevitable after surgery. However, if you get a lot of bleeding, a white toe or a black toe, let the team know.

**Minor redness around the wound** – as with all surgery there is the risk of infection and some minor redness of the wound can happen and the wound edges take longer to heal fully. You may need antibiotics to get this to settle. Risks are higher if you are diabetic, suffer from a rheumatoid condition or smoke.

**Prominent metal work** – In some cases the screws or plates (if used during your operation) can become prominent under the skin and you will need to have them removed at a later date.

**Numbness** – After surgery you are likely to have some minor numbness and tingling around the scar due to damage to small nerves.

### **Less common but more significant risks:**

**Failure of the bone to unite** – Occasionally bones fail to unite (not join). If you smoke the risk of non-union or complications are greatly increased. It is, therefore, essential that you stop smoking before surgery and refrain from smoking until all bones have healed.

**Deep Infection** – Although the operation is performed under sterile conditions and all precautions are taken to prevent this, a deep infection may happen and if the wound does not settle on antibiotics, you may need further operations.

**Blood Clots** – because you won't be able to move around as much after surgery, you can get blood clots in the veins (deep vein thrombosis or DVT) which can lead to pain and swelling of the calf or thigh. In very rare cases these blood clots can travel to your chest (pulmonary embolism) and can be fatal. Your surgical team will probably discuss whether you should have thromboprophylaxis (drugs to reduce, but do not completely eliminate the risks of blood clots).

**Thick (keloid) scar** – Scars which grow excessively can occur in some people and cannot be predicted although you are at greater risk if you have previously keloid scar. Special dressings, injections into the scar or rarely surgery may become necessary to improve the appearance.

**Delayed healing of the bone** – This may happen if your bone is cut or fused. Some people heal slower than others

and those who smoke are at a greater risk of this happening. If the bones don't seem to be knitting together, you may have to take weight off the area for longer or need more surgery.

**Bone healing in a wrong position** – This can sometimes happen and you need more surgery.

**Persistent or recurrent symptoms** – In some cases, you may continue to suffer pain and the foot may be deformed. You may need surgery or other measures.

**Broken bone or metalwork** – A bone could fracture or a metal pin or screw could break during or after surgery and you may need another operation.

**Developing secondary problems** – This can include overloading areas close to the ones operated on. In other words, surgery on your big toe may lead to pain transferring to the second toe or unusually, an overcorrected bunion may lead to a reverse deformity. A fused ankle joint can cause an overload of the surrounding hind foot joints and cause pain. Surgery to the newly affected areas may be needed.

**Chronic pain** – This is rare but a syndrome (such as chronic regional pain syndrome CRPS) can cause swelling, stiffness, pain and colour and temperature changes to the foot. Treatment includes medication and physiotherapy and it could take several months to improve. Doctors are still not sure exactly what causes this syndrome.

**Toe deformities** – In surgery to the toes, a toe can become floppy or stiff or heal in an abnormal position which might need further surgery.

**Damage to the blood vessels** – If the blood supply to part of the foot is damaged, it could lead to an area of permanent damage which needs surgery, but this is rare.

**Nerve injury** – If a larger nerve supplying the foot becomes damaged or caught in scar tissue, it could lead to on-going pain, numbness and tingling. This damage often doesn't last and the sensation usually returns over a period of time. However, in some cases it can be long-lasting or permanent and need further surgery.

**Amputation** – In very rare cases, part of the foot or lower leg may need to be removed if there is severe infection or blood-vessel damage or uncontrolled pain.

**Death** – This also is extremely rare for foot and ankle surgery but can happen if you have other medical conditions such as heart problems.

