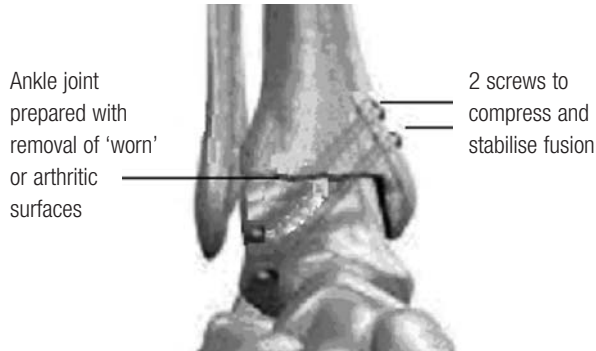


# Ankle Fusion



*The goal of this type of surgery is to glue together (fuse/arthrodesis) the painful and arthritic ankle joint.*

The joint will then be rigid and, in the majority of patients, no longer painful. This does reduce the normal movement by 60-70% although often the majority of this motion has already been lost due to the arthritic process which tends to gradually stiffen the joint. Walking pattern will be altered, but not usually noticeably on flat ground (walking pattern usually improves after this type of surgery due to the abolition of pain). Walking on slopes and stairs is different after ankle fusion and driving requires a different technique with pushing of the pedals using the leg rather than pushing them by bending the ankle.

In the majority of patients the surgery is performed via a 'keyhole' technique (arthroscopic fusion) which involves two small incisions (1cm) over the front of the ankle and two small incisions (2cm) over the inside of the ankle/leg. Through these keyholes, the joint can be visualised using fibre-optic technology and the joint surfaces prepared using mini instruments. Screws are then guided across the joint (using xray screening) fixing it in the desired position for fusion. Once the joint is fused the screws are redundant but are rarely removed.

Sometimes, if there is severe deformity a more traditional 'open' surgical technique has to be used with a 15 cm incision over the outer side of the ankle. The arthritic joint surfaces are excised (removed) and the joint fixed together with screws in a similar fashion. The operation takes approximately 1.5 hours.

## General Recovery Facts:

- You will be in a cast/removable boot for 3 months after surgery
- You will not be taking weight on the operated leg for ~6 weeks
- After six weeks you can partial weight bear (~ 40% body weight)
- Crutches/frame/walker required for 3 months
- There will be some persisting swelling for 6 months after surgery
- Your strength will continue to improve up to 9 months after surgery
- You can expect some soreness/aching for approximately 4 months after surgery
- Driving is usually not possible until 3 months post surgery unless surgery to left foot only and automatic vehicle.

## Alternatives to surgery

Your surgeon may have discussed the following with you:

- Oral analgesics (pain relieving medication)
- Activity modification (reducing activity which brings on symptoms)
- Custom orthotics (insoles)
- Modified footwear
- Ankle foot orthosis (AFO) - brace
- Steroid injection

## Main risks of Surgery

**Swelling** - initially the foot will be very swollen and needs elevating. The swelling will disperse over the following weeks and months but will still be apparent at 6-9 months.

**Infection** - this risk is very small with the arthroscopic type of surgery (~1%). Smoking increases this risk greatly. You will be given intravenous antibiotics to help prevention. However, keeping the foot elevated over the first 10 days helps reduce this risk. If there is an infection, it may resolve with a course of antibiotics but often results in failure of the fusion.

**Mal-position** - ideally, the ankle is fused in a position that allows optimum function and gives the best appearance. I take great efforts to judge the best position for the fusion at surgery, but as you are asleep and lying down, it is not always possible to achieve this 'best' position. If the position is not quite optimal following surgery, an insole will be sufficient treatment in most cases. Rarely is further surgery required.

**Non-union** - this is when the joint fails to fuse and bone has not grown across the joint. We won't know whether this is the case for 6-12 months. The risk of this is approximately 5%. Smoking increases this risk greatly. If a non union does occur and is painful, then further surgery is usually needed

**Nerve damage** - alongside the incision are two nerves - the superficial peroneal and the saphenous nerves. They supply sensation to the side and the top of the foot and toes. They may rarely become damaged during the surgery and this might leave a patch of numbness, either at the side of the foot or over the top of the foot and toes. This numbness may be temporary or permanent. There is approximately a <5% chance of this happening.

