

Patient Information: Hind-Foot Fusion Surgery

What is hindfoot arthritis?

Arthritis is an umbrella term for a number of conditions that damage the cartilage in a normal joint. This can occur in any joint of the body although this is most common in joints that bear weight. Almost half of people in their 60s and 70s have arthritis of the foot and/or ankle. The level of symptoms can vary hugely.

There are many different types of arthritis. They can broadly be divided into mechanical or chemical. The most common type, osteoarthritis ('wear and tear arthritis') comes from damage to joint cartilage that comes with age or after injury. Sometimes a traumatic injury will result in arthritis in the injured joint even though the joint received proper medical care at the time of injury.

The cartilage can also be damaged by inflammatory arthritis. Types of these include rheumatoid arthritis, gout, lupus, ankylosing spondylitis, psoriatic arthritis and joint infection.

The result of hindfoot arthritis is inflammation, redness, swelling, stiffness and pain across the joints.



What is a fusion?

An arthrodesis (another name for fusion or stiffening) is an operation performed to remove a joint and make the two bones either side of that joint into one complete bone. It may be used to treat a joint that is affected by severe arthritis or to correct deformity.



Your body is tricked into treating the joint as it would a broken bone. The joint surface is removed and screws or other metalwork are passed across the joint to maintain the position while bone healing occurs. Bone then grows across the joint, fusing it solid.

Because we try and put it in an ideal position, walking and other activities are usually easier afterwards. The aim of this operation is to turn a stiff painful joint into a stiff joint with little symptoms. The operation is carried out only when all appropriate non-surgical measures have failed to control your pain.

Patient Information: Hind-Foot Fusion Surgery

What are the alternatives?

There are many non-surgical treatments of arthritis. For example:

- Anti-inflammatory and pain medication
- Injections, such as steroids are helpful for symptom control when delaying the need for surgery
- Restricting activity
- Orthoses (braces or insoles)
- Footwear adjustment, such as shoes with cushioning and boots that lace up above the ankle
- Walking aids, such as crutches or a walking stick

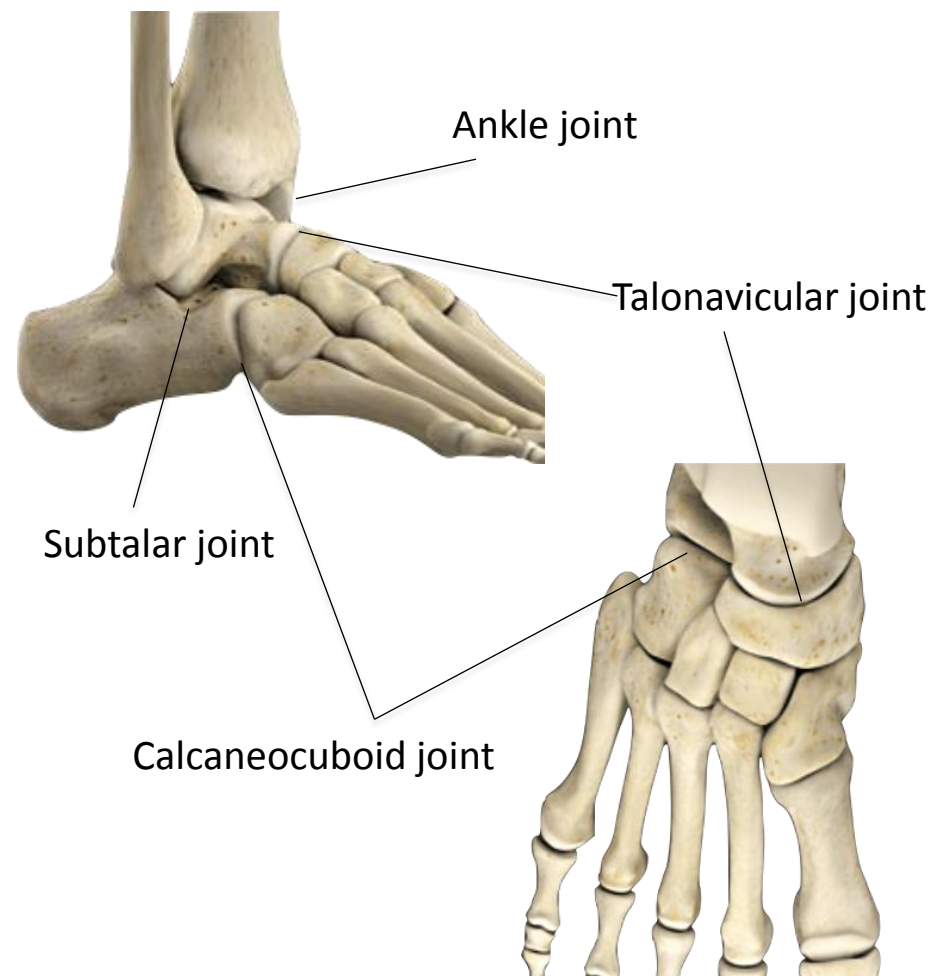
In early arthritis and in young patients, other surgical techniques may be preferable.

How is the operation performed?

This depends on the joint or joints that are fused. A subtalar fusion, between the talus (ankle bone) and calcaneus (heel bone), can be performed arthroscopically (keyhole) or open, and is fixed with screws.

A triple fusion, aims to fuse the subtalar, talonavicular (between talus and navicular) with or without the calcaneocuboid joint (between calcaneus and cuboid). This is usually done through 2 incisions on either side of the back of your foot, again fixed with plates and screws.

Finally, a tibio-talo-calcaneus fusion (between the tibia, talus and calcaneus) is usually performed through 2-3 incisions around the back of the foot and can be fixed with a combination of plates and screws, or a rod that goes inside the bone.



