

OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Troy H. Peters

Carpal Tunnel Syndrome & the Lesser Known Wrist Conditions That Mimic It



Carpal tunnel syndrome (CTS) gets a lot of press as being the primary culprit behind wrist pain. But there are a number of other diseases, harmful habits, spinal conditions and syndromes that can masquerade as CTS.

As a provider of holistic health care, Dr. Peters focuses on prevention and knows how vital it is to accurately uncover the true source of patients' wrist pain.

Wrist Structure

The wrist consists of eight carpal bones arranged in two horizontal rows (four bones each). The *proximal* row consists of the scaphoid, lunate, triangular and pisiform bones. The *distal* row consists of the trapezium, trapezoid, capitate and hamate.

A network of ligaments lashes the two rows of wrist bones together — and to other ligaments as well.

Who's at Risk?

Although wrist disorders may strike anyone, certain activities increase risk. Specifically, any sustained, repetitive movement stresses the wrist. Common instigators include assembly work, cashiering, playing video games and keyboarding on a computer. Any job that requires employees to continually grip with their hands, such as painters, plumbers, electricians, carpenters and artists, also compromises wrist health.



Is It Really CTS?

Overuse of the wrist may result in carpal tunnel syndrome: inflammation of the “tunnel” between the ligament that extends across the top of the carpal bones and the bones themselves (and the subsequent entrapment of structures in the tunnel, including nerves). Symptoms of this painful and debilitating condition include numbness, tingling and loss of strength.

While CTS is a major health concern, it is not always the cause of wrist pain. There are a glut of CTS imposters. That's why it's important for all individuals with wrist problems to have a complete chiropractic evaluation.

The following is a partial outline of conditions that may mimic CTS.

The Spinal Link to Wrist Pain

Research reveals that symptoms from problems in the spine of the neck (cervical spine) may be “confused clinically with carpal tunnel syndrome.” (*Magn Reson Imaging Clin N Am* 1995;3:249-64.)

Most people are unaware that the spine has a direct link to wrist health. When spinal bones (vertebrae) become misaligned or restricted, the result is a condition known as **vertebral subluxation**. This outcome is linked to a variety of wrist conditions.

Chiropractors correct vertebral subluxations with safe and gentle maneu-

vers called **chiropractic adjustments**. In addition, Dr. Peters encourages patients to adopt the **chiropractic lifestyle**, a way of life that focuses on preventing health problems, rather than merely masking symptoms with medication.

The median nerve controls the thumb, index and parts of the middle and ring fingers. It extends from the fingers through the two rows of wrist (carpal) bones. From there the nerve travels past the elbow, up the arm, through the shoulder, up the neck and finally to the spinal cord.

And that's when things can get a bit dicey. The median nerve connects to the spinal cord through openings between vertebrae in the neck (cervical spine). When movement is restricted in these cervical vertebrae, the result is tingling, numbness and pain in the fingers and wrist.

Maintaining optimal spinal health, which includes regular chiropractic visits, is the key to wrist wellness. Chiropractic adjustments realign errant cervical vertebrae and free the median nerve to do its job without interference. Dr. Peters also keeps shoulder, elbow and wrist joints properly aligned.

The doctor may further suggest rehabilitative exercises and discuss ways to minimize future on-the-job wrist injury (such as taking sufficient rest breaks).

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Thoracic Outlet Syndrome

Known as TOS, symptoms of this affliction also mimic CTS. TOS involves the “compression of the neurovascular structures in the region between the scalene muscles and the first rib or by anatomical abnormalities, such as cervical rib, fibrous bands and other variations in the scalene musculature.” (*ANZ J Surg* 2004;74:450-4.)

The scalene muscles are arranged in a group. Generally three on each side, they extend from the cervical vertebrae to the first and second ribs.

Ulnar Tunnel Syndrome

Yet another CTS imposter may trigger wrist pain: ulnar tunnel syndrome (UTS).

