



Getting A Grip on Common Hand Disorders



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There are a variety of common hand problems seen by the family physician, including carpal tunnel syndrome, ulnar entrapment at the elbow and tendonitis. Frequently, improvement can be obtained leading to patient satisfaction with relatively simple intervention.

▶ *What are the symptoms of carpal tunnel syndrome?*

Patients with this common condition will present with gradually increasing numbness and tingling in one or both hands awakening them at night. The discomfort is localized in the hand, but can radiate proximally. It affects the median nerve innervated digits (the thumb, index, middle and a portion of the ring finger). It might present with a more diffuse numbness involving the entire hand. This condition usually arises spontaneously.

▶ *What will a physical examination reveal?*

Physical examination will demonstrate normal sensation, but as time progresses there can be sensory loss as determined by light touch or two-point discrimination. There can be evidence of loss of bulk in the thenar musculature, related to atrophy of muscle innervated by the median nerve, however, this is usually a late finding.

▶ *How is it diagnosed?*

The provocative test for carpal tunnel syndrome is often helpful, with flexion the wrist to 90 degrees or direct pressure over the carpal channel reproducing the symptoms after approximately 20 to 30 seconds. In cases where it is unclear or there is uncertainty with regards to other diagnoses, electromyogram nerve and conduction studies are helpful at localizing the problem and evaluating severity.



► ***What treatments are effective?***

Night splinting is often the first treatment. The wrist should be positioned in the neutral or 0 degree position. Initially, the splint should be worn only at night and most patients will experience at least some improvement after several weeks. If symptoms persist, becoming more severe or associating with sensory or motor loss, additional treatment (namely surgery) should be considered. When symptoms are associated with work (*i.e.*, posture and repetitive use as aggravating factors), try to modify the patient's activities where possible.

► ***What are the symptoms of ulnar entrapment at the elbow?***

The patient with this condition presents with numbness in their ring and small finger, increasing in severity over a period of months. Often the patient will describe waking at night and feeling numbness in their hand related to position of the arm during sleep. This problem can be exacerbated by how the elbow is positioned when driving or talking on the telephone. Decreased sensation in the ring and small fingers with weakness in the hand, representing more significant nerve injury, is seen later.

► ***How is it treated?***

A discussion with the patient about reducing activities that can be exacerbating symptoms and protecting the elbow where pressure may be a problem will often relieve symptoms and prevent further progression. Elbow pads and splints maintaining the elbow in some extension are useful. If there is any evidence of sensory loss or weakness within the hand further evaluation and consideration of surgery is important.

► ***What about tendonitis?***

There are a variety of different localized inflammatory tendonopathies involving the upper extremity. They often present as locally painful areas interfering with hand function.

► ***What is Dequervain's tenosynovitis?***

Dequervain's tenosynovitis presents with significant pain on use of the wrist and thumb as extension and abduction of the wrist and thumb causes significant exacerbation of symptoms. There is localized tenderness over the abductor pollicis longus and extensor pollicis brevis tendons as they pass through the tunnel over the distal radius. Adduction of the thumb while positioning the wrist into ulnar deviation can exacerbate pain in the area.

Splinting can be initiated with the wrist and extension of the splint to include the thumb. The splint is worn continuously for several weeks. This provides an element of rest, which often settles symptoms. Physiotherapy modalities, such as ultrasound, can also be used to settle down the localized inflammatory process.

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Injection of methylprednisolone, 8 mg to 10 mg, into the first extensor compartment is very effective. Patients need to be cautioned that extravasation of the steroid into the subcutaneous layer can occur and problems can be seen with this. These include hypopigmentation, telangiectasia as well as atrophy of the subcutaneous layer.

► ***What is humeral epicondylitis?***

Humeral epicondylitis represents a localized tenderness in the area of the epicondyles, which is associated with localized tenderness and loss of function. Physical examination will localize the tenderness to the area of the epicondyles. Provocative test of flexion of the fingers against resistance will increase symptoms in the lateral epicondyle while flexion of the wrist against resistance will increase pain in medial epicondylitis. The condition responds well to office treatment.

Frequently, a period of rest associated with the use of a wrist brace will provide settling of the localized discomfort. A course of physiotherapy and ultrasound will also help reduce the localized inflammatory process. Many patients will also respond to a corticosteroid injection directly into the area of tenderness. Acupuncture and other therapies have also been suggested.

► ***What is flexor tendon tenosynovitis?***

With flexor tendon tenosynovitis, patients will complain of a variety of problems, from pain on flexion of the finger to triggering or catching of the finger as it is moved full range of flexion and extension. Frequently, the problem is worse in the morning, requiring passive extension or straightening of the finger accompanied by a significant discomfort. When the condition has been present for longer periods of time, the individual may protect the finger by not flexing it at all, making it difficult to discern what the presenting condition is.

The problem is localized to the origin of the fibrous tunnel or flexor tendon sheath in the palm. Patients will have localized tenderness just proximal to the metacarpal head where the location of the process (namely the inflammation in the tendon sheath) is demonstrated. A diagnosis is confirmed by pressure on this region identifying this point as a very tender area.

Office treatment of this condition can include splinting of the distal interphalangeal joint of the finger. Wearing a splint across this joint at night has been associated with improvement in patients. Steroid injection (8 mg of methylprednisolone) directly into the area of the A1 pulley is usually associated with significant reduction in symptoms within two weeks. It takes approximately four weeks to have the full effect. Alternatively, surgical release of the A1 pulley area can be performed with a high expectation of success.