

# Morton's Neuroma



An Interdigital Neuroma or Morton's Neuroma is an inflammation (peri-neural fibrosis) of the common digital nerve as it courses under the transverse metatarsal ligament in the forefoot. This nerve provides sensation between the toes. An Interdigital Neuroma normally affects the 2nd interdigital space (between the 2nd and 3rd toe) or the 3rd interdigital space (between the 3rd and 4th toe.) It is very uncommon in the 1st and 4th web space. Other sources need to be considered in patients with pain in these areas.

Patients with an Interdigital Neuroma complain of burning and tingling in the interspace of the involved toes and can radiate into the toes. At times patients may describe a vague pain that radiates up the leg. Symptoms are exacerbated by walking and running. With walking the interdigital nerve becomes compressed by the intermetatarsal ligament in the plantar aspect of the forefoot. High-heeled shoes with a narrow toe box exacerbate the symptoms from a neuroma as there is added compression of the forefoot by the shoe.

Physical exam demonstrates tenderness to touch of the forefoot near the toes in the area between the metatarsal heads. Some patients have a snap or click with compression of the forefoot. This is called a Mulder's click and may be secondary to the bursal inflammation that can accompany an Interdigital Neuroma. An injection of numbing medication around the nerve can be done to confirm the diagnosis of an inflamed nerve.

The differential diagnosis of an Interdigital Neuroma includes: a metatarsal stress fracture, metatarsalgia (pain under metatarsal heads), synovitis/instability of the MTP or lesser toe joints, degenerative joint disease, or possibly a lumbar disc herniation. Radiographs of the foot are obtained to rule out bony pathology. An MRI can show the neuroma however it is not usually necessary to make the diagnosis.

Many Interdigital Neuromas can be managed without surgery. Patients are advised to obtain wider shoes with lower heels to reduce the pressure on the forefoot. Metatarsal pads are soft felt pads placed near the metatarsal heads and this serves to unweight the area of the neuroma. A metatarsal bar is a similar device built into an orthotic. Larger braces can also be used however they can be cumbersome. Some patients benefit from one to two cortisone injections into the interspace. This decreases the inflammation around the neuroma. However multiple injections should be avoided to prevent injury to the fatty tissue that serves as a cushion in the front part of our foot.

Patients with long standing symptoms (greater than 6 months) may require surgery. Surgery is not indicated in patients with a poor circulatory status, atypical symptoms or reflex sympathetic dystrophy (generalized nerve irritation of the foot). During surgery an incision is made on the top of the foot. The transverse intermetatarsal ligament is divided. The thickened common digital nerve is identified along with the branching proper digital nerves. The nerve is then dissected proximally and divided 1-2 cm near the weight-bearing pad of the forefoot. The entire neuroma and all distal nerve branches are removed. Patients are allowed to weight bear in a post-op shoe. Review of the literature demonstrates that approximately 80% of patients are significantly improved following surgery. Major activity restrictions are uncommon, and patients can generally return to all sports and activities. There can be numbness between the toes, however this is typically not bothersome.

**To make an appointment with Dr. Zell, call 443-643-3130.**