Common Lesser Toe Problems - Surgical Options

Claw, Hammer and Mallet Toes

Claw, hammer and mallet toes all involve a degree of contracture (stiffness and "deformity") of the joints of the involved toe. The cause is not always clear. It may result from dysfunction of the small muscles of the foot, an associated deformity of the big toe (e.g. crowding with a bunion deformity), by forcing the toes into shoes that are too small, trauma or hereditary factors. The joints involved become prominent and painful rubbing over the top of the toes occurs with shoe-wear. In many cases these toes cause no problem at all, however this is not always the case.

Corns are thickened skin caused by friction between bony prominences or bone & the shoe. Friction between the shoe and a bony prominence causes the skin to thicken and form a corn or a callosity (occasionally even an ulcer) on the knuckle of the toe or at its tip. The bony prominence is usually caused by a contracture of one of the toe knuckle joints. Occasionally the affected toe may cross over or under neighbouring toes, which can cause the problem. An associated contracture of the more proximal metatarso-phalangeal joint will result in a prominence of the metatarsal head on the sole of the foot with callosity forming beneath the metatarsal head (ball of the foot). Sometimes the bony prominences or condyles of the toes simply become prominent rather than the joints being contracted (bent). They may rub on each other or on the shoe. When rubbed by the shoe the callous formed is "hard" but when toes rub together the skin often macerates and causes an extremely painful "soft corn" or ulcer.

Most toes with contractures and corns can be managed without surgery. Appearance is not a reason to operate

Many people suffer only minor complaints, and not all need aggressive treatment. Furthermore sometimes a very simple modification of shoes can be of tremendous benefit. Primarily, this means ensuring that there is enough room in the toe box of the shoe. Further help may be gained by the use of simple pads (usually silicone sleeves are the best) and the use of simple abrasion of the callosities on a regular basis. These techniques do not always work and particularly if there is recurrent ulceration then operative intervention may be required.

Often a combination of procedures is required - similarly deformity of the great toe needs to be corrected to reduce both crowding & hence allowing a lasting result. There are a number of surgical options used to correct lesser toe problems. Each addresses a different underlying cause for the toe problem and for this reason they may be used in various combinations.

What follows is simply an overview of a few of the more frequently performed operations. In any case it is important that if there is a significant deformity of the foot contributing to lesser toe pathology (most frequently hallux valgus - a bunion causing crowding & increased stress), this needs to be addressed simultaneously. If a significant underlying cause for deformity remains, a recurrence is likely.

Extensor tendon lengthening

This operation is often performed in association with other surgery and is performed under a local anaesthetic ankle block. A dorsal (on the top of the foot) forefoot incision is made over the tendon at the base of the affected toe. The tendon is lengthened and the tendon is sutured in the lengthened position.
Joint release or inter-phalangeal arthrodesis.

Depending on the severity of the contracture of the toe joint several treatment options are available. For less severe deformities a simple release of tight structures (usually ligaments and capsule of the contracted joint) and temporary pinning of the toe will straighten the toe preserving some motion at this joint and maintaining toe length.

For more severe deformities a fusion of the interphalangeal joints of the toes is performed. In this procedure the knuckle joint is actually excised. This allows for the toe to be safely straightened without subjecting the toe arteries to excessive tension, which may compromise the blood supply of the toe.

Either procedure is performed through the dorsum (top) of the toe. A stainless steel wire is used to pin the toe straight and protrudes from the end of the toe for a period of 4 to 6 weeks. At the end of this time the wire is simply removed in the clinic.

Weil Osteotomy

This procedure allows for realignment and shortening of a metatarsal bone. Often it is used to help relocate a metatarso-phalangeal joint, which is either subluxed or dislocated (out of joint). Typically an extensor tendon lengthening is needed as well. The joint is then opened through the same incision and often the capsule / ligaments are released. Once realignment is achieved the toe is plantar flexed (pushed downward) exposing the metatarsal head. A very fine saw is then used to cut the metatarsal approximately parallel with the sole of the foot. The metatarsal head then allowed to slide and hence, shorten. The osteotomy (bone) is fixed rigidly with a screw, This gives a stable osteotomy and the patient is able to walk on the foot in a rigid soled post operative shoe immediately after the surgery. The osteotomy takes approximately 6 weeks to heal and during this time the postoperative shoe must be worn at all times while walking.

PERI-OPERATIVE PROGRESSION AND POTENTIAL PROBLEMS

Surgery is typically performed under ankle block as a day case procedure. Lesser toe surgery is routinely performed under a local anaesthetic ankle block. In combination with a rigid sole post-operative shoe the patient is usually able to walk on the operative foot immediately after the operation. The first five to ten days should be spent with the foot elevated for most of the time to decrease swelling and pain. Sutures are generally removed approximately 2 weeks after surgery at the first postoperative visit. When K-wires are used for temporary fixation their removal is typically straightforward, and is very similar to removal of sutures as far as the patient is concerned.

Recovery varies, taking longer with more extensive procedures & can take up to one year.

After the immediate postoperative phase walking becomes progressively easier. Recovery very varies according to the extent of the procedure and from person to person. Usually the postoperative shoe is required for a period of between four to six weeks after the operation. After this time capacious shoes can usually be worn for a further four to six weeks. Postoperative ache, stiffness and swelling usually settle over 3 months although some symptoms persist for six to twelve months. Lesser toe surgery is by no means "small" surgery. At about one year, approximately one in ten lesser toes requires further surgical adjustment.

Most patients can expect lasting improvement with surgery but some are made worse. Although most patients report a successful outcome following lesser toe surgery not all patients are happy following surgery. Common problems that may be encountered include persistent toe swelling and stiffness and in some patients, persistent pain. Other potential problems include infection, delayed wound healing, nerve injury (e.g. numbness, irritation or tingling) and recurrence of deformity. Occasionally bone healing is delayed, fails or is poorly positioned. Recurrence of deformity may require revision surgery. Although rare, vascular compromise of the toe can occur especially when correction of severe deformities is undertaken. This can result in partial or even complete loss of the toe.

However, most patient’s expereience is that this surgery alleviates pain and allows for easier fitting of shoewear.