Carpal Tunnel Syndrome

Hand and wrist problems have become an increasing problem during recent years, especially with increased computer keyboard use in the workplace and home. This increased use may place one at an increased risk for carpal tunnel syndrome. Carpal tunnel syndrome is a repetitive strain injury with pain, numbness, and tingling in the thumb, second and middle fingers, and possibly one-half of the ring finger.

From an anatomical perspective, a person has a “C” shaped configuration of wrist bones just beyond the last crease in the wrist. A ligament traverses the open part of the “C”, in effect, forming a tunnel. Contents of this tunnel are several tendons and the median nerve passing through to the palm side of the hand.

Problems occur when this tunnel becomes smaller, or when the contents in this tunnel increase in size. The former may happen from an event such as a traumatic fall onto the wrist. The latter may be due to repetitive, forceful, or prolonged activities which may cause swelling of the tendons in the tunnel. This may then cause pressure on the median nerve, resulting in increased tingling, numbness, and pain subsequently.

Signs and symptoms of carpal tunnel syndrome may include:

- **tingling, numbness, and pain** to the hand and fingers, as mentioned above. Discomfort may be felt to the forearm in some instances. The pain frequently is more pronounced at night.

- **progressive weakness and clumsiness** of the hand. This may include:
  - one’s tendency to drop items or to have more difficulty in holding a phone, reading a book, or gripping a steering wheel.
  - a **swollen feeling** in the fingers, even though they may not appear swollen.
  - wasting of the muscles in the hand in more severe cases, especially at the base of the thumb.

Before the condition becomes severe, a person should contact their physician for treatment. The physician may advise treatments to include the following:

- **a wrist splint**, keeping the wrist in a neutral position during activities and at night while sleeping.

- **periodic stretching** of the forearm muscles during activity, progressing to strengthening of the forearm muscles, as advised by a therapist.

- **rest** from the aggravating activity, if possible.

- **modification of aggravating activities**, to include using larger and/or cushioned handles or grips.

- **modification of the computer workspace**, e.g. having the computer screen at eye level and using a chair with good lumbar support, both assisting in improving posture, and using a wrist pad to decrease pressure on the wrists and to keep them at a more neutral position.

- **anti-inflammatory medications** prescribed by a physician.

- **cortisone injection**, if the above treatments are not beneficial.

- **surgery** as a last resort to relieve pressure on the affected nerve and tendons.

An estimated 80-90% of people with mild signs and symptoms of carpal tunnel syndrome will recover completely with appropriate non-operative treatment. An occupational or physical therapist can structure a treatment program to help in the rehabilitation of this condition.

**References**

- Clinical and Investigative Medicine, October, 2005, Vol. 28, No. 5, pp 254-260
- American Academy of Orthopedic Surgeons Web site, search for carpal tunnel syndrome
- American Physical Therapy Web site, search for carpal tunnel syndrome
- Mayo Clinic Web site, search for carpal tunnel syndrome

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: **http://www.mckinley.illinois.edu**