### **Are there any Non-surgical alternative treatments available?**

If you decide not to proceed with surgery, you may receive advice regarding more suitable footwear. If appropriate, your surgeon may refer you to the Orthotist for an assessment with a view to supplying special insoles, which may also help you to manage your symptoms. Your

surgeon may advise you to have a steroid injection into the joint itself to help to reduce your pain. The injection would be given with X-ray guidance to make sure the injection is introduced correctly into the small joint space

### **What will happen if I don't have any treatment?**

If you decide not to proceed with any treatment, then it is likely your symptoms and condition will progress. In time the joint may become further stiffened and feel less painful as your condition progresses, as the movement at the joint becomes more and more restricted.

### **Getting ready for your operation**

You will usually be seen in the pre-operative clinic before you are admitted to hospital. Here you will have blood tests and sometimes a heart trace and a chest X-ray, if appropriate. You will be assessed to see if you are fit for the anaesthetic.

The staff will ask routine questions about your health, the medicine you take at the moment and any allergies you may have.

As your mobility may be reduced after your operation, make arrangements to ensure you will have any help and support you may need with shopping, housework, making meals etc. Especially if you live alone.

If you live alone, and/or do not have anyone to help you post operatively and have concerns about managing at home after your operation, ask to be referred to social services. You may also see one of the therapy team who can assess you for any equipment that may help you at home.

If you live alone, and have concerns about being able to manage stairs after your operation, think about having a bed down stairs.

Look for a comfortable pair of shoes or sandals to come into hospital with. Wearing something comfortable and firm fitting on your good foot will help with your balance and walking after your operation.

If you normally use walking aids to help you walk, bring these into hospital with you.

### **After the operation**

You may experience moderate pain. You will need some painkillers for the first few days. You need to keep the foot elevated for the first few days until the swelling settles. You will be followed up in clinic in 10 to 14 days to check the wound, reduce the bulky dressing and remove stitches. You will be seen again at 6 weeks to assess the healing. You may need 6 weeks off work depending on the nature of your job. You won't be able to drive until you could do

an emergency stop without any pain in the foot. This is usually at around 6–8weeks.

You should notify your insurance company of the type of procedure undergone to ensure that cover is valid. If surgery is undertaken on your left foot and you have an automatic car you can usually drive at around three weeks following your operation.

There may be residual swelling in the foot up to 6 to 8 months after your operation.

### **Walking after your surgery**

You will need to wear a special shoe or stiff soled shoe for approximately 6 weeks after surgery to protect the fusion.



Either a nurse or a therapist will help you to get out of bed and start walking.

You must keep your weight on your heel and OFF the front of your foot for 6 weeks. You will do this by stepping your

operated foot forward first and then stepping your other foot up to but NOT past it.

It is essential you follow this instructions strictly as putting weight through the ball of your foot and toes could result in the metalwork loosening or breaking.

Not everyone will need walking aids, but if you have poor mobility or problems with your balance a physiotherapist will assess you to see if a stick or crutches make walking easier.

You will be advised to go up and down stairs standing sideways with your hands on the banister rather than facing forwards as this will help keep your weight through your heel and off the front of your foot.

You should keep walking to a minimum for the first few 2 weeks to prevent bleeding and swelling. Keep your foot elevated when not walking. Your foot should be level with or slightly higher than your hip.

Following this foot surgery you will not be able to wear high heels. Usually a heel height of one to one and a half inches is the maximum you will be able to wear

### **Exercises after your surgery**

You should start your exercises as soon after your operation as you can.

Move your ankle up and down and side to side as far as you can. Do this for 20 seconds every quarter of an hour. This will help improve your circulation and prevent your ankle stiffening up.

Bend your hip and knee up towards your chest as far as you can 10 times an hour.

Keeping your knee straight, lift your leg up 10 times an hour.

Either lie on your un-operated side or stand up and lift your operated leg out to the side 10 times.

Either lie on your front or stand up and lift your operated leg out behind you 10 times.

Try to keep your un-operated toes from stiffening by holding each one between your finger and thumb and gently bending them forward and backwards a few times.

You may find it difficult or uncomfortable to do this until your bandaging is reduced at 2 weeks.