

## **CARPAL TUNNEL SYNDROME**



### **Definition**

The carpal tunnel is an anatomical space located at the base of the palm. The median nerve is one of the structures that runs through the carpal tunnel. The median nerve supplies sensation to the palm and the front of the thumb, index, middle and ring fingers including the finger tips. It also supplies innervation to the muscles of the thumb, index and middle fingers. Carpal tunnel syndrome (CTS) is a compression of the median nerve within the carpal tunnel and can commonly affect both hands.

### **Symptoms**

The first symptom of CTS is usually “pins and needles” which may affect the thumb, index, middle and ring fingers. This sensation is often worse at night than during the day. The onset of the symptoms is gradual but becomes progressively worse with time. An aching sensation may also begin to develop in the palm, which may radiate to the forearm and elbow.

In severe and longstanding cases, the muscle strength in the thumb and the fingers may begin to decrease, making it difficult to perform everyday tasks. This may lead to clumsiness as well as frequent dropping of smaller objects. Muscle wasting over the thumb pad may also be observed.

### **Conservative management**

In the early stages, when the symptoms are mild, the carpal tunnel syndrome may be treated conservatively with therapy together with anti-inflammatory medication. Therapy may include splinting of the wrist, management of swelling, gentle movement exercises as well as avoidance of activities that exacerbate the symptoms. Should conservative management not be effective, surgery is indicated.

### **Surgical options**

Surgery involves making a small incision at the base of the palm and cutting the transverse carpal ligament, which forms the roof of the carpal tunnel. This increases the space in the carpal tunnel, thereby decreasing the pressure on the median nerve. Your surgeon will then refer you for hand therapy to address movement, desensitization, scar adherence, and strengthening.