

Great Toe MetaTarsoPhalangeal Joint Fusion

(1st MTPJ Fusion)

Great Toe joint fusion

1st MTPJ Fusion is the 'Gold Standard' operation to definitively treat the pain of great toe joint arthritis.

- At open surgery all remaining cartilage and underlying diseased bone is removed from the joint and it is screwed together.
 - Bone subsequently grows across the tiny gaps much in the same way as a fracture heals.
 - If your bone is weakened a small metal plate may be applied across the joint to provide further strength
- **All previous movement of the joint is lost** yet the great toe and general foot function returns and much improved comfortable walking can be expected.
- By reducing the movement however the heel height of any footwear becomes restricted. Mr. Williams sets the toe to allow for a flat soled or slight heeled shoe to be worn but this can vary slightly with bone condition etc.
- An associated bunion can often be corrected at the time of fusion.
- The operation has a historically reported satisfaction rate of 80-90%.



Arthritis of Great Toe
(MTPJ)



Fusion with screws



Fusion with Plate

What to expect

Before the Operation

1st MTPJ Fusion operation is usually undertaken as a Daycase procedure allowing you to return home the same day **if** you have a partner or other adult who can stay with you for the 1st 24hrs.

The toe or occasionally the whole foot will be made numb with local anaesthetic. As well as this you may receive mild sedation or if wished a general anaesthetic will be discussed with your anaesthetist.

- **You will be prepared by the admissions team for a ‘General Anaesthetic’ with guidance around “nil by mouth” etc. This allows decision making to be adjusted by you or the anaesthetist at all stages of the procedure as necessary**

You will have a tight strap around the ankle (Tourniquet) during the procedure which is a little uncomfortable but allows the surgery to proceed more swiftly and straightforward. It is rarely painful but can be managed if a problem.

Further details are available on the [‘Preparing for Forefoot Surgery’](#) Advice pages

After 1st MTPJ Fusion

To get to the bone a surgical incision is made which is sewn together at the end. They are usually dissolvable sutures.

Your foot will then be wrapped in a compressive bandage.

You must feel and prove to the nurses you are safe before you should leave and provide details of an adult partner or friend who will be with you for the initial 24hrs at least.

A special **‘Heel Wedge’** sandal is applied before you go home.

- This is designed to protect the operation site whilst allowing you to keep **full weightbearing** and walking.
- It often requires the use of a crutch / walking stick for balance and does take a bit of getting used to.

- It should be **continually worn, including at night** to prevent the toe getting caught or knocked.
- **It is to be used for 8 weeks** before considering its removal in clinic.



Heel Wedge Sandal (eg.DARCO)

What should I prepare for when I go home after 1st MTPJ Fusion?

The local anaesthetic will wear off after approximately 6-8hrs but this is variable. The key thing is to take some painkillers as soon as sensation starts to return before the predictable pain kicks in. Paracetamol, distalgescic, or a small anti-inflammatory should suffice.

After 48hrs you should expect to be reducing the painkillers to just paracetamol.

During the 1st 2 weeks

- Elevate the foot '**Toes above your Nose**' by reclining with your foot up on cushions. This will minimise swelling and help the wound heal well.
- Walking with the sandal on is OK but only for essential activities.
- Leave all dressings alone. If they become loose or dirty then seek nursing or medical help.

*Much more detail is provided in the '**I've had forefoot surgery**' advice sheet you will be given when you leave.*

Wear the Heel wedge sandal Day and Night. It is to be worn for 8 weeks

Follow-up Appointments

2 weeks after the surgery you will attend clinic for a wound check.

- At this stage the dressing will be changed to a smaller Band Aid style adhesive.
- If all is well you can then relax on the need to elevate and begin to be increasingly active whilst still wearing the sandal.
- The sandal can be removed to bathe but be careful not to stand on it.

8 weeks after the operation the foot will be xray'd.

- if the Xray, along with your symptoms are reassuring you begin a period of weaning in to your normal footwear.
 - Soft shoes, trainers or sandals that allow free space around the toe are recommended initially and it may be a further 8 weeks before you are comfortable in a normal 'work' shoe.
 - Recreational walking and sports may take 2-3 months to be considered comfortable.
 - A Physiotherapy appointment will focus on relearning a normal walking (gait) pattern.

When can I return to work after 1st MTPJ Fusion?

- A minimum of 2 weeks off work should be planned to allow all wounds to heal and the swelling to subside.
- Following this, office based activities can be considered if your work place health and safety permit the use of the sandal and crutches and getting to work is possible.
- You should also try to elevate the foot when at rest.
- More manual jobs will require a minimum of 8-10 weeks off work and possibly a bit longer.

When can I drive after 1st MTPJ Fusion?

- **No** driving in the 1st 2 weeks to allow rest and the wound to settle.
- Those having had **right foot** surgery should not drive for 10 weeks following the operation.
- Those having had **Left foot** surgery can consider driving an **Automatic** car short distances from 3 weeks with care entering and leaving the vehicle if they feel safe and in control to do so. If unsure please discuss with the DVLA

Are there any risks to 1st MTPJ Fusion?

