Carpal Tunnel Syndrome by Dr. Bryan D. Royer
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Carpal tunnel syndrome (CTS) is the most expensive of all work-related injuries. Over his or her lifetime, a carpal tunnel patient loses about $30,000 in medical bills and time absent from work.

CTS typically occurs in adults, with women 3 times more likely to develop it than men. The dominant hand is usually affected first, and the pain is typically severe. CTS is especially common in assembly-line workers in manufacturing, sewing, finishing, cleaning, meatpacking, and similar industries. Contrary to the conventional wisdom, according to recent research, people who perform data entry at a computer (up to 7 hours a day) are not at increased risk of developing CTS.

What Is CTS?
It is when a nerve called the median nerve, which runs from the forearm into the hand get pinched in the carpal tunnel. The carpal tunnel is located in your wrist and is bordered by bone and ligaments and contains tendons, blood vessels and nerves. Inflammation can cause swelling of some structures and then compression of the delicate nerves in this very tight space. CTS is the most common of the "entrapment neuropathies"—compression or trauma of the body's nerves in the hands or feet.

What Are the Symptoms?
Often, there is burning, tingling, itching, and/or numbness in the palm of the hand and thumb, index, and middle fingers. Some people say that their hand or fingers feel swollen, even though there is none visible. Symptoms usually start during the night because many people sleep with their wrists flexed and this increases the pressure on the median nerve. Tingling can begin to occur during the day as the symptoms get worse and certain movements in the wrist can make the symptoms worse. Sometimes, the grip can become weak or it can become difficult to coordinate your finger movements. The muscles of the hand can waste away in the area at the base of the thumb and there can be problems telling the difference between hot and cold in those fingers.

Why Does CTS Develop?
Some people have smaller carpal tunnels than others, which makes the median nerve compression more likely. In others, CTS can develop because of an injury to the wrist that causes swelling, over-activity of the pituitary gland, hypothyroidism, diabetes, inflammatory arthritis, mechanical problems in the wrist joint, poor work ergonomics, repeated use of vibrating hand tools, and fluid retention during pregnancy or menopause.

How Is It Diagnosed?
CTS should be diagnosed and treated early. A standard physical examination of the hands, arms, shoulders, and neck can help determine if your symptoms are related to daily activities or to an underlying disorder.

Your doctor of chiropractic can use other specific tests to try to produce the symptoms of carpal tunnel syndrome. One of the most common tests is the carpal compression test. Moderate pressure is applied with both thumbs directly on the carpal tunnel and underlying

median nerve at the transverse carpal ligament. Laboratory tests and x-rays can reveal diabetes, arthritis, fractures, and other common causes of wrist and hand pain. Sometimes other tests, such as nerve conduction velocity testing, are used to help confirm the diagnosis.

Getting the right diagnosis is the key to recovery as many other musculoskeletal wrist and hand problems are misdiagnosed as being carpal tunnel syndrome. When someone mentions of having pain in the hand, most people automatically think carpal tunnel syndrome but often the real problem is located in the neck or near the elbow. This is why a comprehensive evaluation and examination by your doctor of chiropractic find the correct diagnosis.

What Is the CTS Treatment?
Initial therapy includes:

- Resting the affected hand and wrist
- Avoiding activities that may worsen symptoms
- Immobilizing the wrist in a splint to avoid further damage from twisting or bending
- Applying cool packs to help reduce swelling from inflammations

Some medications can help with pain control and inflammation. Studies have shown that vitamin B6 supplements may relieve CTS symptoms.

Chiropractic joint manipulation and mobilization of the wrist and hand, stretching and strengthening exercises, soft-tissue mobilization techniques, and even yoga can be helpful. Scientists are also investigating other therapies, such as acupuncture, that may help prevent and treat this disorder.

Occasionally, patients whose symptoms fail to respond to conservative care may require surgery. The surgeon releases the ligament covering the carpal tunnel. The majority of patients recover completely after treatment, and the recurrence rate is low. Proper posture and movement as instructed by your doctor of chiropractic can help prevent CTS recurrences.

How Can CTS Be Prevented?
The American Chiropractic Association recommends the following tips:

- Perform on-the-job conditioning, such as stretching and light exercises.
- Take frequent rest breaks.
- Wear splints to help keep the wrists straight.
- Use fingerless gloves to help keep the hands warm and flexible.
- Use correct posture and wrist position.
- To minimize workplace injuries, jobs can be rotated among workers. Employers can also develop programs in ergonomics—the process of adapting workplace conditions and job demands to workers' physical capabilities.

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