

Morton's Neuroma: Cause and Treatment:

Symptoms

Neuroma pain is classically described as a burning pain in the forefoot. It can also be felt as an aching or shooting pain in the forefoot. Patients with this problem frequently say they feel like they want to take off their shoes and rub their foot. This pain may occur in the middle of a run or at the end of a long run. If your shoes are quite tight or the neuroma is very large, the pain may be present even when walking. Occasionally a sensation of numbness is felt in addition to the pain or even before the pain appears.

Diagnosis

The clinical symptoms should quickly lead your doctor to suspect a neuroma.

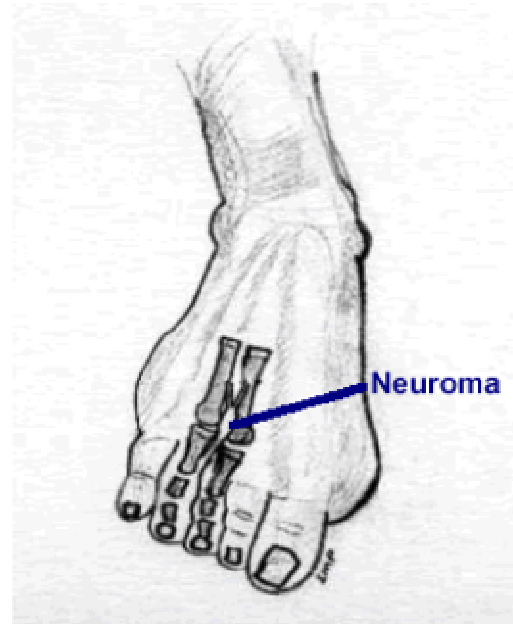
When examined, the doctor may feel a "click" which is known as Mulder's sign. There may be tenderness in the interspace. The metatarsal bones will also be examined both clinically (and often with an xray). Tenderness at one of the metatarsal bones can suggest an overstress reaction (pre-stress fracture or stress fracture) in the bone.

An ultrasound scan can confirm the diagnosis and is a less expensive and at this time, at least as sensitive a test as an MRI. An x-ray does not show neuromas, but can be useful to "rule out" other causes of the pain.

Cause

The source of this pain is an enlargement of the sheath of an intermetatarsal nerve in the foot. This usually occurs in the third intermetatarsal space, the space between the third and fourth toes and metatarsals. It occurs here, at the site third intermetatarsal nerve, since this intermetatarsal nerve is the thickest being comprised of the joining of two

different nerves. It also may occur in the other intermetatarsal areas, with the second



interspace being the next most common location.

Contributing Factors

Pronation of the foot can cause the metatarsal heads to rotate slightly and pinch the nerve running between the metatarsal heads. This chronic pinching can make the nerve sheath enlarge. As it enlarges it then becomes more squeezed and increasingly troublesome.

Tight shoes, shoes with little room for the forefoot, pointy toeboxes can all make this problem more painful.

Walking barefoot may also be painful, since the foot may be functioning in an over-pronated position.

Self-Treatment

- Wear wide toe box shoes
- Don't lace the forefoot part of your shoe too tight
- Make sure your feet are in supportive shoes that do not squeeze your forefoot

Office Treatment:

- Check shoes carefully
- Gait analysis
- Morphological and Physical Examination of Foot
 - size, shape, areas of tenderness.

- functional biomechanical examination
- Consideration of other diagnostic possibilities
- Orthotics
- Injection of Steroid and Local Anesthetic
- Occasionally injection of other substances to "ablate" the neuroma.
- Surgical Removal of Neuroma

Article: Contributed by [Stephen M. Pribut, D.P.M.](#) , AAPSM Board 2003