

# Neuromas

## What is a neuroma?

A neuroma is a thickening or scarring around a nerve. This typically occurs with chronic pressure or after a traumatic injury. The most common neuroma of the foot is in the ball of the foot between the metatarsal heads just behind the toes. The space between the third and fourth toes is the most commonly affected intermetatarsal space. This is called a Morton's neuroma.

## What are the symptoms of a neuroma?

Neuromas typically cause burning or shooting sensations in the ball of the foot which can extend to the toes or up the arch. Patients also frequently complain of feeling like they are walking on a stone in their shoe. The pain is typically minor but can become severe. If the neuroma gets large enough, it can cause the toes to splay apart. Pain directly between the bones in the ball of the foot just under the toes is diagnostic for a neuroma.

## How are neuromas diagnosed?

Neuromas can be diagnosed in many ways. A good physical exam by your doctor is the most important way to differentiate a neuroma from other conditions which can mimic the symptoms of a neuroma. The most common and effective diagnostic test is called Mulder's sign. It is when the neuroma can be manipulated up and down between the metatarsal heads, creating a "palpable click".

Ultrasound can also be very effective at visualizing an enlarged nerve. Occasionally the nerve is irritated but minimally enlarged, so this exam has limited specificity.

Magnetic resonance imaging (MRI) may also be used, but rarely detects structures as small as digital nerves. This test is best utilized to detect the inflammation which can occur within the area of the neuroma.

## How are neuromas treated?

Orthotics can also be an effective way to alleviate neuroma pain. Often these have metatarsal pads built in to further offload pressure from the neuroma.

Cortisone injections are typically a first line treatment for a more painful neuroma. The relief from these injections can last from only a few days to months. When cortisone injections and padding fail, more aggressive treatment is indicated.

Dehydrated alcohol injections can be used to deaden the nerve and are typically between 50-75% effective. This is a good treatment option if cortisone injections are failing prior to removing the nerve surgically.

Surgical removal of the neuroma is often necessary long term. A small incision is made on the top of the foot and the nerve is completely excised. This results in partial numbness of the adjacent toes which is usually not bothersome. The recovery time from surgery is approximately four weeks and patients can walk on the foot post-operatively. This is a very safe and effective treatment option with a relatively short healing time.

