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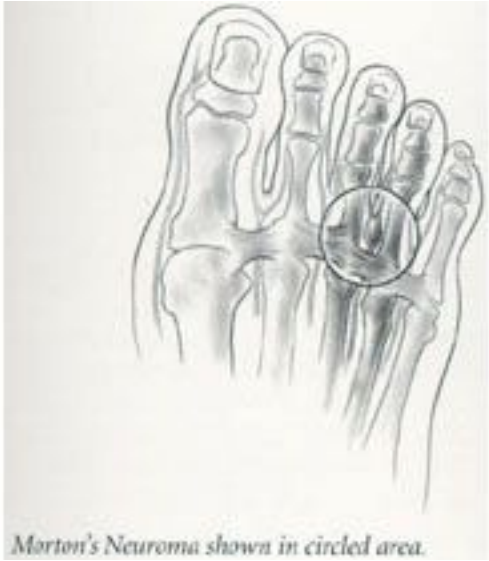
Morton's Neuroma

If you sometimes feel that you are "walking on a marble" and you have persistent pain in the ball of your foot, you may have a condition called Morton's neuroma.



Morton's Neuroma shown in circled area.

What is Morton's Neuroma?

A neuroma is a benign tumor of a nerve. Morton's neuroma is not actually a tumor but a thickening of the tissue that surrounds the digital nerve leading to the toes. It occurs as the nerve passes under the ligament connecting the toe bones (metatarsals) in the forefoot.

Morton's neuroma most frequently develops between the third and fourth toes, usually in response to irritation, trauma or excessive pressure. The incidence of Morton's neuroma is eight to 10 times greater in women than in men.

What are symptoms of a Morton's neuroma?

Normally, there are no outward signs, such as a lump, because this is not really a tumor. Burning pain in the ball of the foot that may radiate into the toes. The pain generally intensifies with activity or wearing shoes. Night pain is rare. There may also be numbness or an unpleasant feeling in the toes.
Runners may feel pain as they push off from the starting block. High-heeled shoes, which put the foot in a similar position to the push-off, can also aggravate the condition. Tight, narrow shoes also aggravate this condition by compressing the toe bones and pinching the nerve.

What is the treatment?

During the examination, your physician will feel for a palpable mass or a "click" between the bones. He or she will put pressure on the spaces between the toe bones to try to replicate the pain and look for calluses or evidence of stress fractures in the bones that might be the cause of the pain. Range-of-motion tests will rule out arthritis or joint inflammation. X-rays may be required to rule out a stress fracture or arthritis of the joints that join the toes to the foot.

Initial therapies are nonsurgical and relatively simple. They can involve one or more of the following treatments:

- **Changes in footwear.** Avoid high heels or tight shoes and wear wider shoes with lower heels and a soft sole. This enables the bones to spread out and may reduce pressure on the nerve, giving it time to heal.
- **Orthoses.** Custom shoe inserts and pads also help relieve irritation by lifting and separating the bones, reducing the pressure on the nerve.
- **Injection.** One or more injections of a corticosteroid medication can reduce the swelling and inflammation of the nerve, bringing some relief.

Several studies have shown that a combination of roomier and more comfortable shoes, nonsteroidal anti-inflammatory medication, custom foot orthoses and cortisone injections provide relief in over 80 percent of people with Morton's neuroma. If conservative treatment does not relieve your symptoms, your orthopaedic surgeon may discuss surgical treatment options with you. Surgery can resect a small portion of the nerve or release the tissue around the nerve, and generally involves a short recovery period.

This material was codeveloped by the American Academy of Orthopaedic Surgeons.
The American Orthopaedic Foot & Ankle Society (AOFAS) offers information on this site as an educational service.