Patient Information: Hind-foot Fusion Surgery

What can I expect after the operation?

Following your operation you will remain in hospital for usually 1 to 2 days. When you arrive back on the ward from theatre your leg will be in a back slab (half plaster cast) from toe to knee and elevated to reduce swelling. Your foot should be numb due to the local anaesthetic block, which is given to reduce pain. This will gradually wear off over 24 hours and therefore it is important to start taking pain relief prior to the block wearing off.

A Physiotherapist will teach you how to walk with crutches without putting the leg to the ground (non weight bearing). You will be non-weight bearing for 2 weeks in this back-slab. At 2 weeks you will be seen by our specialist nurse who will remove your sutures and provide you with a complete non weight bearing cast. You will likely continue to need your crutches for the first 6 weeks. If radiographs taken at 6 weeks show good signs of healing, you will be placed in a walking boot for the following 6 weeks. At this point you will be able to begin massaging the scars and wiggling your toes.

What activities can I do?

You may return to sedentary work after 6 weeks. For those patients who do more manual work or whose work involves standing for long shifts, up to 3 months off work or longer may be required. You can

drive as long as the ankle is comfortable and you are out of the walking boot. It is imperative that you are safe making an emergency stop, and therefore practicing before embarking on a drive is wise. Return to driving may be possible earlier if the car is automatic and the left ankle has been operated on. More information available at www.dvla.gov.uk

According to the Department of Health flying should be avoided for 8 weeks after surgery. For further information see below: www.nhs.uk/chg/Pages/2615.aspx?CategoryID69

Patients usually express concerns with regards to the level of mobility/movement following a fusion. With a hindfoot fusion, the operation is designed to correct deformity, relieve pain and improve function. These three joints allow side to side movement below the ankle joint. Usually before the operation patients have little side-to-side movement and what they do have is painful. Fusing them will prevent almost all side to side movement but should make it a lot less painful.

Patient Information: Hind-foot Fusion Surgery

However, it is important to understand that these joints are often already very stiff when affected by arthritis or deformity.

Most patients with a successful arthrodesis are able to, for example, walk without a limp, cycle and play golf.

What are the risks of surgery?

Infection – The rate of superficial infection within our department is 1%, the majority of which will respond to oral antibiotics. The risk of deep infection is 1 in 500.

Metal work problems – Metal work rarely fails, however some screws can become prominent as the swelling resolves and can require their removal if they are troublesome.

Thrombosis – The risk of getting a clot in your leg following total hindfoot fusion is small. Blood thinning injections are usually required to reduce the risk. Some patients may be at an increased risk, and thus your surgeon will tailor the need for clot prevention therapy to yourself based on any noted risks.

We advise that you drink plenty of water and move around as much as is sensible to reduce the chances of a clot.

Please be vigilant for symptoms of thrombosis, including:

- Swelling – you will have some swelling due to the nature of the surgery but if you have any concerns please call for advice.
- Pain – new pains since the operation.
- Calf tenderness.
- Heat and redness compared to the other leg.
- Shortness of breath or chest pain when breathing in.

If any concerns regarding this, please seek medical attention urgently.

Nonunion (bone does not heal) – The nonunion rate increases with the complexity of the operation. In the literature subtalar joints have a nonunion rate of 0-20%. Subtalar fusions have a nonunion rate of up to 20%. Triple fusions report a nonunion rate up to 27% and tibio-talo-calcaneal fusions report a nonunion rate up to 45%. Factors that can increase nonunion include **SMOKING**, diabetes, rheumatoid disease and steroid use. We encourage all smoking to cease prior to surgery as this can increase complications over 16 times. Your surgeon will discuss with you what they believe your specific risk to be.

Patient Information: Hind-foot Fusion Surgery

Malunion – approximately 5-10% of fusions may heal in the wrong position. This is usually asymptomatic, but rarely may require further surgery.

Nerve injury – Partial or full loss of feeling in the distribution of the nerve passing close to the operative site can occur. In addition, neuromas can form causing painful scars.

Arthritis in other joints – The fusion of one joint increases the workload of other joints in the foot. This can cause these joints to wear out over time.

Complex regional pain syndrome - Some patients are susceptible to ongoing pain and swelling following surgery or injury to their feet (or other extremities). This is caused by an over activity of the nerves in the limb. Some studies have shown in the upper limb, the rate of onset can be reduced by taking normal over the counter Vitamin C starting the day of the operation.

Further Information

The figures for complications given in this leaflet have been taken from the most up to date publications on this subject (as of October 2014).

Other reading:

- The British Orthopaedic Foot Surgery Society web site is available at: <http://www.bofas.org.uk/PatientInformation.aspx> (accessed May 2014).

- Mirmiran, R et.al. Retrospective analysis of the rate and interval to union for joint arthrodesis for foot and ankle. J Foot Ankle Surg 2014;53:420-425.
- The foot and ankle hyperbook: www.foohyperbook.com (accessed May 2014).
- Mann, R. Coughlin, M. and Saltzman, C. Surgery of the Foot and Ankle 8th edition, Elsevier, Philadelphia. 2008
- Myerson, M. Foot and Ankle Disorders. Saunders, Philadelphia. 2000

What if I need to contact someone?

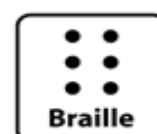
Fracture Clinic –

Tel: 0151 529 2554 (Monday – Friday)

Please leave a message on the answer machine stating your name and contact number and a member of staff will return your call.

Ward 17a – (always open for advice)

Tel: 0151 529 5311



If you require a special edition of this leaflet

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