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Tarsal Tunnel Syndrome

What is tarsal tunnel syndrome?

The **tarsal tunnel** refers to the canal formed between the **medial malleolus** (part of the ankle bone, this is the bump on the inside of the ankle) and the **flexor retinaculum** (a band of ligaments that stretches across the foot). Inside the tarsal tunnel are the nerves, arteries, and tendons that provide movement and flexibility to the foot.

One of the nerves in the tarsal tunnel is the [tibial nerve](#), which provides sensation to the bottom of the foot. When this nerve is compressed, the resulting condition is called **tarsal tunnel syndrome (TTS)**. Tarsal tunnel syndrome has also been called **posterior tibial neuralgia**.

Causes of tarsal tunnel syndrome

Tarsal tunnel syndrome may be caused by an injury, disease, or due to the natural shaping of the foot. Possible causes may include:

- Having flat feet or fallen arches, which can produce strain or compression on the tibial nerve
- Swelling caused by an ankle sprain which then compresses on the nerve
- Diseases such as arthritis or diabetes which can cause swelling, thus resulting in nerve compression
- An enlarged or abnormal structure, such as a varicose vein, ganglion cyst, swollen tendon, or bone spur, that might compress the nerve

Symptoms of tarsal tunnel syndrome

Symptoms of tarsal tunnel syndrome (TTS) may include:

- Shooting pain in the foot
- Numbness
- Tingling or burning sensation

Diagnosis of tarsal tunnel syndrome

Proper diagnosis of a tarsal tunnel syndrome requires the expert attention of experienced neurologists and nerve specialists.

Diagnosis will include:

- A comprehensive clinical exam
- Complete medical history
- Electrical testing ([EMG](#) or [nerve conduction study](#))
- Imaging (X-rays, CT, or MRI scans)

Diagnosis is necessary to determine the severity of the condition, so the appropriate treatment plan, including a surgical option, can be considered.

Treatment for tarsal tunnel syndrome

Nonsurgical treatment for tarsal tunnel syndrome

Whenever possible, Johns Hopkins will prescribe nonsurgical treatment options before surgery is recommended. Possible treatment options may include anti-inflammatory medications or steroid injections into the nerves in the tarsal tunnel to relieve pressure and swelling. Orthosis (e.g., braces, splints, orthotic devices) may be recommended to reduce pressure

on the foot and limit movement that could cause compression on the nerve.

Surgery for tarsal tunnel syndrome

Depending on the severity of the condition, one of several surgical options may be recommended, including:

- Tarsal tunnel release

Dr Allan Belzberg is a world-renowned neurosurgeon in the treatment of peripheral nerve injuries. He treats on average 500 nerve injuries every year and has published research publications focusing on improving surgical repairs of nerve injuries and discovering new treatment options. [Catch up on the latest research on nerve injuries.](#)

To make an appointment or request a consultation, contact the Johns Hopkins Peripheral Nerve Surgery Center at 410-614-9923.