



Carpal Tunnel Syndrome

The carpal tunnel is the passageway on the palmar side of the wrist which connects the forearm to the palm of the hand & consists of bones & connective tissue. Several tendons & the median nerve pass through this tunnel. When any of the tendons become swollen or degenerated, the narrow passageway becomes smaller & the median nerve becomes compressed & trapped, which facilitates the medical condition; carpal tunnel syndrome. The most common cause of carpal tunnel syndrome is typing on a computer however it is common in people who perform repetitive movement of the hand & wrist. Other causes include sewing, driving assembly line work, painting, writing, repetitive use of hand tools & vibrating tools, hand sports & even playing some musical instruments.

Symptoms caused by the compression of this nerve include tingling, numbness & pain to the hand which can radiate to the forearm & shoulder. As the nerve also creates movement to the thumb, palm, index finger, middle finger & thumb side of the ring finger, muscle damage can also develop through the nerve compression. This also makes fine finger movements difficult & as a result, there can be a wasting of the muscle under the thumb which results in difficulty in grip & carrying items. Carpal tunnel syndrome can be identified through the description of the pain & weakness, & then through the identification of 'Tinel's' sign as the median nerve is tapped & pain shoots from the wrist to the hand.

Confirmation tests can include nerve conduction tests & electromyography. Treatment progresses through a reduction of pressures through the wrist, either through the use of a splint at night or, if required, during the day. Adjustments & modifications to a workplace can include alternative mouse devices & cushioned pads. Positional reviews whilst at work & a diminution in the use of vibrating tools. Alternating hot & cold therapy assists in reducing the swelling & relieving the impinged nerve to allow improved movement & controlled rehabilitation. A progressive plan can be contributed to with the use of anti-inflammatories.

Whilst symptoms do usually improve with time & treatment it has been found that 50% of cases eventually require surgery. This surgery involves cutting the ligament that is pressing on the nerve & although this is normally successful, recovery also depends on how much damage has been done to the nerve prior to the surgery. This means that full rehab can take several months & the symptoms become particularly irritable.

If the nerve has been severely damaged, the individual can be left with permanent weakness, numbness & tingling. Carpal tunnel syndrome is not necessarily predictable therefore prevention is difficult to indicate but the general avoidance of repetitive wrist movements is recommended if feasible.