

## Lesson number 6

### Cumulative Trauma Disorders

#### Background

Cumulative trauma disorders (CTDs) also known as repetitive strain injuries, repetitive motion disorders, overuse syndrome and work-related musculoskeletal disorders. CTDs are diseases of the musculoskeletal system, which include joints, muscles, tendons, ligaments, nerves and blood vessels. CTDs are usually caused by a combination of the following risk factors: repetitive motion for short time, forceful exertions (pulling, pushing, lifting and gripping), static postures, mechanical compression of soft tissues in the hand against edges or ridge such as using tools or objects which press against the palm, fast movement of body parts, lack of sufficient recovery time, which will increase the risk of developing a CTD by any of the above factors.

Common symptoms of CTDs include pain and swelling of the body parts that are performing the work duties.

Who is at risk for CTDs?

Any occupation involving the above risk factors can cause CTDs: office workers, meat packers, sewing machine operators, bricklayers.

What are some type of CTDs?

Cumulative Trauma Disorders can be categorized into tendon disorders and nerve disorders.

A. Nerve Disorders-The most common type of nerve disorders is carpal tunnel syndrome, thoracic outlet syndrome, Raynaud's syndrome and other nerve entrapment syndromes.

Carpal Tunnel Syndrome (CTS)-is the most frequently reported CTDs in the working world. CTS refers to compression of the median nerve

as it passes the carpal tunnel in the wrist. Any condition that increases the content in carpal tunnel can cause compression of the median nerve. Jobs that combine packing, sewing and cutting are at high risk. Commonly reported symptoms of CTS including numbness, burning and tingling in the first 3 digits .If left untreated symptoms can become much worse and may result in loss of grip strength, clumsiness, increased pain at night and possibly permanent loss of hand function.

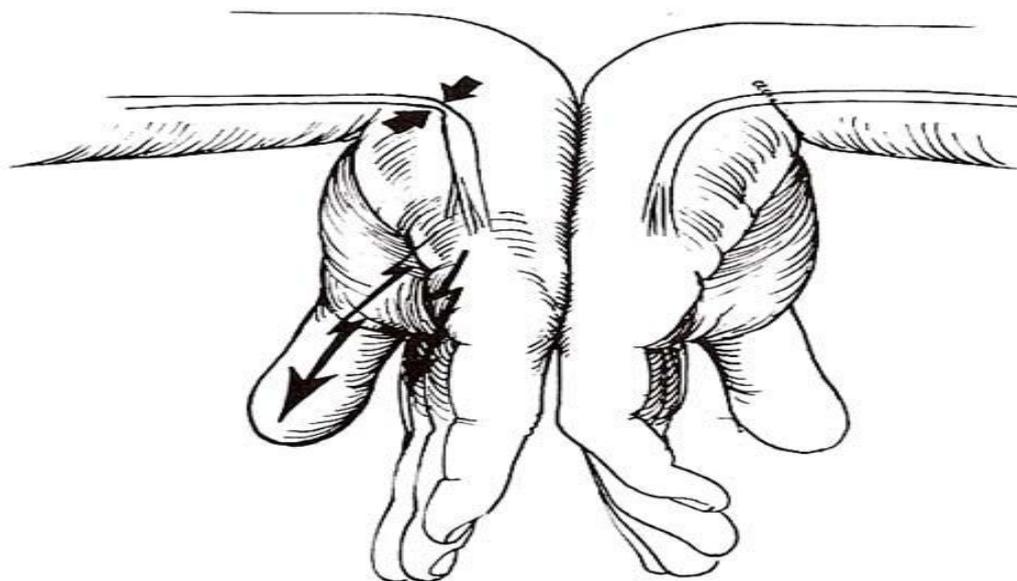
There are two physical methods for investigation:

Tinel's sign:The doctor must tap on the flexor retinaculum.If the tap elicits discomfort or dysesthesias that radiate into the thumb.

Phalen's sign –cause the same symptoms .

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### Phalen's test



If one takes electrodiagnostic abnormalities as the gold standard for the diagnostic confirmation,as one should,it is possible to test the specificity and sensitivity of the classic signs and symptoms.

B. Tendon Disorders-Tendons are bundles of fibrous tissue that connect the muscles to the bones. Disorders of the tendons and of their protective coverings called synovial sheaths are among the most common type of CTDs. Symptoms include dull aching sensations over the tendons, tenderness to the touch, discomfort with certain movements and sometimes disabling pain. Next diseases are in this group: Tendonitis, tenosynovitis, stenosing tenosynovitis, De Quervain's disease, trigger finger, golfer's elbow and tennis elbow and rotator cuff tendonitis.

Trigger finger-occurs when the tendon sheath of a finger is so swollen that the tendon becomes locked in the sheath. This is often associated with using tools that have handles with hard edges or ridges, and/or repetitive bending of the fingers with continued forceful gripping of equipment. Attempting to move the finger will cause snapping and jerking movements.

You will learn about these diseases more specifically in the Rheumatology and Orthopedics science.