NEUROLOGY GROUP of BERGEN COUNTY

Carpal Tunnel Syndrome

Carpal tunnel syndrome is a common condition caused by compression, or entrapment, of the motor and sensory nerve in the wrist (median nerve), resulting in pain, muscle weakness, impaired reflexes, numbness, and tingling in the hand. Nerve compression is often associated with repetitive activities (e.g., typing, painting, hammering) that cause stress injury, swelling, and inflammation. The carpal tunnel is a canal in the wrist through which tendons, nerves, and blood vessels pass, and is covered by the transverse carpal ligament. The condition may be more common in people who use their wrists in repetitive activity (e.g., typists, computer operators, house painters).

Causes & Risk Factors:

The primary risk factor is a history of another musculoskeletal disorder. The condition develops most often in people who regularly use vibrating machinery and tools and those who use their wrists repetitively, such as: accountants, artists (musicians, painters, writers), assembly line workers, drivers (bus, taxi, and truck), carpenters, check-out clerks and computer operators or programmers. Hobbies such as rowing, knitting, needlepoint, gardening and playing a musical instrument may also increase the risk for carpal tunnel syndrome, but it can sometimes develop in the absence of any of these things.
Other risk factors include underlying medical conditions, such as the following:

- Arthritis
- Amyloidosis (metabolic disorder)
- Bone enlargement caused by overproduction of growth hormone (acromegaly)
- Diabetes mellitus
- Reduced thyroid gland function (hypothyroidism)
- Pregnancy (may cause swelling of the extremities)
- Tendon inflammation (tenosynovitis)
- Uremia (condition in which the kidneys do not filter the blood sufficiently)
- Wrist fracture

Signs & Symptoms:

The primary symptoms of carpal tunnel syndrome are pain and numbness in the thumb, index, and middle fingers, that are often worsen at night and may radiate to the upper arm. Symptoms often occur near the palm of the hand and can occur in either or both hands. Other symptoms include muscle weakness in the hand and wrist, tingling, and impaired reflexes. In advanced cases of carpal tunnel syndrome, shrinkage (atrophy) of the fleshy area at the base of the thumb may occur.