

A patient's guide to

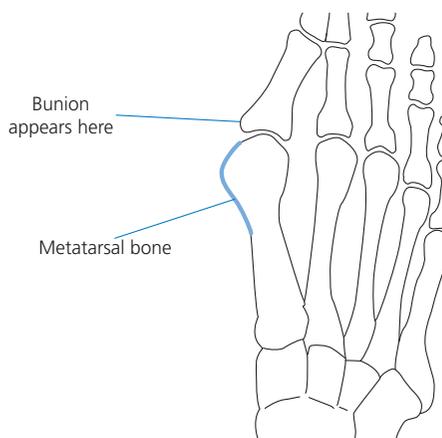
bunions (hallux valgus) and lesser toe deformities

The foot and ankle unit at the Royal National Orthopaedic Hospital (RNOH) is a multi-disciplinary team. The team consists of three specialist orthopaedic foot and ankle consultant surgeons (Mr Singh, Mr Cullen and Mr Goldberg), specialist doctors in training, a clinical nurse specialist, orthotist, physiotherapists and a physician assistant. All team members are specialists in foot and ankle care and work together to provide and deliver a quality service.

What do hallux valgus and bunion mean?

Hallux is Latin for great toe and valgus is the Latin term for turning outwards. As the big toe drifts towards the second toe, a lump (bunion) appears at the base of the big toe. It is not usually due to extra bone formation, but due to the bone of the first metatarsal becoming prominent. Simple removal of the bunion (bunionectomy) is not a successful operation and osteotomies (see later) are usually required.

A bunion may be painful in itself but what is more common is further pain caused by pressure from shoes over the prominent area. This results in inflammation and increased pain.



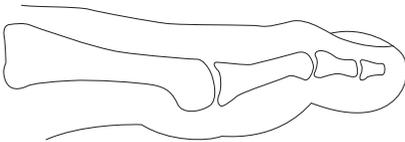
Lesser toe deformities

Various names (claw toe, hammer toe, mallet toe, curly toe) are used to describe the deformed lesser toes (smaller toes); they often develop as a result of a bunion deformity but can also occur without a bunion. The second toe is most commonly affected. Painful callosities cause pain, difficulty finding shoes and difficulty walking. With time, a flexible deformed toe may become a stiff deformed toe.

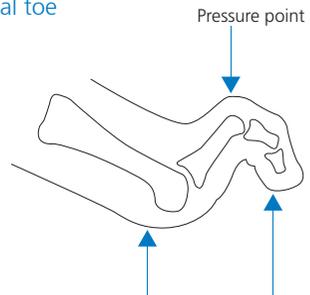
The joints at the base of the toes (metatarsophalangeal) may become inflamed and may displace, leading to problems with pain under the metatarsal heads in the ball of the foot.

The diagram below illustrates the normal toe and abnormal lesser toe.

Normal toe



Abnormal toe



Common causes of bunions and lesser toe deformities

It is not entirely certain what causes a bunion and/or lesser toe deformities to develop. However, they may be inherited, or may be acquired due to muscle imbalance. Inappropriate footwear is not usually the cause of the deformity but may contribute in susceptible individuals.

Tight shoes do however cause pain and redness over prominent bony areas. Generalised ligament laxity, abnormal foot mechanics and tight Achilles tendons may also contribute.

Treatment of bunions and lesser toe deformities

Assessment – medical evaluation will determine the type of treatment that will be most appropriate for you. Osteoarthritis and rheumatoid arthritis, along with infection and/or gout, can all cause pain in the big toe and forefoot. Circulatory conditions or diabetes may also be present. These conditions may have an impact on the method of treatment that your surgeon provides.

Non surgical – small changes in mild bunions and lesser toe deformities are best treated with modified footwear. It is possible to manage conditions affecting the forefoot by adapting your footwear and wearing shoes with a wide front and a deep toe box. Some bunions may be the result of collapsed arches. This may be resolved by providing you with arch supports.

Calluses that develop under the big toe and/or lesser toe(s) may become large and uncomfortable. These can be shaved down. Pads made of silicone and other materials can be used to cushion prominent or tender areas. Corns on the lesser toes can be protected using foam tubing, or the tips of the toe(s) can be elevated with the use of soft splints.

