

# Occupational Therapy for Carpal Tunnel Syndrome



## **WHAT IS CARPAL TUNNEL SYNDROME?**

Carpal Tunnel Syndrome (CTS) is a condition where the median nerve is compressed at the region of the wrist. It results in numbness, tingling, coldness and / or pain at the thumb, index, middle and half of the ring finger. It may also cause weakness of the hand and difficulty in holding or pinching items.

## **WHAT CAUSES CTS?**

- Prolonged forceful gripping of objects or vibration tools e.g., using screwdrivers or power drills
- Repetitive finger and wrist movements e.g., wringing of towel
- Prolonged awkward wrist postures e.g., playing musical instruments
- Prolonged period of handling cold items

## **WHAT ARE THE TREATMENTS AVAILABLE?**

### **Conservative Management**

Your doctor may refer you to an occupational therapist for hand therapy to manage your symptoms and improve your ability to perform your daily activities by

- Educating you on activity modification techniques to allow rest and recovery at the affected nerve
- Fitting you with splints / orthosis to alleviate nerve tension and compression
- Teaching you exercises to facilitate nerve and tendon gliding to optimise nerve recovery

### **Surgical Management**

Surgical release of the carpal tunnel may be advised by the doctor if conservative management fails to alleviate symptoms.

## ACTIVITY MODIFICATION PRINCIPLES

Modifying how you use your hands in daily activities may help reduce numbness or pain intensity and prevent future recurrence of this condition.

To begin, identify and reflect on the daily activities which will involve excessive and prolonged forceful gripping, and awkward wrist postures.

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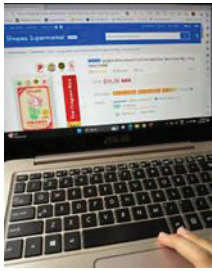

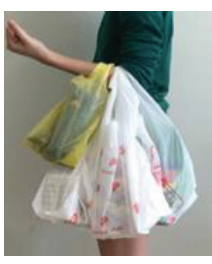

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You may adopt the following **Activity Modification Principles** to allow rest and recovery at the affected nerve.

**Scan the QR code to find out more:**



Using the activity of grocery shopping as an example, you are applying the Activity Modification Principles when you:

	<p><b>REMOVE</b> by engaging others to complete the task</p> <p>For example: Get assistance from a family member to do the grocery shopping or use online shopping with delivery services</p>
	<p><b>REPLACE</b> by using alternative methods to complete the task</p> <p>For example: Carry the shopping bag over your shoulder or use the grocery trolley</p>
	<p><b>REDUCE</b> the use of compressive forces when performing tasks</p> <p>For example: Reduce the number of items that you purchased per trip or carry the shopping bag over the bigger joints such as your shoulder or elbow</p>
	<p><b>REST</b> by taking regular breaks in between tasks or break tasks up into smaller parts</p> <p>For example: Take short rest breaks along the way when carrying items home</p>

**Pen down some ways by which you can apply the Activity Modification Principles to two of the activities that you have identified earlier.**

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## **SPLINT / ORTHOSIS WEARING REGIME**



Use of splint / orthosis will encourage neutral wrist positioning to prevent compression and stretching of median nerve.

This helps to alleviate the symptoms of numbness and pain.

For maximum result, the splint / orthosis should be worn at night daily for at least 3 weeks. For more severe cases, your occupational therapist may advise for the use of splint / orthosis for a longer duration throughout the day or up to 6-8 weeks.

The splint / orthosis can be taken off for the following activities:



- Simple self-care activities such as hand hygiene and showering
- Performing home exercise programme for the affected hand

## HOME EXERCISES

- Median nerve and tendon gliding exercises are important in reducing the formation of adhesions and improving blood circulation and nutrition supply to the injured structures
- Complete 5 repetitions, 3 times a day

### Median Nerve Gliding Exercise

- Alternate between Step 1 and Step 2

	
<p><b><u>Step 1</u></b> <b>“What’s the time?”</b></p> <p>If your LEFT hand is affected, start by tilting your head towards your right shoulder (the opposite side) first.</p>	<p><b><u>Step 2</u></b> <b>“Look at the watch”</b></p> <p>Slowly tilt your head to look at your LEFT hand, as if you are looking at your wristwatch.</p>



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This patient information leaflet was jointly created by Occupational Therapy from National University Hospital, Ng Teng Fong General Hospital and Alexandra Hospital.

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