

ARTICLE Tarsal Tunnel Syndrome and Carpal Tunnel Syndrome—Similar but Different

This week we are going to discuss the topic of nerve compression once again however in this article we will discuss carpal tunnel syndrome and tarsal tunnel syndrome—nerve compression syndromes which occur in the foot and in the hand.

The tarsal tunnel syndrome is compression of the tibial nerve on the inside of the ankle where the nerve can be compressed due to fallen arches, swelling for diseases such as diabetes mellitus or osteoarthritis. The tibial nerve provides sensation to the bottom of the foot and therefore compression of this nerve results in burning, pain and tingling on the inside and bottom of the foot. This can be often confused with the burning pain and tingling which occurs as a result of peripheral neuropathy. However, in the case of tarsal tunnel syndrome the diagnosis can be confirmed through nerve conduction velocity testing and clinical examination for a mechanical compression of the nerve.

Carpal tunnel syndrome is a compression of the median nerve at the wrist in the carpal tunnel, a 3 sided bony tunnel at the center of the wrist which is completed on the surface by a ligament forming the 4th boundary of the tunnel. When the median nerve is compressed in this tunnel due to swelling, rheumatoid granulation tissue, pregnancy or in rheumatoid arthritis and in cases of repetitive motion, the median nerve is compressed to the point that the patient has burning pain and tingling into the thumb, index and 3rd finger. In carpal tunnel syndrome, the clinician can test for irritation of the nerve at the tunnel using a test called a Phalen's test, a Tinel's test and flexion compression test, all of which compress and irritate the nerve further reproducing the patient's symptoms. When these tests are positive, the patient can be sent on for more diagnostic testing such as nerve conduction velocity testing to confirm the diagnosis.

In cases of carpal tunnel syndrome, many times the symptoms which are arising from a benign source such as the carpal tunnel syndrome which occurs in pregnancy will spontaneously disappear once the child is born and the rheumatoid granulation tissue in the tunnel and swelling in the tunnel abate. Therefore, pins, needles, numbness in the hands during pregnancy is not something to panic over and certainly something not to jump into surgery over as pregnancy based carpal tunnel syndrome is a relatively normal occurrence and should be treated as such. Carpal tunnel syndrome as a result of repetitive motion or as a result of a disease process on the other hand should be considered more severe and should be seen by an orthopedist who specializes in the treatment of this disorder.

Carpal tunnel release and tarsal tunnel release are techniques which decompress the nerve at its compressed site and relieve the pain, numbness and tingling which result. These are very effective surgical techniques which are relatively common and are extremely effective in relieving symptoms. As you can see, the compression of the median nerve at the wrist and compression of the tibia nerve at the ankle have much in common, however, making a clinical decision regarding whether to pursue its surgical

repair/release must certainly be left up to the surgeon as all of these clinical indications must be considered when making this decision. If numbness, tingling and burning are part of your present complaint, always seek the assistance of a physician to determine the best course of treatment as there are more than one cause of this type of symptom. If you would like to discuss this further with a therapy professional, please feel free to schedule an appointment at a clinic for a no cost consultation. Thank you