Surgery should only be considered if all non-surgical measures have been explored and if symptoms are significant. Bunion and/or lesser toe surgery is not just a cosmetic procedure and you could be swapping a deformed **PAINLESS** foot for a **PAINFUL** cosmetically pleasing foot.

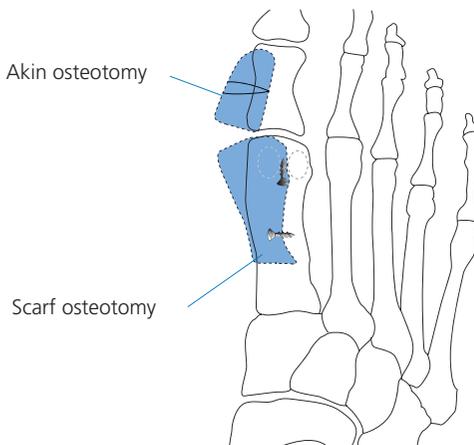
Greater understanding of the many complex components of hallux valgus and lesser toe deformities has led to more patient-specific surgery. Fixation with screws has significantly decreased pain in the post-operative period. Patients no longer need to be in a plaster cast for six weeks following surgery and can mobilise straight away in a wedge shoe.

Surgery can be performed as a day case either under general anaesthesia (asleep) or under a regional ankle block (awake); the anaesthetist will discuss this with you. You may be able to go home on the same day as your surgery but sometimes it is necessary to stay a night in hospital. This will depend upon your general health and how quickly you recover from the operation. You will be advised of the most suitable choice for you.

Surgical (bunion) – this involves a procedure called an osteotomy, meaning bone cut. There are many variations on the choice of osteotomy carried out, but modern forefoot surgery usually involves the procedure known as a scarf osteotomy. An incision (cut) is made along the inside

of the bunion. The bone cut is made in the first metatarsal and the fragments are displaced into a more normal position. The bone is held in position by two small surgical screws. The screws are buried in the bone so usually they do not need to be removed. The fix is stable and there is usually no need for a plaster cast post-operatively. The bony protrusion (bump) is trimmed at the same time as the cut is made. The soft tissues attaching to the outside of the big toe are often tight and may be released to allow correction of the toe. This may be done through a small second incision on top of the foot.

A further procedure known as an **akin osteotomy** may be carried out on the big toe (phalanx) at the same time. This involves removing a wedge of bone from the big toe; the aim of this is to achieve a better correction of the sideways deviation of the big toe. The bone is fixed in position using a staple or stitch.



Surgical (lesser toe) – procedures for conditions affecting the lesser toes vary according to the exact type of deformity. Soft tissue procedures such as tendon release (tenotomy) and tendon transfers are usually sufficient for flexible deformity. Fixed deformities are usually treated by operations on the bone around the deformed joint, for example, an interphalangeal arthrodesis is performed by removing a small sliver of bone from each side of the joint and fixing it with a fine wire called a Kirschner wire (K wire). The wire protrudes from the end of the toe and is removed between four to six weeks in clinic, (when the two bone ends have begun to join). Removal of the K wire is relatively painless and does not require an anaesthetic.

The metatarsophalangeal joint is the joint between the foot and the toe. This sometimes needs to be corrected to allow the toe to sit properly. Your surgeon can often do this by releasing the tight tendon and some soft tissue on the back of the foot. Occasionally a weil's osteotomy (a cut in the metatarsal bone, allowing a little shortening) is needed to allow the joint to be stable. The bone is fixed using a small screw. The toe(s) may be swollen for many weeks following the surgery. Strength usually returns to the toe(s) at approximately six weeks following the operation.

Benefits of surgery

The **purpose/benefits of this surgery** are to straighten the toe(s), narrow the forefoot and correct deformity in order to reduce pain. The exact procedures performed are individualised for each patient and the benefits also vary.

Important post-operative advice

Wound site – you will have stitches with a dressing covering the wounds. A padded bandage will be in place. If you have undergone surgery to correct deformities of the lesser toes, you may also have K wire(s) protruding from the toe(s). If you need to walk, you will take your weight through your heel.

