

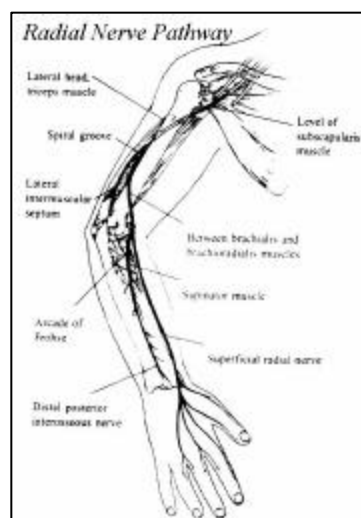
# Carpal Tunnel = Tunnel Vision

By Michael Boorstein, President WristWand, LLC

In recent years Repetitive Strain Injuries (RSI) or Cumulative Trauma Disorders (CTD) have resulted in huge amounts of physical pain and cost businesses an estimated 54 billion dollars each year.<sup>1</sup> When a person is diagnosed with what is thought to be the most common form of RSI, Carpal Tunnel Syndrome, common thinking is that the problem is in the wrist. As you will see, this can be very shortsighted.

Carpal Tunnel Syndrome usually presents itself as tingling in the thumb, index finger and middle finger accompanied by hand and wrist pain and a general loss of grip strength in the hand. Most people believe the problem must be a compression of the median nerve as it runs through the carpal tunnel in the wrist. Although this may be the cause, there are many others that must be considered. The problem actually may be found anywhere along the nerve routes and even at more than a single site. At this point, a brief description of the peripheral nerves supplying the upper extremity is in order, namely the radial, median and ulnar nerves.

These peripheral nerves originate as spinal nerves in the spinal column and pass through the soft tissues of the shoulders, arms and wrists before they arrive at their final destinations in the fingers. They must be free to move and glide within the soft tissues and ligamentous canals or openings through which they pass. At many points along the nerve route, beginning at the spinal column, the nerve may be subject to compression and/or trauma, which can then produce symptoms of RSI. A common example that we are all familiar with is when we hit our “funny bone”. The traumatized ulnar nerve causes tingling in the ring and pinky fingers.



There are four mechanisms by which a peripheral nerve may become mechanically disrupted resulting in irritation, inflammation, pain and loss of sensation.<sup>2</sup>

1. The nerve may become compressed and irritated as it passes through very tight or spasmodic muscle tissue.
2. Along its path, the nerve can get caught or tethered as it enters or exits the many ligamentatous tunnels and facial openings.
3. The nerve can become irritated between bones and adjacent soft tissues.
4. Compression of the nerve due to adhesions. (scar tissue buildup).

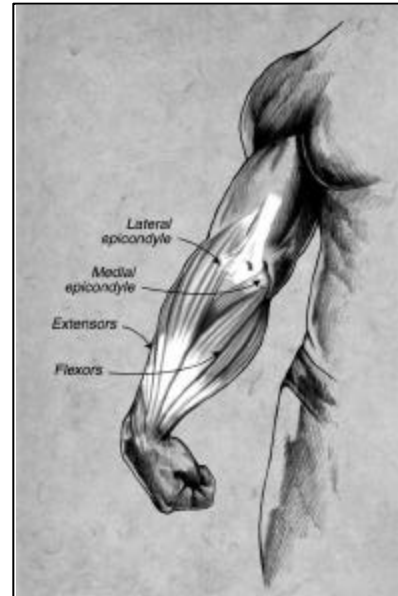
Hand pain, tingling and weakness is obviously a far more complex diagnostic puzzle than most people think when considering Carpal Tunnel Syndrome. One must determine which nerve is involved since each can produce similar hand symptoms.

Many people diagnosed with Carpal Tunnel Syndrome have additional issues such as lateral and medial epicondylitis, more commonly known as Golf or Tennis Elbow, tendonitis of the shoulder

and scapula. Since we now understand that the cause of the CTS symptoms may be located in places other than the wrist, it stands to reason that if treatment is directed to the other areas, the CTS symptoms may be relieved or disappear. The elbow is such a location. Entrapment of the nerves around the elbow is very common, and can present the symptoms of CTS. Further complicating the issue is the possibility of what doctors refer to as double crush syndrome.<sup>3</sup> One study discovered that more than 2/3 of patients with specific upper extremity nerve entrapments also had cervical nerve problems.<sup>4</sup> The difficulty is that each problem along the nerve route may not, by themselves, be enough to cause a problem, but these traumas are additive, and together can translate into RSI symptoms. Fixing one of the sites may not solve the problem if multiple sites of irritation exist.

In addition to nerve problems of the upper extremities, there may be problems with the muscles, ligaments and tendons. As discussed above, tight or spasmodic muscles can directly cause nerve problems. If a muscle becomes too tight, it puts a strain on the tendon, which connects muscle to bone. This causes an inflammation of the tendons, known as Tendonitis. Muscles become too tight for many reasons including:

- The normal aging process. As we get older we become less flexible than we used to be.
- We participate in jobs or activities that require us to stay in sustained postures for long periods without adequate stretching.
- We participate in sports or other activities that constantly traumatize these soft tissues.



