

PATIENT INFORMATION: MIDFOOT FUSION

What is mid-foot arthritis?

Mid-foot arthritis is loss of cartilage in the joints in the middle of the foot, also known as the tarso-metatarsal joints. There are five tarsometatarsal joints, one for each corresponding toe. There are also other small mid-foot joints which can also be affected by arthritis. Most commonly, the tarsometatarsal joints of the 2nd, 3rd and 1st rays are affected.

How does mid-foot arthritis occur?

Often there is no known cause. It is more common in women and in people with flat feet. As the arch collapses, it puts more strain on the mid-foot joints causing them to wear out rapidly. It can be associated with trauma, such as LisFranc fractures or dislocations. Mid-foot arthritis is also associated with conditions such as rheumatoid arthritis and gout.



What non-operative treatment options are there?

Lifestyle modifications, particularly weight loss, can significantly relieve pain from mid-foot arthritis. Trialing a stiff-soled shoe can reduce the pain by spreading the load over the entire foot. An injection of local anaesthetic and steroid can be very effective in relieving pain. In some instances the pain is relieved permanently. Injections can also help work out exactly which joint is affected so surgery can be targeted.

When should I consider surgery?

If you have exhausted non-operative treatment options and your quality of life is severely affected. For some people, shoe wear is very difficult and they develop irritation on the top of the foot from osteophyte formation.

The 4th and 5th tarsometatarsal joints are very mobile compared to the 1st, 2nd and 3rd joints. The 4th and 5th are therefore quite difficult to treat and the surgical options for this area are limited.

What surgical options are there?

The most common operation for mid-foot arthritis is a fusion of the tarso-metatarsal joints. This is normally a reliable operation for tarso-metatarso-joints 1, 2 and 3. A fusion involves one to two cuts on the top of the foot (depending on the number of joints to be fused), the remaining articular cartilage removed and then stabilized and compressed with plates and screws.

The 4th and 5th joints, fortunately affected less commonly, are more difficult to treat. The option of excising the joints or inserting a spacer can be discussed. Fusion of the joints is an option but the risk of non-union is much higher.

What happens after the surgery?

The surgery is normally performed as a day case but occasionally patients do need to stay one to two nights in hospital for pain management or assistance with activities of daily living. A half-cast is applied in theatre to support the wound, which stays on for two weeks. Patients will need to be non-weight bearing for two weeks while the wound heals. They will see their surgeon or GP two weeks post-operatively for removal of sutures and change to either a below knee cast or fixed ankle boot. Normally patients can commence partial weight bearing using crutches for support two weeks post-operatively and progress to full weight bearing while wearing the boot or cast. They then see their surgeon ten to twelve weeks post-operatively with an x-ray of the foot to confirm the joints have fused. At this stage you will normally be allowed to commence walking independently.

What are the risks associated with a mid-foot fusion?

Occasionally, in less than 8% of cases, the joint do not fuse. This is five times more common in smokers. Some patients have no symptoms but some patients have ongoing pain and need to have a revision procedure. The risk of non-union is much higher in the 4th and 5th tarsometatarsal joints which is why surgeons try to avoid fusing these particular joints if at all possible.

The metalware used to stabilize the foot can be prominent as the swelling recedes. Occasionally they need to be removed. This is normally done

as a simple day case procedure.

There is a small risk of infection. Normally this is treated with antibiotics and very occasionally needs a wound debridement.

As the surgery stiffens the midfoot and subsequent movement of the foot and ankle is performed by the surrounding joints. There is a risk that these joints can 'wear out', in particular the neighbouring called the talonavicular and calcaneocuboid joints. In this instance a fusion of these joints may be required in the future. However, this is quite rare and patients normally tolerate a midfoot fusion quite well.

Swelling is very common after the surgery and can sometimes take several months, or even years, to settle. Elevating the foot and applying ice can help relieve symptoms.

There is a small risk of blood clots in the legs which can break off and travel to the lungs (pulmonary embolus). Very rarely, this can cause serious breathing problems and even more rarely, death. Medication can be given to thin the blood but these have a risk of causing bleeding which in itself can be problematic. The risk of blood clots needs to be discussed with each individual prior to surgery.

Research suggests that approximately 5% of cases do not heal in the exact position intended. Sometimes the toe can be elevated or slightly deviated to one side. An elevated toe can cause pressure on the ball of the foot ('metatarsalgia'). Rarely, revision surgery needs to be performed.

If you have any further questions please contact the surgery on the number below.

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