Examples of splints for the management of carpal tunnel syndrome

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What is Carpal Tunnel Syndrome (CTS)?

Carpal tunnel syndrome is a disorder of the hand caused by pressure on the median nerve as it runs through the wrist.

Carpal tunnel syndrome may occur due to overuse and repetitive hand movements, arthritis or during pregnancy. In pregnancy hormonal changes may result in fluid retention, which can compress the median nerve. CTS triggered during pregnancy usually resolves soon after birth.

CTS most frequently occurs during the third trimester, but it may occur during the first and second trimesters.

What is the cause of CTS in pregnancy?

Swelling in the hand/wrist caused by fluid retention compresses the median nerve.

Symptoms may be made worse by repetitive hand movements, holding hands in sustained positions or by putting weight through outstretched hands, as in kneeling on all fours.

What are the signs and symptoms of CTS?

- Numbness
- Pins and needles especially in the thumb, index and middle fingers
- Symptoms may worsen or only occur at night
- Radiating or referred pain into the forearm or upper arm
- Weakness of the hand/weak grasp
- Pain and problems with thumb movements
- Clumsiness and loss of hand coordination

What are the treatment options for CTS?

- Rest or modify activities
- Massage
- Contrast baths (alternating hands in warm and cold water)
- Ice
- Elevation
- Splints (working and resting, especially at night)
- Muscle pump exercises/ gliding exercises
- Avoid sleeping on the affected side
- Electrotherapy - ultrasound
- Cortisone injection into the wrist
- Surgery as a last resort

Figure 1. Tendon gliding exercises

Figure 2. Nerve gliding exercises