

## An Overview of Carpal Tunnel Syndrome

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### DESCRIPTION

The median nerve becomes squeezed as it travels through the carpal tunnel, resulting in carpal tunnel syndrome. The transverse carpal ligament runs across the top of the wrist and the carpal bones on the bottom of the wrist come together to form the carpal tunnel. The thumb and three middle fingers receive sensory and motor input from the median nerve. Pregnant women are particularly prone to the disorder, with about 3 to 5 of every 10 experiencing symptoms during pregnancy.

The most common symptoms are pain or numbness in both hands, swollen feeling in the fingers, pins and needles feeling in the fingers, weakness and trouble in holding things, Burning or tingling in the fingers especially in thumb, index and middle finger.

Carpal Tunnel Syndrome is caused by the following conditions are frequent and repetitive hand movements such as typing; frequent and repetitive hand actions involving grabbing such as physical activities; Bone or joint diseases like arthritis, osteoarthritis; changing in blood sugar levels which mostly seen in type 2 diabetes patients; alterations in hormones such as pregnancy, menopause, thyroid imbalance; other conditions are injury in wrist such as strain, dislocation, inflammation, swelling etc [1,2].

The common risk factors are comes under the carpal tunnel syndrome may be more prevalent in people with smaller carpal tunnels. Generally, women are more likely to develop carpal tunnel syndrome. This may be caused because women's carpal tunnel area is smaller than men's. Working with vibrating equipment or on an assembly line that necessitates prolonged or repetitive wrist flexion may create pressure on the median nerve or worsen the existing nerve injury, especially in a cold environment. Other factors like obesity, diabetes, hyperthyroidism, rheumatoid arthritis, menopause, pregnancy, kidney failure and lymphedema etc. Body fluid changes may enhance the pressure on median nerve in carpal tunnel [3].

### Stages of carpal tunnel syndrome

Depending upon the symptoms, the syndrome is classified into three stages.

**Mild (Stage 1):** Carpal tunnel suffers frequently at night with numbness, discomfort, and tingling; they can relieve these symptoms by shaking out their hands. In the morning, affected hands frequently feel stiff.

**Moderate (Stage 2):** In this stage, the patients may experience the symptoms while working or doing repetitive motions with their hands for long periods of time. They frequently begin to have hand weakness and it's not uncommon for them to drop objects they're carrying.

**Severe (Stage 3):** In this stage, the patients experience the atrophy, in which the muscles attached to the median nerve permanently shrink. The tingling sensation may no longer exist because the nerve is damaged and is no longer transmitting messages to the brain [4].

### Treatment

The treatment is based on the age, overall health, medical history and opinion of patient. The treatment may include splinting the patient's hand, surgery, Anti-inflammatory medications, worksite changes and exercise.

### Diagnosis

Some tests are performed to diagnose the carpal tunnel syndrome include physical examination, Phalen's maneuver, Scratch collapse test, Sensitivity test, Durkan's test, Tinel's sign, x-ray, Electromyography, ultrasound and Nerve conduction study.

### CONCLUSION

The median nerve becomes squeezed as it travels through the carpal tunnel, resulting in carpal tunnel syndrome. The transverse carpal ligament runs across the top of the wrist and the carpal bones on the bottom of the wrist come together to form the carpal tunnel. The common risk factors are comes under the carpal tunnel syndrome may be more prevalent in people with smaller carpal tunnels. Carpal tunnel suffers they can relieve these symptoms by shaking out their hands. In the morning, affected hands frequently feel stiff. The patients may experience the symptoms while working or doing repetitive

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motions with their hands for long periods of time and also experience the atrophy, in which the muscles attached to the median nerve permanently shrink. The tingling sensation may no longer exist because the nerve is damaged and is no longer transmitting messages to the brain. The treatment is based on the age, overall health, medical history and opinion of patient.

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