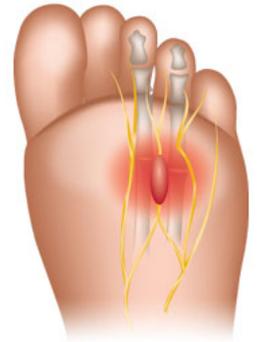


Neuromas



Description: A painful condition, also referred to as a “pinched nerve” or a nerve tumor. It is a benign growth of nerve tissue frequently found between the third and fourth toes.

Symptoms:

- Pain between the toes while walking
- Often feels as though there is a stone in your shoe under the affected area
- Brings on sensations of burning, tingling, or numbness between the toes and in the ball of the foot

Causes:

- **Improper footwear:** A shoe that is too small or too narrow can push the metatarsal heads together, pinching the nerves between them. Avoid high-heeled shoes. The more elevated the heel is, the more pressure is shifted to the forefoot, increasing pain and irritation.
- **Poor Foot Biomechanics:** During walking or running, we must be able to plant our first metatarsal to the ground to achieve foot stability. If our mechanics don't allow for this, we maintain pressure on the ball of the foot instead, increasing stress and eventually developing the growth around the nerve.
- **Muscle imbalances:** Tight calf muscles can cause you to lift your heel too early during running or walking, putting more stress on the forefoot for a longer period of time every step.
- **Impaired Toe Flexors and Extensors:** If the muscles that lift the toes overpower the muscles that flex them, the ball of the foot can protrude and become more susceptible to pressure. Over time, this increased pressure can cause the growth around the nerve.

Other considerations:

- The muscle imbalances previously described can also eventually lead to *Hammertoes and Bunions*
 - Hammertoe is when a toe is stuck in a bent position at the middle joint.

Self treatment options:

- Support:** Shoes with a rocker bottom and more cushion, especially in the ball of the foot, can help alleviate pain. Be sure your shoes have a low heel-to-toe drop to reduce the amount of pressure on the forefoot. Avoid flip-flops and open back shoes/sandals.
- Stretching:** Addressing tightness in the foot and calf can help prevent improper mechanics and alignment
 - Foot stretches:
 - Plantar fascia stretch and massage
 - Toe flexor and extensor stretches
 - Calf stretches: It is important to address tight calf muscles as they can lead to tight foot muscles as well and cause premature heel rise. See below for Gastrocnemius and Soleus stretches.

Strengthening: It is important to remember that support will only treat the symptoms of neuromas and will not solve the underlying cause.

- Toe extensors, flexors
- Intrinsic foot muscle strength

Products:

- Footwear with a wider and and/or longer toe box will relieve the pressure on the neuroma by preventing the squeezing of the metatarsals heads on the nerves.
- Insoles with a metatarsal pad can help to redistribute pressure away from the painful area.
- Felt Metatarsal Pads can be placed in any shoe to redistribute pressure and help spread the metatarsal heads apart.



TOE FLEXION AND EXTENSION: Push your big toe into the ground, while lifting your 4 smaller toes. Hold for 3-5 seconds, then push your 4 smaller toes into the ground while lifting your big toe off the ground. Repeat 10x each foot.



PLANTAR FASCIA STRETCH: Seated, pull your toes up to put the bottom muscles of your foot on stretch. You may use your thumb to massage the fascia and muscles while they are being stretched.



SINGLE LEG BALANCE: Balance on one foot for 30 seconds while barefoot. If this is too easy, close your eyes!

Toe Spread Exercise: Lift all toes while keeping the metatarsal heads (ball of the foot) and heel on the floor. Then push the little toe downward, in a lateral direction, while pushing the big toe slowly downward in a medial direction. This has been shown to both spread out the metatarsal heads as well as increase the strength of the muscles that work to keep the toes separated.



GASTROC: Stand with your right foot back. Keep your knee straight, and forward leg bent. Keeping your heel planted on the floor, toe facing straight ahead, lean forward toward the wall. Hold for 30 seconds, and then switch legs



SOLEUS: Stand with your right foot back. Put a slight bend in your back knee, and forward leg bent. Keeping your back heel planted on the floor, toe facing straight ahead, lean forward toward the wall. Hold for 30 seconds, and then switch legs.



Toe Extensor Stretch: This stretch can be done either while sitting or standing. While sitting, simply use one hand to push the toes down while providing counter pressure with the opposite hand. When done correctly, you will feel the tendons and muscles on the top of the foot stretch and the knuckles on top of the foot will become more prominent. While standing, point the foot downward and flex the toes while applying pressure. The more vertical the foot is, the deeper the stretch will be. Hold this stretch for 20-30 seconds, or until you begin to feel a cramp in your arch - this is an indication that it is actually contracting and strengthening.



Rolling out Plantar Fascia: Helps promote recovery by increasing circulation and flexibility. Loosens the foot flexors that pull the big toe in. Could be done before or after exercise and throughout the day.