

CAUT Health and Safety Fact Sheet



Carpal Tunnel Syndrome

ISSUE 12

What is it?

Carpal tunnel syndrome is a serious work-related disorder that affects a significant number of academic and general staff. Carpals, 8 bones in the wrist, form a “tunnel” through which flexor tendons pass, controlling finger movements. This structure provides a pathway for the median nerve to reach sensory cells in the hands. Repetitive flexing and extension of the wrist can cause thickening of the tendon’s protective sheath. The swelling applies pressure on the median nerve and thus produces Carpal Tunnel Syndrome (CTS).¹

Symptoms

The most common symptoms are:

- Tingling of the thumb, index, middle and ring fingers
- Night pain, which is relieved by shaking, hanging or massaging the hand
- May have pain in the arm and shoulder
- Numbness and loss of manual dexterity
- Weakness of the hand, interfering with pinch and grasp
- Dropping objects and/or difficulty in using keys or counting change
- Skin may be dry due to reduced sweating (poor circulation)

Causes

Repetitive movement over an extended period often leads to CTS. Academics are particularly prone to it when using computer keyboards, or using protracted fine motor skills in research or lab work.

Identifying CTS

If you think you may be affected by Carpal Tunnel Syndrome, you should consult your health care provider for diagnosis and testing. Ensure that you communicate accurately the type of work you do, the daily and cumulative yearly time frames for work production, the type of equipment you work on, the symptoms you are experiencing, and the quality of life disruption both at work and at home. Sleep interruption due to pain and decreased work productivity are examples of quality of life disruption.

Lost Time ...

During 1998, an estimated three of every 10,000 workers [US] lost time from work because of carpal tunnel syndrome.

National Institute
of Neurological
Disorders and
Stroke (U.S.)

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The following tests² may be performed to diagnose CTS:

- **Tinel's test:** the tester taps the median nerve at the wrist.

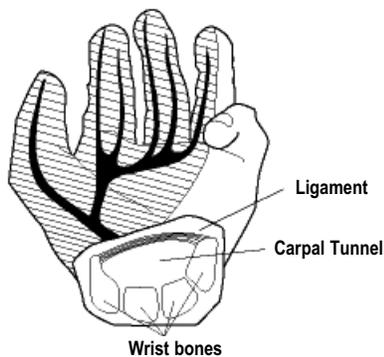
A tingling response in one or more fingers indicates damage to the median nerve.

- **Phalen's test:** the worker puts the backs of the hands together and bends the wrists for one minute. Tingling of the fingers indicates damage to the median nerve.

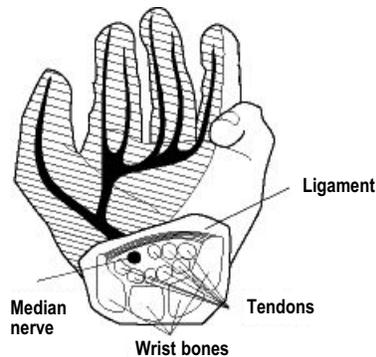
Whether you are newly entering the workforce, or have been there for some time, prevention is key to avoiding or reducing CTS.

If the symptoms are severe, surgery may be necessary, but should be the choice of last resort. Returning to the same activities which led to surgery will usually cause a recurrence of the injury. Even after surgical intervention, some

- Ask your employer for proper ergonomics training – it's your right
- Have your workstation or your job redesigned to eliminate or reduce CTS
- Workstations should be fully adjustable
- Analysis of tasks should incorporate changes in body position, work-rest schedules, work breaks and rotation of tasks which break the cycle of prolonged repetitive motions
- When using a keyboard, use warm-up exercises and stretches before starting, keep wrists straight, avoid using a mouse and pounding the keys, and use good posture



The Carpal Tunnel



The Carpal Tunnel with Tendon and Median Nerve

- **Electromyography:** electrodes are placed on the forearm and electrical current is passed through the worker. Measurements on how fast and how well the median nerve transmits messages to muscles indicate if there is damage to this nerve.

Treatment

If the symptoms are mild or likely to be temporary, then rest, anti-inflammatory drugs and a splint may help. It is important to avoid the activities that caused or aggravated the injury. However, where this is not possible, workers should wear the splint at work, if needed, after work and especially during sleep.

people still have some problems, and weakness in the grip of the operated hand persists in about 30 percent of cases.

Prevention

Whether you are newly entering the workforce, or have been there for some time, prevention is key to avoiding or reducing CTS.

Ensure that you report your symptoms to the Joint Health and Safety Committee (JHSC) for investigation and assistance with enhancing safer work production. Report workplace injuries to your employer, as you may qualify for Workers' Compensation Benefits.

- Report ergonomic issues to your JHSC

References

- Canadian Centre for Occupational Health and Safety
www.ccohs.ca
- National Institute of Neurological Disorders and Stroke (U.S.)
www.ninds.nih.gov
- National Institute for Occupational Safety and Health
www.cdc.gov/niosh
- University of British Columbia
www.slais.ubc.ca

Endnotes

- 1 Adapted from NIOSH Facts, Carpal Tunnel Syndrome June 1997
- 2 Adapted from CCOHS, OSH Answers – Carpal Tunnel Syndrome

Diagrams reproduced:

CCOHS, OSH – Answers, Carpal Tunnel Syndrome