

# Morton's Neuroma

(Plantar Neuroma of the forefoot)

A Morton's Neuroma is a neurofibrous swelling around the fine nerve that runs between two knuckle bones of the foot (Metatarsals). The nerve itself runs on to supply sensation to the neighbouring toes.



- The Morton's neuroma is a non-sinister (benign) lesion that should not cause undue worry.

- It's exact cause is not clear and it is rarely seen in isolation. It is thought to be a consequence of other more subtle problems causing general forefoot pain (Metatarsalgia).

- They are commonest between toes 3 and 4 (85%) but can be seen between toes 2 and 3 (15%)

## What symptoms does it cause?

- Forefoot pain of a dull ache in nature, usually after walking or exercise.
- Nerve pain symptoms to the associated toes
  - Pins and needles
  - Altered sensation
  - Sharp 'electric shock' like pains
- Pain when wearing enclosed shoes that improves when barefoot

## How are they diagnosed?

- The symptoms themselves along with clinical examination are often sufficient to make the diagnosis and begin treatment.
- **Standing X-rays** -
  - Help identify contributing causes of the pain
- **Ultrasound Scan** -
  - Identifies and sizes the lesion along with looking for alternative causes in the area of the toe joints or local inflamed tissue (Bursiitis)

- **MRI Scan**
  - Identifies and sizes the lesion and can look for further afield causes if any doubt from symptoms and examination.

Each of the investigations has its advantages and disadvantages and hence are used judiciously.

## What can be done to help?

**Simple measures** can make big difference.

- Broader toe-box shoes will allow the forefoot to be less crowded and hence less squeezed, reducing neuroma irritation.
- A ‘Morton’s Pad’ can be purchased which sits under the knuckle bones, spreading them. This allows more room for the neuroma and hence less irritation. (Try searching Google or Amazon)
- During an acute flare-up.
  - Careful use of Ibuprofen or similar anti-inflammatory can help
  - Massage of the area by oneself, partner, physiotherapist
- **Custom made insoles**
  - A Biomechanics assessment by a podiatrist or orthotist will look at background causes or contributing factors that can be improved.
    - **Custom made insoles** (Orthoses) can optimise foot mechanics helping settle the background cause
- **Physiotherapy**
  - A Tight Achilles tendon can cause forefoot overload and contribute to forefoot pain. A stretching regime can be indicated
  - Walking gait pattern re-education can help with improving foot mechanics
- **Cortisone Injection**
  - Cortisone is a steroid that is administered by needle injection around the neuroma.
  - The purpose
    - Reduce any surrounding reactive tissue that may be causing the pain
    - Help Shrink /shrivel the lesion to reduce symptoms
  - It tends to be done under Ultrasound guidance for accuracy.
  - It is reported as successful in approximately 50% of cases.
  - It may require more than one injection
  - The risks

- Recurrence of pain, drug reaction, steroid flare, skin / soft Tissue shrivelling (atrophy), bleeding, infection, nerve damage.

**These simpler measures avoid the risks of surgery and are successful in the majority of cases. They can take anywhere from 3-12 months to work.**

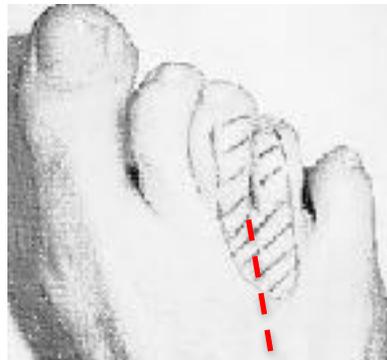
## **Surgical Removal of a Morton's Neuroma**

Surgery is considered if you have tried non-operation techniques but they have proved ineffective and clinically your foot's features and scans suggest likely success.

The operation is performed through a 3-6cm incision on the top of the foot between the bones of the affected toes and forefoot (See diagram below)

The neuroma is excised along with a section of the nerve around it.

- *This leaves no nerve to supply sensation to parts of the neighbouring toes. This is experienced as a numbness of the toes that is likely permanent.*
- *Cross over from neighbouring nerves can mean only little loss of sensation in some people.*



Area of numbness after right 3<sup>rd</sup>/4<sup>th</sup> Morton's Neuroma Excision and likely scar from surgery (Red)

- There is a 75-80% chance of good satisfaction with the operation.
  - Some pain can remain owing to other contributory problems in the foot.
  - It can take several weeks to months to truly settle down after the surgery
  - This surgery is done in conjunction with the non-operation treatments and insoles may well be required even after the surgery

- **The risks of the operation**

- **Bleeding** : A Small amount of bleeding is to be expected following surgery. A small patch of blood on the dressing is not uncommon. There is usually nothing to worry about if this happens. Bleeding seen to drip from the toe or be soaking the dressing should be immediately reported
- **Infection**: A localised infection to the skin occurs in my experience in about 1:20 cases and requires a course of tablet antibiotics. Infection appears as increasing pain, redness, pus or feeling unwell – please report any concerns of this to a nurse or doctor
- **Scar pain** – A local nerve response felt as soreness when the scar is touched or rubbed inside shoes
- **Stump neuroma** : A new neuroma forming where the nerve has been cut. This can be frustrating and require a repeat surgical procedure
- **Loss of toe** One of the very rare complications of this operation. This may happen if the blood vessels to the toe are disrupted as a result of surgery, or if there is deep-seated infection of the bone which your doctor cannot get rid of.
- **Thrombosis (DVT/PE)**: One of the consequences of surgery of the lower limb is a small risk of developing a clot in the leg (DVT), which may dislodge from the leg and enter the lung (PE). Fortunately this is rare but a PE is a potentially life threatening complication of the surgery.

**Should you get any symptoms of un-relieving calf cramp or swelling, Chest pain or Shortness of Breath seek urgent medical attention.**

- **Complex pain reaction**: Very occasionally the nerves in the foot or toe react in an abnormal manner, causing disproportionate pain despite the surgery having technically gone well. This situation is frustratingly difficult to treat and unpredictable. It may require longterm medications including antidepressants to treat.

- **Persistent pains:** from associated foot problems
  
- **Preparing for the surgery**
  - It is performed as a daycase procedure. You will need an adult to be with you for at least the 1<sup>st</sup> night when you go home.
  - It is performed under General or occasionally regional anaesthetic, numbing the whole foot/leg. In addition, Local anaesthetic is used to improve pain relief after the surgery.
  - You will be given a special surgical sandal in which you can walk Full weightbearing from day one.
  - It is imperative you rest and elevate the foot “Toes above your Nose’ for the first two weeks. This serves to reduce swelling and hence risk of wound complications. *Please see further advice sheet ‘I’ve had Forefoot Surgery’*
  - The initial recovery is 2 weeks (Wound healing) before returning gradually to active work by 3 weeks.
  - It will take an average of 3-6 months for surgical scar tissue and healing to settle down.
  - You will be seen in clinic
    - 2 weeks after the surgery for a wound check
    - 6 weeks after the surgery for follow-up
    - Subsequent appointments if required

I hope all this information serves to help you understand the condition and what it is you are considering having done to help it. Please make sure you ask any questions during your consultation and especially before the day of surgery.