It is extremely important to keep the affected foot elevated above groin level as much as possible for the first two weeks following your operation.

This is important to avoid swelling and help wound healing. You will find that when your foot is lowered it will throb and swell. This results in elevated levels of pain. Pain relief will be prescribed by your doctor. The wounds should be kept clean and dry until they are fully healed.

A special shoe – a wedge shoe will usually be provided for you to wear following your operation. The shoe is designed so that all weight is taken through the rear of the foot. This shoe should be worn for six weeks after your surgery. Crutches will be provided and instructions on the safe use of them will be given to you by the physiotherapist. You should be able to walk and will be shown how to manage stairs. You can gradually increase your walking distance.

You will be shown exercises – the clinical nurse specialist will instruct you how to move the affected foot and ankle. Failure to comply with the

exercises increases the risk of developing stiffness of the big toe after surgery. Patients are encouraged to move the toe after a scarf osteotomy or a weil osteotomy but may be advised not to move the toes after some other types of surgery. Your team will provide further guidance.

An appointment – you will be given an outpatient appointment two weeks following your procedure. The bandage will be removed and your wound site will be inspected and sutures removed at this visit.

Bunion surgery – if you have undergone surgery to correct bunions and the wounds are sufficiently healed (following your review at two weeks), then it will be possible to bathe. If wounds have not healed, then the area must be kept dry.

Lesser toe surgery – you may have K wires in place. These wires will remain for a total of four to six weeks. They will be covered with a light protective dressing. The purpose of this dressing is not only to protect from infection, but, for example, to prevent the wires from catching on clothing or bed sheets. The pin site(s) will be inspected and cleaned at your two week follow-up outpatient appointment. The area will be re-dressed and the wires will remain in place for a further four weeks. It is essential that you keep the wires dry and covered until they are removed and that the site(s) are completely healed before you submerge your foot in water.

Returning to work – this depends on your individual circumstances and your type of employment. If you have a sedentary type of employment and are able to elevate your affected foot, then you may return to work from two weeks following the surgery but it may take three months for someone to return to a physically demanding job.

Driving – if surgery is undertaken on your left foot and you have an automatic car, you can usually drive at around three weeks following your operation. Otherwise, you should be able to drive within six to eight weeks. You must be able to perform an emergency stop. You should notify your insurance company of the type of procedure that you have undergone to ensure that cover is valid.

Sport – you can usually return to sport between three to six months from the date of operation; recreational walking or light sporting activities may be resumed earlier.

Possible complications of surgery

Modern forefoot surgery has a success rate of more than 90% but, as with all surgery, complications can occur. You should not contemplate surgery for cosmetic reasons only.

Recurrence of the deformity – this happens very rarely and further surgery may be required.

Over correction – this again happens very rarely and may require further surgery.

Infection – this can sometimes occur in a small percentage of patients. If this is the case, it is possible that further surgery may be required to remove infected bone or screws. Minor infections normally settle after a short course of antibiotics.

Numbness and tingling – this can occur at the surgical site, as a result of minor nerve damage. Numbness or sensitised areas are usually temporary but may be permanent.

Non union – the bones occasionally fail to unite (join). If you smoke, your risk of non union or major complications are greatly increased. It is essential that you stop smoking before surgery and refrain from smoking until all bones have healed.

Screws – occasionally, screws become prominent. These may be removed at a later stage.

Scarring – any type of surgery will leave a scar. Occasionally this causes pain and irritation.

Stiffness – stiffness and pain in the toe(s) can occur following surgery.

Pressure transfer – a callous can develop under the second toe, which is caused by transferring weight to the second toe (this applies to bunion surgery only).

Blood clots – a deep vein thrombosis (D.V.T.) or pulmonary embolus (P.E.) is rare. Please inform the team if you have had a D.V.T. or P.E. before, or if you have a family history of clotting disorders.

You will be given anti embolic stockings to wear on your legs.

REPORT SEVERE PAIN, MASSIVE SWELLING, EXCESSIVE NUMBNESS OR PINS AND NEEDLES.

If you have any comments about this leaflet or would like it translated into another language/large print, please contact the Clinical Governance Department on 020 8909 5439/5717.

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