**CRPS** - This stands for complex regional pain syndrome. It occurs rarely (1%) in a severe form and is not properly understood. It is thought to be inflammation of the nerves in the foot and it can also follow an injury. We do not know why it occurs. It causes swelling, sensitivity of the skin, stiffness and pain. It is treatable but in its more severe form can take many months to recover.

**Deep Vein Thrombosis (DVT)** - This is a clot of blood in the deep veins of the leg. The risk of a clot occurring is reported as less than 1% after foot and ankle surgery which is generally substantially lower than after hip or knee surgery. Suspicion of DVT is raised if the leg becomes very swollen and painful. There are tests that can be performed to confirm / exclude the presence of a DVT. If confirmed, you will probably require treatment with a blood thinning agent (heparin preparation and / or warfarin). The main concern with regards a DVT is that rarely (<1:1000 chance with foot and ankle surgery) a piece of clot can break away in the leg and travel to the lungs which is much more serious and can be life-threatening. This is called a pulmonary embolus and signs of this include chest pain and shortness of breath.

Whilst in hospital following surgery it is likely that you will be treated with a blood thinning agent (LMWH - low molecular weight heparin injections) to minimise the risk of DVT/PE but this does not afford total protection and exercises to keep the toes and knee moving are advised, as well as remaining generally mobile. You are also likely to be fitted for a compression stocking to be worn on the unoperated leg after surgery.

*If you are concerned that the leg has become more swollen and painful (some swelling always occurs after surgery), or if you experience chest pain/shortness of breath, then you should contact the hospital, general practitioner, or accident and emergency department immediately.*

## Ankle Arthrodesis

# Post-Operative Course

### Day 1

- Below knee cast (backslab plaster) applied at end of surgery
- Expect some numbness in foot for 12-24 hours
- Pain medication and elevation of foot
- Blood drainage through cast expected

### Day 2

- An xray may be obtained
- Elevation of leg as much as possible for first 2 weeks
- Mobilisation non-weight bearing with physiotherapist (crutches / frame)
- Discharge home day 2 usually possible with arthroscopic fusion
- Discharge home day 3-4 usual with open fusion technique
- No weight bearing on operated leg for first 6 weeks

### 2 Weeks

- Outpatient review of wounds and removal stitches
- Application of new cast/removable boot
- May shower/bath if wounds healed
- Allowed to weight bear on operated leg when standing only
- No weight bearing on operated leg when walking for 6 weeks
- May return to driving at this stage ONLY IF left leg surgery only and automatic vehicle - otherwise unable to drive until 3 months post surgery

### 6 Weeks

- Outpatient review and allowed to partial weight bear in removable boot (~40% body weight)
- To remain in boot until 3 months following surgery
- Using crutches/frame until 3 months post surgery

### 12 weeks (3 months)

- Outpatient review with xray on arrival
- Usually the boot can be removed at this stage if xrays satisfactory
- Begin physiotherapy and rehabilitation program
- Gradually increase activity level as symptoms dictate
- May return to driving at this stage

### Sick Leave

In general 4 weeks off work is required for sedentary employment, 12 weeks for standing or walking work. We will provide a sick certificate for the first 2 weeks; further certificates can be obtained from your GP.

### Driving

IF have an AUTOMATIC VEHICLE and ONLY LEFT leg surgery then it is likely you will be allowed to drive after your outpatient review at 2 weeks post surgery. IF you have a MANUAL VEHICLE or RIGHT leg surgery then you will NOT be able to drive until 3 months post surgery.

*These notes are intended as a guide and some of the details may vary according to your individual surgery or because of special instructions from your surgeon.*

## sussexfoot&anklecentre

The Sussex Foot & Ankle Centre was founded in 2005 by two orthopaedic surgeons, David Redfern and Stephen Bendall, with the aim of providing a high quality specialist service for the diagnosis and treatment of all foot and ankle problems. Both orthopaedic surgeons are specialists in problems affecting the foot and ankle and have many years of experience. They operate the service with outpatient clinics at the Brighton and Haywards Heath Nuffield Hospitals.

The sussex foot and ankle center strives to provide the best advice and treatment for all foot and ankle problems. This includes sports injuries and trauma, bunions, metatarsalgia, and arthritis. Both surgeons have particular interests in minimally invasive surgery and are at the forefront of developing such techniques in this country.

Both surgeons are also academically very active and have appointments within the national (BOFAS) and international (EFAS) professional foot and ankle surgery societies.

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