

WHAT DO HALLUX VALGUS AND BUNION MEAN?

Hallux is Latin for great toe and Valgus is Latin meaning 'to turn outwards'. As the great 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. Hence, simple removal of the bunion (bunionectomy) is not in itself 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

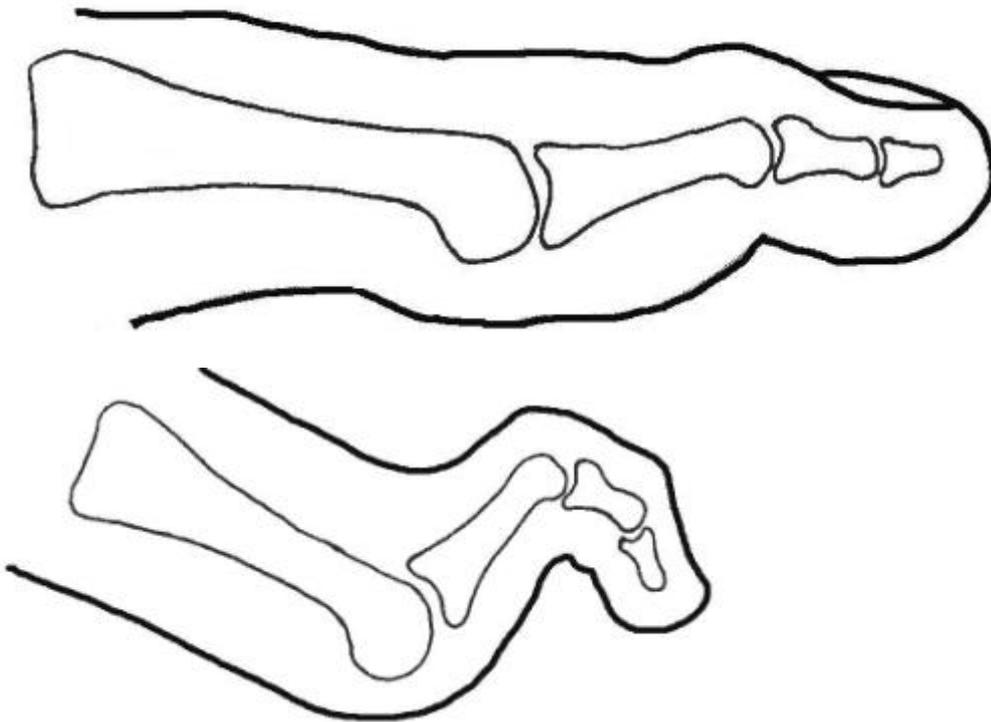
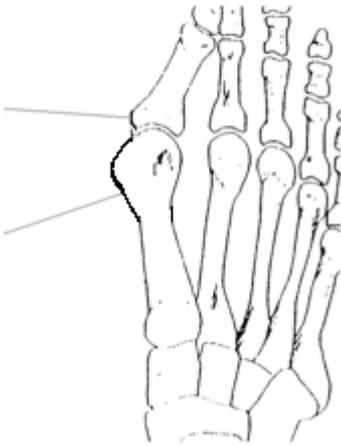
Various names (claw toe, hammer toe, mallet toe, curly toe) are used to describe the deformed lesser toes (smaller toes); they often develop as a result of a bunion deformity but can also occur without a bunion. The 2nd toe is most commonly affected. Painful callosities cause pain, difficulty finding shoes and difficulty walking. With time, a flexible deformed toe may become a stiff deformed toe.

The metatarsophalangeal joints at the base of the toes 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 pressure point

pressure points

A Bunion



COMMON CAUSES OF BUNIONS & 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 muscles 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 ligamentous laxity,

abnormal foot mechanics and tight Achilles tendons may also contribute.

TREATMENT OF BUNIONS & 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. Callosities 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 a cosmetic procedure and you must be aware that you may 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 6 weeks following surgery and can mobilise straight away in a wedge shoe. Surgery can be performed as a day case (does not involve an over night stay in hospital) either under a general anaesthesia (asleep) or under a regional ankle block (awake); the anaesthetist will discuss this with you. You may be able to go home following your surgery the same day. 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 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 do not need to be removed. The 'fix' is stable and there is usually no need for a plaster of paris 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.