Also known as Guyon’s canal syndrome, ulnar carpal tunnel syndrome and hypothenar hammer syndrome, UTS results from pressure on the ulnar nerve — also located in the wrist. The tunnel, which has no tendons passing through it, includes a small fat pad and the ulnar nerve, artery and veins. “The ulnar tunnel is more superficial and medial [centrally located] than the carpal tunnel, and the ligament covering it is thinner than that of the carpal tunnel.” (*Am Fam Physician* 1991;44:497.)

UTS symptoms are similar to those of CTS and tend to worsen at night (as happens with CTS symptoms as well). However, since the ulnar artery runs alongside the ulnar nerve, any process that entraps the nerve may also lead to arterial insufficiency, resulting in cold and painful fingers (*Am Fam Physician* 1991;44:497).

“Most cases of ulnar tunnel syndrome develop when the heel of the hand is used for pounding and damage is sustained in the hypothenar region, the area of the palm below the little finger. Ulnar nerve disorders develop in 30 to 40 percent of patients with carpal tunnel syndrome.” (*Am Fam Physician* 1991;44:497.)

Double Crush

Like CTS, UTS has a spinal connection. According to one scientific study,

“Lower cervical spine disease sometimes occurs concomitantly with entrapment of the ulnar nerve at the wrist. This condition, termed the ‘double crush injury,’ may produce ulnar nerve symptoms that are referred proximally into the upper arm, shoulder, neck and chest wall. In such cases, both the cervical spine and the wrist must be treated.” (*Am Fam Physician* 1991;44:497.)

In addition to chiropractic care, prevention of UTS includes careful handling of tools and use of protective gloves.

Sprains, Strains, Tendonitis & Other Traumatic Injuries

“Traumatic injuries include fractures, dislocations and ligament tears often seen in contact/collision sports.” (*Am J Sports Med* 2003;31:1038.)

A ten-year review of all injuries at the Olympic Training Center (Colorado Springs, Colo.) revealed that 8.7 percent involved the wrist and hand. Researchers noted that the majority of these injuries were sprains and contusions (64 percent). In collision sports, such as football, hand and wrist injuries account for 15 percent of all injuries (*Am J Sports Med* 2003;31:1038).

The incidence of wrist problems was much higher in sports like gymnastics, ranging from 46 to 87 percent of participants.

Besides sports injuries, other accidents may spawn traumatic injuries. Sprains, strains and tendonitis may also result from non-traumatic, chronic overuse.

Scapholunate Injuries

The lunate and scaphoid carpal bones are bound together by the following three ligaments:

1. Volar radioscapholunate ligament
2. Scapholunate interosseous ligament
3. Dorsal scapholunate ligament

Scapholunate injuries, the most common type of wrist injury involving ligaments, results from excessive extension of the wrist — such as occurs when falling on an open hand with fingers splayed in a fan-like pattern.

Symptoms range from significant swelling to decreased range of motion and tenderness (*Am J Sports Med* 2003;31:1038).

Carpal Scaphoid Fractures

The most common wrist fracture associated with athletics involves the carpal scaphoid bone: one of four bones located in the proximal row of the wrist. “It accounts for 70 percent of all carpal fractures and is most prevalent in the 15- to 30-year-old population.” (*Am J Sports Med* 2003;31:1038.)

Epicondylitis

Commonly referred to as “tennis elbow” when it occurs laterally and “golfer’s elbow” when it occurs medially, epicondylitis is associated with a variety of sports and occupational activities (*J Am Acad Orthop Surg* 1994;2:1-8).

Symptoms of lateral and medial epicondylitis include elbow pain, in addition to weakness in the wrist and fingers (*J Ky Med Assoc* 1990;88:349).

Diseases and Harmful Habits

Nerve entrapment and symptoms associated with CTS can also be brought on by diabetes, smoking, alcohol consumption, rheumatoid arthritis and hypothyroidism: although these disorders typically produce simultaneous symptoms in both arms, not just one (*Am Fam Physician* 1995;51:103-16).

One Last Word on Prevention

Make an appointment today with your doctor of chiropractic and discuss ways to adjust your work and postural habits to minimize wrist and neck pain. Don’t wait for pain to signal it’s time for another visit!

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