

CARPAL TUNNEL SYNDROME

Carpal Tunnel Syndrome (CTS) is one of the more common overuse injuries occurring today. CTS causes wrist and hand pain and is most prevalent in repetitive motion occupations such as meat packers, dental hygienists, and data entry operators and parts assemblers. CTS sometimes develops after wrist (Colles) fracture, during or after pregnancy or occurs with arthritis.

The Carpal Tunnel consists of the five carpal bones and the transverse carpal ligament which runs above them. Through this tunnel run the tendons of the wrist and finger flexor muscles, as well as the Median nerve.

The tunnels purpose is to keep the finger tendons aligned and to protect the median nerve.

In CTS, overuse of the wrist and hand muscles cause the synovial fluid present in the wrist to become thick and sticky. Instead of allowing the tendons to move freely they begin to irritate one another and become swollen. During pregnancy, fluid retention can precipitate this problem.

The median nerve is more flexible than the tendons and is therefore compressed. This nerve compression results in symptoms affecting sensation to the thumb, index and

middle fingers, as well as the muscle strength in the hand.

Numbness, burning and eventually tingling may be present in the first three fingers. Symptoms are often increased at night or in the early morning. Pain may radiate up the arm and fingers may become clumsy. If untreated, muscle atrophy, or wasting, develops in the hand and permanent nerve damage is possible.

Management of CTS begins with an evaluation and diagnosis by a physician, often an orthopedist or hand surgeon. Treatment typically includes anti-inflammatory medications such as Naprosyn, the use of a hand splint to hold the wrist in a neutral or straight position and changes in work station design. More frequent rests with wrist and finger stretches are often helpful. Alternative and split keyboards are available for keyboard operators as well as wrist support pads to prevent excessive wrist strain. Overall posture is important as lack of support or muscle strain elsewhere can lead to improper wrist and hand position.

Surgery is considered a last resort and involves a sectioning of the transverse carpal ligament. In an open

procedure, a 2" incision is made in the palm of the hand. More recently, endoscopic procedures requiring a 2 cm incision in the wrist and less damage to the surrounding tissues are being performed. The degree of injury determines which procedure is most appropriate. Patients often return to work within one week with heavy lifting restricted for up to 4-6 months.

If symptoms of CTS develop, rest the area and attempt to identify stressful activities. Stretch your hands frequently by pressing the palms together as if praying. Above all take care of your hands before symptoms develop. Proper posture, flexibility and work station design can go a long way towards preventing CTS.

If hand pain, numbness or weakness develops, see your physician.