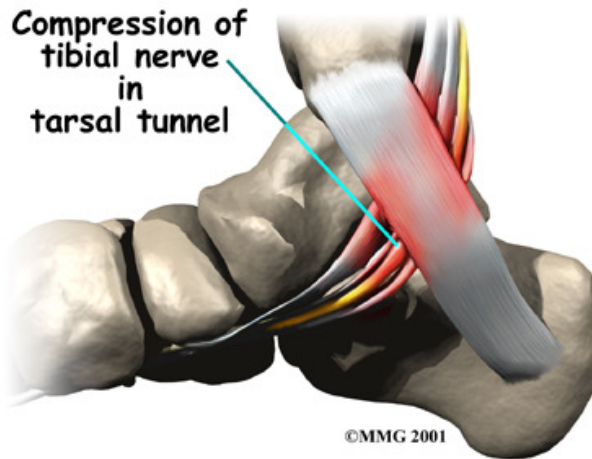


## **About Tarsal Tunnel Syndrome and Your Operation**

**P10**



### **Tarsal Tunnel Syndrome**

The condition was first described by Keck and Lam in 1962 and pertained to nerve entrapment within the tarsal tunnel on the inside of the ankle between the ankle bone (malleolus) and back of the heel (see diagram above). Tarsal tunnel syndrome is the sister condition to “carpal tunnel syndrome seen in the wrist, however, “allegedly” far less common (Laing, 1995).

The following symptoms are noted in tarsal tunnel syndrome:

- Burning pain along the arch and plantar aspect (sole) of the foot
- Plantar anaesthesia or paraesthesia (reduced or altered sensation +/- “pins & needles”)
- Sharp electric type pain along the sole of the foot
- Radiating and or burning pain on the “ball” of the feet, sometimes travelling up the leg
- Painful cramps in the foot
- Localized heel pain (often confused with plantar fasciitis)
- Hot burning night pains and or night cramps disturbing the sleep
- Intrinsic muscle fasciculation / atrophy (twitching / wasting)
- Higher incidence of other site compression e.g. Morton’s neuroma; carpal tunnel syndrome)

Occasionally it can be associated with the following conditions:

- Referred pain from proximal pathology e.g. lumbar radiculopathy (referred back pain)
- Secondary compression of the nerves from a “space occupying lesion” e.g. Schwannoma, lipoma, varicose vein compression
- Systemic disease e.g. diabetes, hyperthyroidism, Rheumatoid arthritis, renal disease.

It may also be associated with abnormal biomechanics of the foot:



Out-turned or “valgus”  
heel position

### **Conservative (non-surgical) Treatment (evidence base not available)**

Insoles (orthoses): may be helpful where abnormal biomechanics is increasing traction on the nerve structures and / or decreasing the volume in the tarsal tunnel.

Corticosteroid and local anaesthetic nerve injections. Anecdotally we estimate improvement in symptoms in a round 50% of cases. Some patients may get complete relief of symptoms.

Oral medication such as gabapentin and pregabalin may improve symptoms in peripheral neuropathic (nerve) pain

Capsicum cream: can be prescribed by your GP; used for diabetic neuropathy, but could be helpful in TTS

Physiotherapy; may be helpful e.g. deep-tissue mobilization; ultrasound and or low level laser treatment.

### **The Surgery**

Involves a “lazy S” incision over the inside (medial) ankle region over the tarsal tunnel. The “roof” of the tarsal tunnel (flexor retinaculum – sometimes called the lacunate ligament) is first released. Next, the neurovascular bundle containing the tibial nerve, artery and veins is identified and the nerve is chased along its length and freed of all soft-tissue structures that may be compressing against it. 4 main branches are primarily released: the tibial nerve, calcaneal nerve and the medial and lateral plantar nerves. The skin is closed without deep sutures (stitches) so as to avoid re-compressing the nerves. The procedure takes around 45 minutes as is undertaken utilising ocular loupes (eye magnification). You will not be able to weight-bear on the operated limb for 2-weeks with a large compressive bandage. You should commence ankle rolls to mobilize the nerve and reduce nerve tethering (deep scarring), after 7-days. Sutures may be absorbable or removable, in which case they are usually taken out 14-21 days post surgery. An ankle brace to compress and reduce the swelling with a compressive bandage is used until the swelling starts to significantly reduce. We estimate a good surgical result occurs in 7 out of 10 cases.

## Common to all procedures:

Infection, (approximately 2% risk). The vast majority of these are soft-tissue infections, treatable by antibiotic tablets as an outpatient. Bone infections are very uncommon, but would require hospital admittance for treatment.

Severe pain only occurs in around 7% of cases in the first 24 hour period. We use a combination of local anaesthetic techniques and compound analgesics, which is usually very effective. Rarely, patients can develop Complex Regional Pain Syndrome (cause unknown), requiring specialist treatment at a pain clinic.

Swelling is common to all surgery and may take 6-months or longer to reduce.

Vein clots can occur with any lower limb surgery, but in our practice they are seen in less than 1 in 200 cases (compared with general orthopaedics where the occurrence is reported as high as 4 out of 10 cases). Vein clots, or Deep Vein Thrombosis (DVT), is more common in elderly patients, diabetics, obese patients and patients where two or more immediate family members have suffered DVT, stroke or heart attack.

Unightly / painful scarring (hypertrophic or keloid) is more common in Afro-Caribbean; Middle and far-Eastern skin-types. Scarring can be reduced by starting to use – 2 weeks after surgery – Boots scar reduction pads (£19.99) and also using an emollient cream at 4 weeks onwards, massaged into and across the scar. At 6 weeks following surgery, you may wish to use a hydrocortisone cream to massage *vigorously* along the scarline twice a day for 2-weeks e.g. HC45 cream.

## Specific considerations and complications:

Loss of sensation, usually partial reduction, could be more extensive. Either permanent or temporary, can take 3-12 months to recover.

Continuation or worsening of symptoms (no figure available)

**Recurrence or failure of surgery: there is no absolute guarantee that your surgery will be a success. Usually we talk in terms of percentage improvement. The problem/s that you have means your foot is no longer normal. It is certainly not normal to have surgery and therefore your foot cannot ever be normal again. Your Consultant has performed over 8000 foot and ankle procedures, and it is our hope that these experiences and skills will help to rectify your current foot problems. Occasionally, patients do not do well from surgery, for a variety of reasons, often outside of the control of the surgeon or the patient. Very rarely a patient may be left worse off after surgery; although this is extremely uncommon. In these cases further (revision) surgery may prove necessary.**

**Please return this slip, signed on the day of your procedure.**

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**Declaration: I have read and understood all the information in this leaflet (P10)**

Date: \_\_\_/\_\_\_/\_\_\_\_\_

Full name: \_\_\_\_\_ Signature: \_\_\_\_\_

Patient

Parent

Guardian