



CARPAL TUNNEL SYNDROME

ABOUT

Carpal tunnel syndrome is the most prevalent entrapment neuropathy (compression of a nerve) of the upper limb. The carpal tunnel is a passageway at the wrist, three sides of which are bone, and the roof of the tunnel being a strong broad ligament called the Transverse Carpal Ligament. Inside the tunnel are nine tendons that flex (bend down) the fingers and thumb, and the median nerve.

This nerve contains thousands of nerve fibres supplying sensation to the palm side of the thumb, index, middle and some of the ring finger as well as power to the small muscles in the thumb.

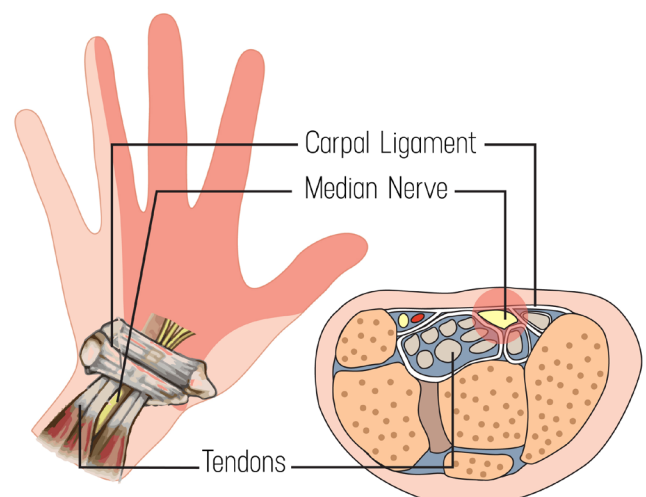
If there are pressure changes within the tunnel, the median nerve can become compressed. This will interfere with the transmission of signals by the nerve. The three major predisposing factors are being female, middle aged, and obese. Also, any condition that decreases the space available for the median nerve, for example thicker/swollen tendons; oedema (swelling), retained fluid during pregnancy; fractures or crush injuries that disrupt the carpal tunnel space. Systemic diseases such as Diabetes and Rheumatoid Arthritis are also associated with Carpal Tunnel Syndrome.

There is considerable debate as to whether specific work tasks lead to Carpal Tunnel Syndrome. Occupations and activities that involve high force, sustained or repetitive grasp and wrist flexion, or prolonged use of vibratory tools, may contribute to the development of Carpal Tunnel Syndrome.

SYMPTOMS

Compression of the median nerve may lead to symptoms such as pain, altered sensation (tingling and numbness), and clumsiness. Waking at night with symptoms is common. As the condition progresses, there may be weakness of grip and pinch, and you may drop objects in your grasp. The muscles at the bottom of the thumb may appear smaller (muscle wasting) when compared to the other side.

CARPAL TUNNEL CROSS-SECTION



HOW HAND THERAPY CAN HELP

The goal of treatment for Carpal Tunnel Syndrome is to decrease the pressure on the median nerve. Conservative management is favoured for mild to moderate conditions and may include analysis and modification of daily work activities; wearing an orthosis (support) to keep the wrist neutral, especially at night; and exercises to maintain mobility of the nerve and tendons in the wrist and upper limb.

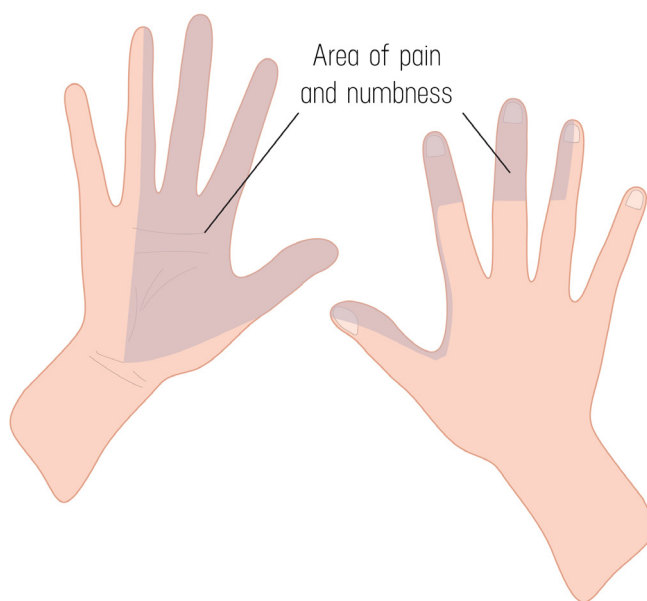
DO

- Keep the wrist neutral for rest and work (minimises carpal tunnel pressure)
- Avoid strong, sustained, and repetitive gripping
- Maintain good posture (the nerve starts in the neck)
- Take regular breaks as you work

DON'T

- Continue with an activity that causes pain and altered sensation
- Smoke (decreases blood flow to the nerve)
- Have a high salt diet (causes fluid retention)

MEDIAN NERVE SENSORY DISTRIBUTION



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LIMB - SHOULDER TO HAND*

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