



Orthopedic Associates OF PORT HURON

What is Carpal Tunnel Syndrome?

Carpal tunnel syndrome is a common problem that affects the hand and wrist. This condition, or syndrome, has become the focus of much attention in the last few years due to suggestions that it may be linked to occupations that require repetitive use of the hands, such as typing. In reality, there are many people who develop this condition, regardless of the type of work that they do.

Carpal tunnel syndrome develops when there is too much pressure on the median nerve as it passes into the wrist through an opening called the carpal tunnel. This increased pressure is caused by inflammation of the tendons in the wrist, which causes thickening of the outer surface of the tendons. The bones and ligaments that make up the tunnel are not able to stretch, therefore pressure builds.

The median nerve supplies sensation to the thumb, index finger, long finger, and half of the ring finger. Also, this nerve supplies the muscles of the thumb. Therefore, as pressure builds, the median nerve is not able to properly supply these areas.

Symptoms

The symptoms of carpal tunnel include:

- Numbness in the thumb, index finger, long finger, and half of the ring finger
- Pain in the same areas and may include the arm, shoulder and neck
- In more advanced cases, weakness and atrophy (decreased in size of the muscle) of the thumb

Possible Causes

- Different types of arthritis causing inflammation of the tendons
- Fracture of the wrist bones, if healed fragments result in abnormal irritation of the tendons

Treatment

- Non-surgical
 - Wrist braces, maintaining the wrist in a neutral position, worn when symptoms are experienced, night or day
 - Anti-inflammatory medications
 - Exercises emphasizing proper position of the wrist

- Alteration of the work site if possible
- [Cortisone injection](#)
- Surgical
 - A small incision, usually less than 2 inches, is made in the palm of the hand. After the incision is made through the skin, a structure called the palmar fascia is visible. An incision is made through this material as well, so that the constricting element the transverse carpal ligament can be seen. Once the transverse carpal ligament is visible, it is cut with either a scalpel or scissors, while making sure that the median nerve is out of the way and protected. Once the transverse carpal ligament is cut, the pressure is relieved on the median nerve. Finally, the skin incision is sutured. At the end of the procedure, only the skin incision is repaired. The transverse carpal ligament remains open and the gap is slowly filled by scar tissue.

Post-Surgical Instructions

A bulky dressing and a plaster splint are applied to the hand following surgery. This should be left in place following surgery until the first Physical Therapy appointment, three days post-surgery. The physical therapist will remove the dressing, inspect the incision, and begin home exercise instruction. [Physical therapy](#) following the first visit, if necessary, will consist of range of motion, strengthening and nerve gliding exercises as well as modalities for pain and inflammation control. The sutures will be removed 10 – 14 days following surgery during the first post-operative visit with the surgeon.

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