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Tarsal Tunnel Syndrome

Definition:

Tarsal tunnel syndrome is an entrapment neuropathy (pressure on nerve) of the tibial nerve as it courses through the inside aspect of the foot and ankle.

Symptoms:

Pain, numbness, burning and electrical sensations may occur along the course of the nerve, which includes the inside of the ankle, heel, arch and bottom of foot. Symptoms are usually worsened with increased activity such as walking or exercise. Prolonged standing in one place may also be an aggravating factor.

Cause:

There are a variety of factors that may cause tarsal tunnel syndrome. These may include repetitive stress with activities, flat feet, and excess weight. Additionally, any lesion that occupies space within the tarsal tunnel region may cause pressure on the nerve and subsequent symptoms. Examples include tendinitis, hematoma, tumor, varicose veins and lower extremity edema.

Diagnosis:

The diagnosis of tarsal tunnel is made primarily by the clinic experience of a podiatric foot and ankle surgeon. A Tinel's sign (radiating pain upon tapping the nerve) may be elicited. Temporary relief may be obtained with a diagnostic local anesthetic injection. Electrodiagnostic studies such as nerve conduction velocity (EMG/NCV) testing may also prove useful. Magnetic resonance imaging (MRI) may also help to evaluate for local pathology or space occupying lesions.

Treatment:

Conservative treatment for tarsal tunnel syndrome includes the use of nonsteroidal anti-inflammatories, ice, physical therapy, orthotic devices, steroid injections and cast immobilization.

When conservative treatment is unsuccessful, surgical intervention is performed by the podiatric surgeon. The surgery involves release of the tibial nerve and its branches from the surrounding tight structures along with incision of the lacinate ligament, a structure that forms a roof over the nerve bundle.

Postoperatively, a period of immobilization followed by protected weightbearing and physical therapy may be prescribed. Complications of surgery may include continued nerve pain, tingling and numbness and the possibility of infection.