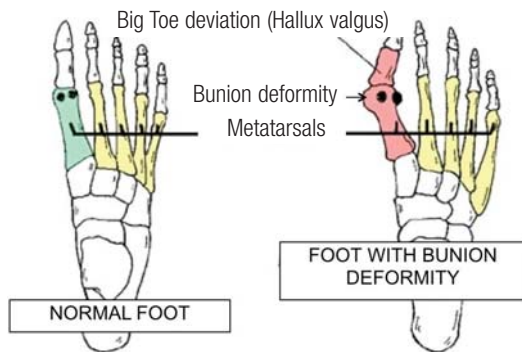


Minimally Invasive 'Keyhole' Bunion Correction Surgery (Hallux Valgus Correction)



A bunion is a bony prominence over the inner border of the foot at the base of the big toe (hallux) and usually associated with deviation of the big toe (hallux) in an outward direction (hallux valgus). There are several causes. Often there is a family history of bunions (most common). Footwear can also contribute to formation of a bunion. Occasionally a bunion can result from an injury or repetitive stress associated with some sports.

In themselves, bunions do not require surgery. The reason for undertaking an operation is to reduce pain by correcting the deformity. The decision to operate is therefore dependent upon whether the patient experiences painful symptoms and is only undertaken if careful choice of footwear cannot control the symptoms. In other words we do not perform the surgery purely for cosmetic reasons (as the risks of surgery do not justify this).

Details of the minimally invasive surgical technique

Your surgeon will make tiny "keyhole" incisions (approximately 3mm long) through which he will perform the operation. Usually only 5 of these tiny incisions are required. Through these, the tendons and ligaments holding the big toe in the deviated position are carefully released. The surgeon will then use a specialised high speed instrument (a burr) to cut the bones. The surgeon needs to be very experienced in bunion surgery techniques to be able to correctly position and align these cuts. The cuts are made under xray control using a specialised xray machine in theatre. Using various highly specialised instruments the surgeon can make different types of cut and realign the bones involved in the bunion deformity.

The surgeon will also be able to fix the bones in the desired (corrected) position with tiny specialised screws which are also inserted through keyholes using xray guidance. The screws are designed to sit flush to the surface of the bone and so do not cause irritation subsequently. The actual pattern of cuts and screw fixation is well proven in modern foot surgery techniques (Chevron cut and Akin cut). Thus, the advantages of this minimally invasive surgical technique are that the surgeon is performing established realignment surgery through tiny "keyholes". As a result, we expect that the advantages of stable and versatile modern bone cuts will be combined with the advantages of much less invasive surgical technique. Unlike traditional open surgery, no tourniquet is required for this minimally invasive surgery (tourniquet is a tight band placed on the thigh during surgery to stop bleeding).

At the end of the operation, stitches are not usually required. The surgeon will inject local anaesthetic around the ankle to make the foot feel comfortable after surgery. The foot is wrapped up in a dressing and bandages. The operation is performed as daycase surgery.



High speed 'pencil' burr used.



Specialised "driver" for the burr with controls for the surgeon to control the instruments direction of rotation, speed and torque.

Picture demonstrating the position of the foot for surgery with the xray machine providing the surgeons "vision".



Minimally Invasive Bunion Surgery

Alternatives to surgery

- To accept your symptoms and try and live with them. Sometimes the bunion becomes worse (they do not get better with time) but this is variable and severity of symptoms also varies from person to person.
- Splints - these may sometimes be helpful in trying to make the foot more comfortable but do NOT correct the deformity and most patients do not find these useful
- Careful choice of shoes. Most people do not have symptoms from their bunion when barefoot and so choosing a broad enough shoe often helps with controlling / reducing symptoms from a bunion.. Custom made shoes can be arranged. Shoes can also be stretched which can be helpful. Choice of shoes or their modification is important to try before considering going ahead with an operation (as it may give sufficient relief to avoid an operation).

General Recovery Facts

- Operation performed under general anaesthetic or regional anaesthetic
- You are able to walk on the heel of the foot the day of surgery
- You must wear your surgical shoe (heel wedge shoe) at all times
- You may not walk on the foot at all even in the house without this shoe
- You may not drive after the surgery for six weeks unless you have an automatic vehicle and only the left foot has undergone surgery
- The surgical shoe is worn for 6 weeks

Sick Leave

In general 2 weeks off work is required for sedentary employment, 6 weeks for standing or walking work and 6-8 weeks for manual/labour intensive 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 1 week post surgery.

IF you have a MANUAL VEHICLE or RIGHT leg surgery then you will NOT be able to drive until 4-6 weeks post surgery (discuss with your surgeon).

