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Health Bulletin/Newsletter-12
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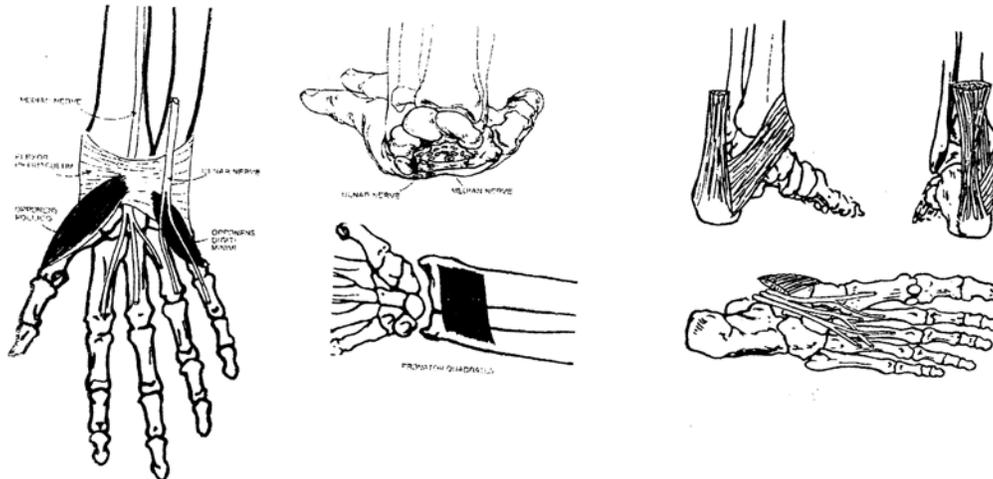
Carpal Tunnel & Tarsal Tunnel Syndromes

I know most of us are familiar with the median nerve entrapment in the wrist and hand known as Carpal Tunnel Syndrome (CTS), but how many have ever heard of the foot and ankle tibial nerve entrapment Tarsal Tunnel Syndrome (TTS)? Both (CTS & TTS) nerve entrapments are important to recognize, because of the potential of causing permanent damage to the median and tibial nerves and thereby leading to chronic disabilities.

The causative factors that may play a part in the formation of these conditions can be of repetitive actions in the use of the hand-wrist and foot-ankle. Other factors that may play role in these two conditions may be obesity, hypothyroidism, arthritis, diabetes and trauma.

Symptoms of neural entrapment of (CTS) is numbness, tingling, or burning sensation in the thumb and finger, particularly the index and middle of the involved hand. Weakness may be noted in gripping strength and elbow pain on pouring from a bottle or opening a door. Pain can be localized to hand or may spread up the arm to the shoulder and neck. One hallmark symptom is waking up at night this numbness or pain in hand or arm.

The tibial nerve entrapment of (TTS) can cause pain radiating into the big toe and the next three toes there may be numbness in the foot or electrical sensations over base of foot and heel. Other deformities will be seen in the foot of a person with (TTS) and that of Hallux Valgus or bunion, heel spurs and hammertoes.



Carpal Tunnel Syndrome

Tarsal Tunnel Syndrome

Illustration from David S. Walther, Applied Kinesiology-The Advanced Approach in Chiropractic

(Over)

The common features of both these nerve entrapments are weakness of supportive muscle that activate and move these joints. In the case of the (CTS) it may be weakness of the flexor and extensor muscle of the wrist and hand and particularly the Pronator Quadratus. In the ankle and foot (TTS) there is found excessive pronation due to weakness of the Anterior and Posterior Tibialis muscles and the plantar muscles of the sole of the foot.

What both of the nerve entrapments have in common is a mechanical displacement of the bone that makes up each tunnel. In the case of the wrist/hand (CTS) it is the ulna and radius being separated, and placing pressure on the broad ligament Flexor Retinaculum. In the case of the ankle/foot (TTS) there are three of concern first the tibia and fibula are held together by the action of the posterior tibialis muscle which has weakened. Second the talus bone, which forms the mortise of the ankle joint just below the tibia and fibula has been displaced laterally cause pronation. Third and final the calcaneus or heel has been displaced posteriorly and this places tension of the Flexor Retinaculum of the ankle entrapping the tibial nerve. What this all means is that special chiropractic manipulation of the wrist in the case of (CTS) and manipulation of the talus and calcaneus (TTS) are necessary to relieve the tension on the Flexor Retinaculum and relieve the nerve entrapments.

Other factors that can institute the onset of either of these conditions are stress that cause the release of epinephrine (adrenaline) this is converted to adrenochrome before being excreted and this cause the ligaments of the wrist and ankle to become more elastic and cause the nerve entrapment. So in this instance you need to support the adrenal gland function. A very common malfunction of the digestive system is at the junction of the small and large intestine called the Ileocecal valve (ICV) this keeps the toxins form in the colon from backing up and being reabsorbed into the blood stream. This is such a common problem seen every day in at least 75% of patients coming to my office. When this happens your body will holdback water to delute these toxins and this can cause edema and swelling the carpal and tarsal tunnels there by adding to the entrapment.

So what can you do to correct this problem? The best answer is a conservative approach of chiropractic adjustment to reduce the neural entrapment. Next you need nutritional support to correct (ICV) malfunction this is chlorophyll, and omega three fish oil to reduce the inflammation and most importantly vitamin B6 to heal the nerves.

Finally a series of remedial exercises will be prescribed to strengthen the supportive muscle. Other therapies that might be included are meridian therapy, electrical stimulation, and structural support such as wristband and orthotics for the shoes.