

Compressive neuropathies

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Median nerve (carpal tunnel syndrome) The majority of cases of carpal tunnel syndrome are idiopathic. It is, however, associated with diabetes, thyroid disorders, alcoholism, amyloidosis, inflammatory arthritis, pregnancy and obesity . Harry Finkelstein , 1883–1975, American surgeon, one of the cofounders of the Hospital for Joint Diseases, New York, NY , USA. George S Phalen , contemporary , orthopaedic surgeon and Chief of Hand Surgery , The Cleveland Clinic, Cleveland, OH, USA. He helped to establish the American Society for Surgery of the Hand. John A Durkan , contemporary , American surgeon, specialist in orthopaedic and sports medicine. Jean Casimir Felix Guyon , 1831–1920, Professor of Genitourinary Surgery , Paris, France. The patient presents with tingling and infrequently numbness of the volar aspects of the radial three and a half digits. Patients also complain of being woken at night by pain and tingling, and that hanging their hand out of the bed provides relief. They may also complain of clumsiness when picking up small objects or when carrying heavy ones. Symptoms and signs are often bilateral. Examination Wasting of the thenar eminence is visible (Figure 38.56) in chronic severe cases, and there is sometimes weakness specifically of the abductor pollicis brevis. The tests for carpal tunnel compression are described in Chapter 35 but the most reliable are: (i) Tinel's – percussion over the carpal tunnel and (ii) Phalen's test – reproduction of paraesthesia with full prolonged wrist flexion. More recently , Durkan's compression test, in which digital pressure over the carpal tunnel reproduces the symptoms, has been shown to be highly sensitive and specific. Electrophysiological studies may confirm the diagnosis, with evidence of slowing of nerve conduction through the carpal tunnel, however they can also be normal. Non-operative treatment includes night splintage of the wrist in extension and steroid injections. If surgery is required the median nerve is surgically decompressed by incising the roof of the tunnel (transverse carpal ligament), as either an open or an endoscopic percutaneous procedure. Summary box 38.15 Carpal tunnel syndrome /uni25CF /uni25CF /uni25CF /uni25CF Ulnar nerve (Guyon's tunnel syndrome) Ulnar nerve compression in Guyon's canal can lead to tingling and numbness in the ring and little fingers with hypothenar wasting. There is preservation of dorsal sensation over the little and ring fingers, because, although these areas are innervated by the ulnar nerve, the dorsal sensory branches are given off prior to Guyon's canal and are thus unaffected. Compression is usually due to a ganglion, ulnar artery aneurysm or a fracture of the hook of hamate.

Figure 38.56 Thenar muscle wasting in carpal tunnel syndrome. Night pain is common and relieved by shaking the hand Thenar wasting is an advanced sign Tinel's, Phalen's and Durkan's tests are useful Treatment includes splints and surgical decompression

Figure 38.57 Avascular necrosis of the lunate (Kienböck's).

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