In the lower arms, a major source of pain and weakness is the extensor muscle group by the elbow. Elbow tendonitis can be as debilitating an RSI as Carpal Tunnel Syndrome. Although sometimes controlled through the use of anti-inflammatory drugs available over the counter, this is a band-aid approach at best, as it fails to address the excessively tight muscle that caused the tendonitis in the first place.

In the upper chest the pectoralis minor muscles are chronically shortened because most people walk and sit in a slumped position. A shortened pectoralis minor is a common site of nerve entrapment causing symptoms of RSI. A slumped posture rounds the upper back resulting in stiffness and neck fatigue. Over time, the fatigue symptoms can become chronic.

Other causes of upper extremity RSI include pregnancy, diabetes, or any other condition that produces fluid retention. Fluid retention, by increasing the pressure in all of the tunnels and connective tissue, places the nerves coursing through them at risk.

With each of the above problems, stretching has been shown to help relieve and prevent the problems and symptoms.<sup>5</sup> This is why people who are suffering may go to a chiropractor, physical therapist, or massage therapist to help stretch and relieve these problem areas. Starting a personal stretching program is key to preventing RSI in the first place.

The WRISTWAND® stretching device is based on a centuries old stretching technique discovered in the champagne cellars of France. Part of the process of making champagne is to manually turn the bottles of fermenting wine ¼ of a turn each day. This is called “riddling”. The people who do this are called “Riddlers”. Each Riddler turns up to 30,000 bottles every day, yet they have no repetitive strain injuries. They are required as part of their job to do a very unique stretch. We have modified and improved on the stretch and created the WRISTWAND® to work in our modern day environment.

*The WRISTWAND enables you to give your hands, wrists, elbows, shoulders and upper chest and back increased rotation, range of motion, lubrication and strength. It will prevent problems of the upper extremities. Stretching out these muscle groups prevents injury, and even if you already have some symptoms, it can also relieve them.*

-- Andrew Goldstein, MD, Orthopedic Surgeon

Many companies are trying to institute stretching programs in the workplace, but they have been largely unsuccessful for the following reasons:

- The standard recommended stretches take between 2-5 minutes to perform. This is too long.
- The standard stretching exercises are too complicated requiring a chart to perform correctly.
- Standard stretching exercises require a lot of time and dedication before results are felt and seen.

The WRISTWAND® stretch protocol is utilized by many companies around the country with great success. So why does the WRISTWAND® stretching program work when so many others fail?

- The WRISTWAND stretch takes between 20-30 seconds.
- The WRISTWAND stretch is very simple, requiring only 1 exercise.
- People feel the WRISTWAND stretch working the first time they try it. It feels good and they will do it again and again.
- The WRISTWAND sits on the employee’s desk and gently reminds them to stretch.

*It is vitally important for computer operators to take short frequent breaks to interrupt those sustained postures and repetitive stresses that contribute to Cumulative Trauma Disorders. The WRISTWAND is a very effective tool in that it serves as both a visual and tactile reminder for workers to take that necessary break while also targeting upper extremity muscle groups that are very susceptible to micro trauma.*

-- Michael K. Leary, P.T., BackFirst

The WRISTWAND stretch works on all of the muscles, tendons and ligaments of the upper extremities, including groups very difficult to access any other way, putting them through their full range of motion.

*The WRISTWAND stretch is unlike anything I've ever seen. It simply and profoundly reverses the usual way in which we humans grasp, lift, or move objects with our hands and forearms. The result of daily use is nothing less than increased mobility and relaxation of the wrist and forearm. How this translates for the computer operator, waitress, or carpenter is no different than for a baseball player, golfer, tennis buff, or pinball wizard: a supple body translates into injury prevention and improved performance. I have never seen a more thorough means of opening up the chronically tight muscles and connective tissues of the wrist and forearm. An added benefit is the way in which the whole upper extremity including the upper arm, shoulder, and scapula are gently and synergistically called into play while the lower arm and wrist is stretching inside-out.*

-- Steven Katz, DC, DABCO

The WRISTWAND is also very affordable. When purchased in quantity the WRISTWAND costs less than \$10. If a company has 1000 employees they can purchase everyone a WRISTWAND for less than \$10,000 dollars. If just 1 person out of a 1000 avoids or relieves an injury using the WRISTWAND, then the entire program will have paid for itself. No other device or program has that kind of return on investment success!

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<sup>1</sup> National Research Council and the Institute of Medicine

<sup>2</sup> Perle DC, Chiropractic Management of Peripheral Neuropathy: Pathophysiology, Assessment and Treatment, Topics in Clinical Chiropractic, Volume 6, Number 4, December 1999,

<sup>3</sup> Simpson, Fern, Multiple compression neuropathies and the double-crush syndrome. Orthop Clin North Am. 1996;27(2):381-388

<sup>4</sup> Howard FM, Controversies in nerve entrapment syndromes in the forearm and wrist. Orthop Clin North Am. 1986;17(3):375-381

<sup>5</sup> Garfinkel EdD, Singhel MD, Katz MD, Allan MD PhD, Reshetar EdD, Schumacher MD, Yoga-Based Intervention for Carpal Tunnel Syndrome, JAMA, November 11, 1998 – Vol 280, NO 18