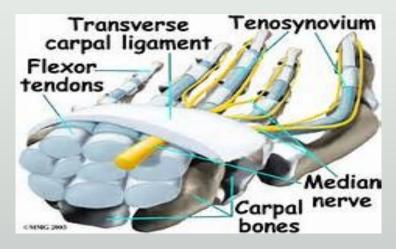
## **Median Nerve Entrapment aka Carpal Tunnel Syndrome**

Carpal Tunnel Syndrome (CTS) is a condition that occurs when the nerves and tendons running through the carpal tunnel of the wrist become irritated and swollen. The carpal tunnel is a narrow passage in the wrist comprising bones and ligaments through which nerves and tendons pass into the hand. When the wrist is overused, used improperly, or injured, swelling of the tissues in the carpal tunnel compresses the nerves and tendons. This can cause pain, weakness, numbness, tingling, and swelling in the hand and fingers.



Carpal Tunnel Syndrome (CTS) usually causes sensory symptoms in the thumb side of the ring finger, long and index fingers, and thumb and motor symptoms of weakness of hand grip, raising the thumb straight up from the palm, and squeezing between the thumb and pinky finger. If left untreated, the nerve compression and inflammation worsen, resulting in the persistence of symptoms even when not bicycle riding. Sufferers of CTS may also complain of night-time symptoms. Cyclists may be at risk of developing CTS due to long hours spent in one position, road vibration, and pressure from the hand positions.



Inflamed Median nerve due to compressive forces of Transverse carpal ligament

## **Prevention strategies**

- $\Rightarrow$  Minimize direct pressure on the nerve
- $\Rightarrow$  Change hand position frequently
- $\Rightarrow$  Gloves? Evidence shows 10-28% effective
- $\Rightarrow$  IASTM\* to help with tissue inflammation
- $\Rightarrow$  Carpal adjustments (removes pressure)
- ⇒ Inhibit excessive wrist extension (traction of the nerve)
- ⇒ Lower and shift bike seat back to reduce forward position of upper body thus transferring weight onto arms and hands.
- ⇒ Extra foam tape on handlebars to allow for extra shock absorption.
- $\Rightarrow$  Stretch wrist and do Isometric exercises for wrist

\*Instrument assisted soft tissue mobilization



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