

Metatarsalgia



Diagram of the foot showing some of the common causes of metatarsalgia

What is metatarsalgia?

Literally, "metatarsalgia" means pain in the metatarsals of the foot. Usually the term is used to describe pain in the ball of the forefoot.

The pain is usually on the sole of the foot and often sharp, described as similar to walking on pebbles or like having a stone in their shoe. However, there are a variety of possible causes of metatarsalgia and consequently the type of pain described varies also. Some people describe localised pain to one or two toes whilst others describe more generalised pain or burning pain. First 10 days is important in helping to prevent infection. No weight must be taken though this leg for 6 weeks. The total time in plaster cast / removable boot is normally 12 weeks.

What are the symptoms?

Pain is the main symptom. Sometimes there is associated swelling in the foot although frequently there is none. There may be build up of hard skin (callus) over the painful area. People usually report more pain with weight bearing through the affected foot but sometimes also complain of pain when at rest or in bed at night. Sometimes numbness accompanies pain into the toes. Depending upon the cause, some people might have noticed a problem with the shape of their foot or toes which may also be relevant. Overall, these symptoms can often interfere with comfort in shoes and ability to walk or play sport.

What are the causes of Metatarsalgia?

There are many causes of metatarsalgia and your surgeon will make a careful assessment to decide upon the correct diagnosis and treatment.

Some common causes include:

Problems with the mechanics of the foot (the way body weight is distributed)

- Overweight
- Overuse (e.g. sports)
- Hallux valgus (bunions)
- Hallux Rigidus (arthritis of the big toe)

Problems with inflammation in the joints of the forefoot

- Arthritis (various different types can affect the foot)
- Gout
- Inflammation or damage to the supporting joint structures

Problems with the bones

- Fracture of a metatarsal
- "Stress reaction" in a metatarsal (can precede a fracture)

Problems with the nerves

- Morton's neuroma: This is a common condition in which one or more of the nerves supplying sensation to the toes are squeezed and irritated over a period of time causing scarring of the nerve and in turn more persistent pain in the forefoot (often including a burning pain and feeling of numbness in the affected toes).

Problems with the toes

- Deformed toes rubbing in the shoe
- Progressive dislocation of toe joint and contracture of the toe "Dislocation Syndrome"

How is a diagnosis made?

Finding the correct diagnosis and hence cause of the metatarsalgia is essential to being able to advise the correct treatment. Sometimes more than one diagnosis is present.

Your surgeon will talk to you to gain clues from the history of your condition and will then examine you. Xrays and other investigations such as magnetic resonance imaging (MRI) may also be required and the surgeon will discuss these with you. Only when a diagnosis has been made can treatment be initiated.

Metatarsalgia

What treatment is available?

The treatment offered will obviously depend upon the cause (diagnosis). Here are some of the common conditions causing metatarsalgia and their treatment:

1. Problems with the mechanics of the foot (the way body weight is distributed)

This covers a variety of diagnoses but in principle, the options are to try and manage the problem with non-operative treatments including custom arch supports or orthotics, modification of footwear/footwear advice, physical therapy, restricted weight bearing (acute problems) and occasionally steroid injections. If these treatments are not successful then surgery may be considered. For example consider a patient who has a bunion with associated metatarsalgia (pain under the forefoot); initially, change in footwear and/or custom insoles may help with the metatarsalgia but if not, surgery to correct the bunion may improve the mechanics of the forefoot to resolve the metatarsalgia.

2. Problems with inflammation in the joints of the forefoot

Depending upon the cause of the inflammation, the treatment is directed at trying to reduce the inflammation with cushioning from inner soles as well as anti-inflammatory medication (or disease specific medication) and sometimes steroid injections (corticosteroid is a strong anti-inflammatory). Sometimes, if these treatments do not provide relief of pain then surgery is required. For example consider a patient who has rheumatoid arthritis with associated metatarsalgia (pain under the forefoot); initially, change in footwear and/or custom insoles may help with the metatarsalgia but if not, surgery to the metatarsals to shorten them may be considered to make the foot more comfortable by allowing the specialized padding in the sole of the foot to sit back in the correct position. There are a variety of different surgical procedures that may be recommended depending upon the exact nature of the problem and the surgeon will discuss these with you.

3. Problems with the bones

If a fracture is identified then usually, the treatment will involve resting the broken bone which may involve splinting it in a removable boot. The surgeon will also recommend a period of restricted weight bearing and reduced activity to try and get the fracture to heal. The healing of the fracture will be monitored on xrays over a period of several weeks (or sometimes months). If the fractured bones will not heal despite such treatment (or if the surgeon identifies the type of fracture as a very difficult fracture to heal) then surgery to "fix" the fracture using screws and / or may be recommended. This can sometimes allow earlier return to activity.

4. Problems with the nerves

The most common nerve problem is that of what is called Morton's neuroma. The diagnosis is often confirmed with an ultrasound scan or MRI scan. There are a lot of treatments put forward for this condition but many do not have much evidence to suggest that they are successful. Inner soles and changes in footwear can sometimes help relieve these symptoms. Sometimes your surgeon may recommend that you have an ultrasound guided injection of steroid to the nerve which can provide relief for some patients (although not always permanent) and sometimes surgery is recommended. Surgery involves either removing the troublesome nerve through an incision on the upper surface of the forefoot, or, sometimes the ligaments trapping the nerve are released. Your surgeon will discuss the type of surgery required with you. "If the nerve is removed, the pain is usually abolished or substantially reduced in 90-95% of patients but often leaves permanent numbness in the web space supplied by the nerve (this is not usually a problem).

5. Problems with the toes

Problems with toes causing pain often relates to deformities of the toes. Once again, your surgeon may recommend the use of devices such as toe socks, silicone spacers and modification of footwear. Sometimes surgery will be recommended to correct the deformity and the exact nature of the surgery obviously depends upon a careful assessment of the exact nature of the toe deformity and which part of the toe is painful. This type of surgery may involve fusing or removing the joint affected joint(s) or planning intricate cuts in the forefoot bones (osteotomies) to realign / correct the deformities.

These notes are intended as a guide and some of the details may vary according to your individual surgery or because of special instructions from your surgeon.