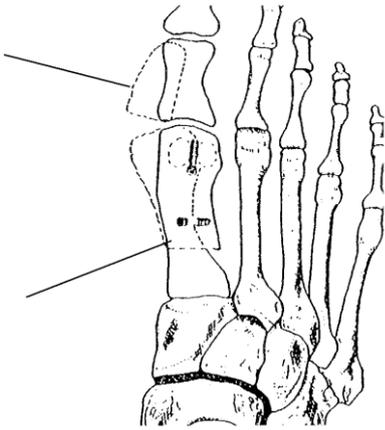
A further procedure known as an **Akin Osteotomy** may be carried out on the big toe (phalanx) at the same time. This involves removing a wedge of bone from the big toe; the aim of this is to achieve a better correction of the sideways deviation of the big toe. The bone is 'fixed' in position using a 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 at between 4 to 6 weeks in clinic, (when the two bone ends have begun to unite/join) - removal of the K wire is relatively painless and does not require an anaesthetic.

The MTP joint (metatarsalphalangeal joint) is the joint between the foot and the toe. This sometimes needs to be corrected as well 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 screws. 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 is to address any underlying condition, straighten the toe/toes, narrow the forefoot and correct deformity in order to reduce pain. The exact procedures performed are individualised for each patient; the exact benefits also vary.



IMPORTANT POST OPERATIVE ADVICE

Wound site – you will either have stitches or steri strips 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. However, 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. **Ensure that you take prescribed pain relief accordingly.** The wounds should be kept clean and dry until they are fully healed.

A special shoe – called a ‘wedge’ shoe will usually be provided for you to wear following your operation. The shoe is designed to take the weight off the front of your foot so that all weight is taken through the rear of the foot. This shoe should usually be worn for 6 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 to the toilet and will be shown how to manage stairs. You can gradually increase your walking distance.

You will be shown exercises – The physiotherapist 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. Check with your surgeon.**

An appointment – You will be given an outpatient department appointment two weeks following your procedure. The bandage will be removed and your

wound site will be inspected at this visit.

Bunion surgery – If you have undergone surgery to correct bunions and the wounds are sufficiently healed (following review at 2 weeks) then it will be possible to bathe. If wounds have still 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 4 to 6 weeks. They will be covered with a light protective dressing. The purpose of this dressing is not only to protect bugs from entering or tracking through the pin sites, but to also prevent the wires from catching on clothing or bed sheets etc... At your 2 week follow up out patient appointment the pin site(s) will be inspected and cleaned. The area will be re-dressed and the wires will remain in place for a further 2 to 4 weeks. It is **extremely important 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 there are provisions for you to elevate the affected foot then you may resume work from 2 weeks following the

procedure but it may take 3 months for someone to return to a physically demanding job.

Driving – if surgery is to your left foot and you have an automatic car you can usually drive at around 3 weeks following your operation. Otherwise, it should take 6 to 8 weeks. You **must** be able to perform an emergency stop. **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 sports 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 over 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 necessitate further surgery.

Infection – An infection 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 are slightly more common and normally settle after a short course of antibiotics.

Numbness and tingling – This occurs at the surgical site, as a result of minor nerve damage. Numbness or sensitised areas are usually temporary but may, however, 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 therefore essential that you stop smoking before surgery and refrain from smoking until all bones have healed.

Screws – Occasionally, prominent screws 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 callosity can develop under the second toe caused by weight transfer to the second toe (this applies to bunion surgery only).

Blood clots – A deep vein thrombosis (DVT) or Pulmonary Embolus (PE) is rare. Please inform the team if you have had a DVT or PE before, or if you have a family history of clotting disorders.

REPORT SEVERE PAIN, MASSIVE SWELLING, EXCESSIVE NUMBNESS OR PINS AND NEEDLES TO YOUR GP OR TO US.