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.

Minimally Invasive Bunion Surgery Post-operative Course

Day 1

- Foot wrapped in bulky bandage and surgical shoe (heel wedge shoe)
- Start walking on the heel in surgical shoe only
- Elevate, take pain medication (usually very little pain)
- Expect numbness in foot 12-24 hours
- Blood drainage through bandage may occur - Do not change bandage
- Do not remove surgical shoe

Day 7

- Elevate the foot as much as possible and do not remove surgical shoe
- Patients do not usually require any pain medication by this stage
- Keep bandaging dry and do not remove (do not change dressing unless instructed)
- May drive with caution in surgical shoe ONLY IF surgery to left foot only and automatic vehicle (otherwise return to driving at 6-8 weeks post surgery)

10-14 Days

- Follow-up in the outpatients for wound review
- Application of toe alignment splint to maintain big toe position
- Alignment splint to be worn inside surgical shoe
- Usually encouraged to begin moving the big toe after 2 weeks post surgery (physiotherapy)
- Shower when incisions healed and dry

6-8 weeks

- Follow-up in the outpatients with xray on arrival
- Remove surgical shoe if satisfactory xray
- A regular shoe may be worn as comfort allows
- Do not undertake sports or wear high heeled shoes for a further 4 weeks
- Big toe (hallux) alignment splint also to be worn for further 4 weeks

Minimally Invasive Bunion Surgery

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 be apparent for up to 6-9 months.

Bleeding - There may be some bleeding into the dressings after surgery. This is normal and does not require the dressings to be changed. More bleeding than this is very rare.

Infection - This is the biggest risk with this type of surgery. Smoking increases the risk 16 times. You will be given intravenous antibiotics to help prevention. However, the best way to reduce your chances of acquiring an infection is to keep the foot elevated over the first 10 days. If there is an infection, it may resolve with a course of antibiotics.

Wound problems - Sometimes the wounds can be slower to heal and this does not usually cause a problem but needs to be closely observed for any infection occurring. Occasionally a small burn can occur at the incision where the burr has over heated the skin touching it. This is rare but if it does occur, will take longer to heal and may leave more of a scar.

Scar sensitivity - The scars can be quite sensitive following surgery but this usually subsides without treatment. If persistent sensitivity occurs then this can be treated.

Nerve Injury - The risk of the small nerves in the area being directly injured by the surgeon is approximately 1%. However, the nerves can become bruised by the surgery as a result of the swelling (10%). Whilst this usually recovers, you could end up with some permanent numbness over the big toe area, which might cause irritation.

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.

Delayed and non union - This is when the bones fail to join and bone has not grown across the cut bone. If this is painful then further surgery may be needed. The risk of this is approximately 10%.

Deep Vein Thrombosis (DVT) - This is a clot in the deep veins of the leg and the risk of this occurring following foot and ankle surgery is low (generally < 1%). The fact that you are mobile after surgery and able to take weight through the heel of the operated foot helps to minimise this small risk. However, it is sensible to try and move the toes and the ankle regularly following the surgery and probably also sensible to avoid a long-

haul flight in the first 4 weeks following surgery. If a deep vein thrombosis (DVT) occurs then you will require treatment with heparin and Warfarin to try and prevent any of the clot travelling to the lungs (pulmonary embolus / PE) which can be much more serious).

Stiffness - The big toe joint is almost always more stiff following this surgery because of the scar tissue that forms. The stiffness can be minimised by beginning to move the big toe after 2 weeks from surgery and your surgeon will advise you regarding this. Most of the movement usually returns but some stiffness may remain permanently.

Transfer Metatarsalgia - This is very unusual using modern surgical techniques but there is a small possibility that by correcting the bunion and toe alignment, the 2nd or 3rd toe metatarsal bones can begin to take too much of body weight when walking. If this happens then it can cause discomfort. This might need treatment with an inner sole or occasionally may require more surgery.

Continuing symptoms - Most people (90%) are very happy with the results of their bunion surgery but you can appreciate that if some of the above problems occur then this may affect the end result. Occasionally the bunion may recur although not usually to the same degree. This is more likely in patients who have more lax ligaments in their feet. If there is a recurrence then you don't necessarily require any further surgery - this will depend upon your symptoms.

Sick Leave

In general 2 weeks off work is required for sedentary employment, 6 weeks for work involving standing or walking, and 8 weeks for manual labour work. We will provide a sick certificate for the first 2 weeks; further notes can be obtained from your GP.

Driving

May return to driving after outpatient review at 2 weeks post surgery ONLY IF left leg surgery only and automatic vehicle - otherwise unable to drive until 6 weeks 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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