All surgery carries risks which must be weighed up against its intended benefit. 1st MTPJ Fusion is a straightforward and relatively minor procedure but the following are recognised complications.

1. **Wound bleeding.** This is rarely profuse and will usually settle with bandaging and elevation. Should you see new blood appearing from the wound or your bandages begin soak please seek medical attention
2. **Infection.** A localised wound infection can be treated effectively with tablet antibiotics and is usually of little consequence. A rare bone infection is more serious and may require re-admission to hospital. Any signs of infection will be looked for at the '2 week wound check' clinic appointment. If you start to feel feverish, notice your toe pain increasing or see pus at all seek medical attention
3. **Nerve damage.** The scar will be numb initially but will usually settle. Occasionally if the nerve is trapped in the scar tissue or damaged an area beyond the scar may remain numb longer term.
4. **Tendon damage.** The operation is performed very near to the tendons of your great toe. Occasionally they can become sore or even tear from damage.
5. **Non-Union.** Despite our best efforts occasionally the bone does not heal and hence join together like it should. Usually this is detectable by xray and the fact the joint is still painful. Extended immobilisation and rest may be all that is required but some need 're-do' surgery. This is not common but **Smoking** has a significant impact, increasing the likelihood of non-union. Rates of 1:20 have been proposed in historic surgical literature
6. **Metalwork Prominence.** The screws or plates used have slight prominences heads and occasionally these can be felt under the skin once the swelling has subsided. They are designed to stay in forever but if bothersome can be removed after 6 months - 1 year.
7. **Thrombosis/DVT/Blood clots.** A rare risk with this operation, however you will be given advice regarding early other joint mobilisation, ensuring you stay hydrated and the use of special stockings.
Should you ever get unremitting calf pain or swelling, chest pain or shortness of breath seek urgent medical attention
8. **Loss of Great Toe.** This is an extremely rare occurrence but is documented here as its effect can be quite disabling.
9. **Altered toe alignment.** The toe fusion alignment is 'set' to the most optimal position recognised. Though the arthritis pain will be improved the fixed angle of the toe can occasionally prove difficult.

10. Inability to wear certain shoes. The fusion sets the great toe at an angle that usually means no more than a 1 inch heel can be worn. Certain more 'pointed' type shoes may be too uncomfortable. This is variable person to person but a sensible guide.

11. Complex Pain Reaction. Occasionally the body reacts badly to the surgery. Despite everything having gone technically there can be a pain overreaction. Whilst this is rare it is difficult to treat, requiring pain management strategies

12. Neighbouring joint Arthritis. Fusing the joint has the effect of stopping movement there. Hence, as the foot requires movement to function, other neighbouring joints 'do a bit more'. They in turn can become arthritic and painful. Usually this is years but it occasionally is just months.

How do I know if I have a complication?

It is important that you notify us if you get a persistent increasing pain after you go home, and particularly if the pain does not settle with elevation and mild painkillers, as this may indicate early infection.

Similarly if you get swelling of the leg or foot which does not settle when the foot is elevated above heart level you should seek medical advice. Any high temperature or fever should be alerted to a doctor.

Most problems can be treated by medications, therapy and on occasions by further surgery, but even allowing for these, sometimes a poor result ensues. For this reason we do not advise foot surgery for cosmetic reasons.

The level of symptoms before surgery must be worth the risk of these complications. We also advise against prophylactic surgery (surgery to avoid problems that are not yet present).

If you are at particular risk of complication, this will be discussed with you. If you have any general or specific worries, you should ask the doctor treating you who will explain it to you.

What are the alternatives to 1st MTPJ Fusion?

1. Continue as you are using simple measures to manage the pain.
2. Less invasive options such as trimming of the joint ([Cheilectomy](#)) or steroid injection will have been considered.
3. Joint replacement. These are on the market and have found favour in certain centres.

- a. An example I have been trained to use the [CARTIVA implant](#) but as yet do not favour it over a fusion. With informed discussion I will undertake it at a patients explicit request
 - i. I am as yet unconvinced of the evidence supporting their use in the longer term but do praise the attempt to preserve motion. It can be indicated in specific circumstances where the neighbouring joint is also stiff or arthritic.
 - ii. Other examples are 'MOJE Toe' and 'SWANSON Silastic implants'.
4. Cutting out the joint (Keller's operation) is reserved for high risk and low demand cases as function is compromised.

Special Note

These guidelines are intended to help you understand your operation, and to help you to prepare yourself and your foot for it.

Some patients will want to know more details. Please ask, and I will be happy to add additional notes or comments for your assistance. Above all else please do not proceed with surgery unless you are satisfied you understand all that you want to about the operation.

Finally, this level of detail may cause some patients concern, or uncertainty. Please let us know if this is the case, so we can address any matters of concern.