

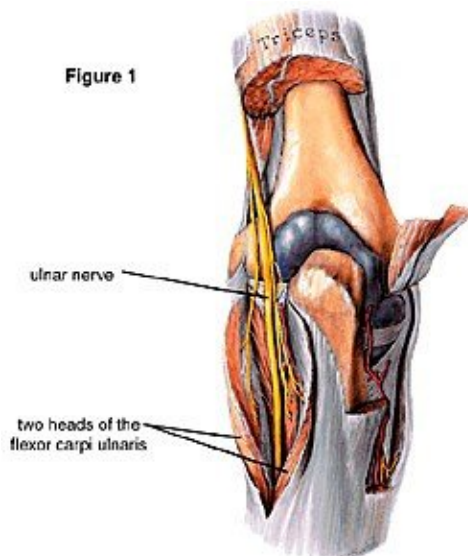
Cubital Tunnel Syndrome

By Whitney Lowe, LMT

Nerve compression problems are a frequent cause for pain and dysfunction in the upper extremity, particularly in the occupational environment. Although not as present in the popular literature as carpal tunnel syndrome, cubital tunnel syndrome is a common nerve compression pathology.

In fact, it is the second most common peripheral compression neuropathy.¹ It occurs when the ulnar nerve is compressed between the two heads of the flexor carpi ulnaris on the posterior elbow within a region called the cubital tunnel.

Characteristics



Posterior view of the right elbow showing the ulnar nerve entering the cubital tunnel.

Mediclip image copyright (1998) Williams & Wilkins. All Rights Reserved. The cubital tunnel is located on the posterior elbow and is bordered by the two heads of the flexor carpi ulnaris (FCU) muscle. One head of the FCU muscle comes from the common flexor tendon attachments at the medial epicondyle of the

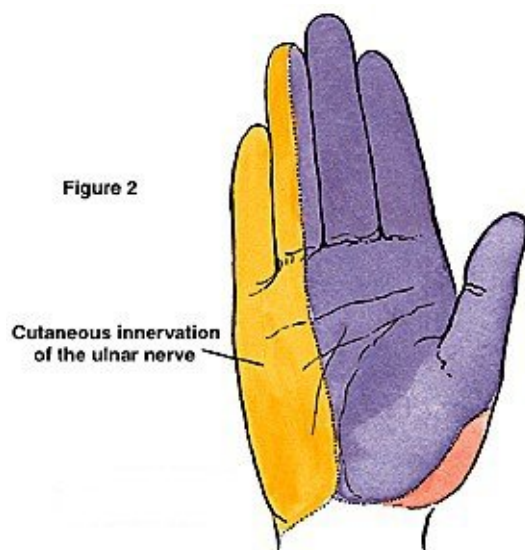
humerus. The other comes off the medial aspect of the olecranon process. The two heads eventually join to form the belly of the FCU.

The nerve eventually passes between these two heads (Figure 1). Space within the cubital tunnel may decrease as much as 55 percent during elbow flexion, making nerve compression more likely.¹ In addition, during flexion the ulnar nerve is increasingly pulled taut which may also aggravate symptoms. Subluxation (shifting position) of the ulnar nerve as the elbow moves into flexion could produce symptoms in this region as well.²

Cubital tunnel syndrome may occur as a result of direct compression of the elbow (either acute or chronic), excessive cubital valgus, bone spurs, synovial ganglions, fibrous bands within the muscle, or mechanical compression of the nerve during elbow flexion. The most frequent cause of cubital tunnel syndrome is hypertonicity of the FCU. The ulnar nerve may also be sensitive to compression if there are more proximal ulnar nerve compression pathologies such as thoracic outlet syndrome.³

Cubital tunnel syndrome usually produces a variety of sensory symptoms, including pain, burning, tingling or paresthesia. Motor symptoms such as weakness or atrophy may be seen as well. Weakness usually affects the intrinsic muscles of the hand more than other muscles in the forearm innervated by the ulnar nerve.

Evaluation



Mediclip image copyright (1998) Williams & Wilkins. All Rights Reserved. The client may report an acute compression injury to the posterior elbow that started the symptoms, such as striking the elbow on a hard object. This condition should not be confused with hitting

one's funny bone. In this instance, the blow causes nerve compression between the medial epicondyle of the humerus and the olecranon process of the ulna just before it enters the cubital tunnel.

Cubital tunnel syndrome is more likely to occur as a chronic condition and is seen more often in men than women. The practitioner should identify actions that involved repetitive or static flexion of the elbow prior to the onset of symptoms. Prolonged compression of the elbow region, such as leaning on the elbows for long periods, should be identified. Symptoms are often aggravated at night if the client spends long periods with the elbow in a flexed position.

The client usually reports pain, aching, burning sensations or paresthesia in the ulnar nerve distribution of the hand (Figure 2). Weakness or atrophy are likely to affect the adductor pollicis muscle, which is an important muscle in grasping objects. Consequently, the client may report difficulty holding objects or having a degree of clumsiness when attempting to perform precise tasks. Atrophy of this muscle may be apparent with a decrease in the size of the muscle mass between the thumb and fingers compared to the unaffected side. Other intrinsic hand muscles innervated by the ulnar nerve are those of the hypothenar eminence (the fleshy bundle of muscles near the base of the hand on the ulnar side). Atrophy in these muscles may be evident with a decrease in size compared to the unaffected side.

Pressing directly over the cubital tunnel is likely to elicit the client's symptoms. Palpate the region when the elbow is in neutral, as well as full flexion. If the symptoms are exaggerated during flexion, this may be an indicator of cubital tunnel compression. There may also be anatomic obstructions in the cubital tunnel, such as bone spurs or synovial masses that are palpable. Tenderness or hypertonicity may be evident in the FCU muscle throughout the forearm.

Massage is helpful for cubital tunnel syndrome because a primary cause is muscular hypertonicity in the wrist flexor muscles. Techniques such as deep stripping to the flexor carpi ulnaris may help decrease compression on the ulnar nerve. Particular caution should be observed in applying pressure to the flexor carpi ulnaris near the region of ulnar nerve entrapment so as not to aggravate the pathology.

References

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