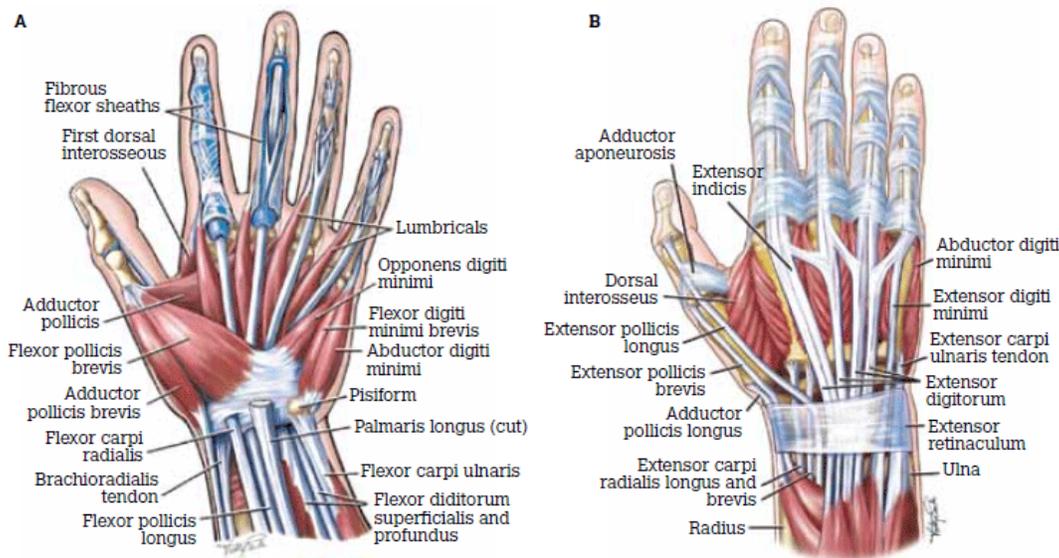


Tendonitis of the Hand and Wrist

What is tendonitis and tenosynovitis?

Tendonitis is inflammation or irritation of a tendon. Tenosynovium is the normal thin lining which covers the outside of the tendon and is important for nutrition, vascularity, and gliding of the tendon. This lining can also undergo inflammation and is referred to as tenosynovitis. Tendonitis and tenosynovitis are certainly closely related and often exist together. Many times a physician will use the two terms interchangeably. Almost any tendon can become inflamed and cause symptoms. In the hand and wrist there are a number of tendons that can be affected. Some are more common than others. Some forms of tendonitis have an eponym associated with them such as “Trigger Finger” or “de Quervain’s Tendonitis.” Other less common types are referred to by the abbreviation of the tendon name, such as “ECU (extensor carpi ulnaris) Tendonitis.” Some of the more uncommon types of tendonitis or tenosynovitis encountered include **FCR Tendonitis**, **FCU Tendonitis**, **ECU Tendonitis**, and **EDC Tenosynovitis**.



Tendons of the Hand and Wrist: A) Volar aspect, B) Dorsal aspect
Brukner P, Khan K. Clinical Sports Medicine. 3rd edn. Mc-Graw Hill, 2006

What are the signs and symptoms?

Tendonitis or tenosynovitis typically causes pain especially with motion or activity. A patient may also note swelling, decreased motion, and weakness. These symptoms interfere with both daily and extracurricular activities depending on the severity of the problem. Occasionally one may experience snapping or clicking as a result of tendonitis especially for tendons which run through a sheath or retinaculum. Tendonitis may be focally tender over the tendon itself or at the insertion of the tendon on the bone. Pain may also radiate more proximally into the muscle of the tendon. EDC Tenosynovitis may present with a triangular fluid filled swelling on the top of the hand (see Picture on reverse side). Rarely a tendon may undergo inflammatory degeneration, which can lead to partial tearing or complete rupture; tendon ruptures are more often seen in association with systemic inflammatory conditions such as rheumatoid arthritis or gout.

What causes tendonitis and tenosynovitis?

There are a number of factors involved in developing tendonitis or tenosynovitis. The most important factors include repetitive motion activities and minor trauma. Genetics can also play a role. Although no single gene has yet been identified as causing tendonitis, some patients are predisposed to developing tendonitis in a variety of areas about their extremities. Some forms of tendonitis may be the result of calcific deposits, which can be seen on X-rays. Certain medical conditions can also be associated with tendonitis including diabetes, rheumatoid arthritis, and gout to name a few. Many times, however, the reason for a patient’s tendonitis is multifactorial without a clear inciting cause.

How is tendonitis and tenosynovitis treated?

Application of ice to the affected areas and tendons can decrease swelling and pain. It is best to use ice at the end of the day or after an activity. The ice should be wrapped in a towel and not applied directly to the skin. Better yet, a bag of frozen corn kernels works well. Applying ice for 15 minutes at a time, on and off, for several cycles is typically most effective. Remember, before using the hands and wrists, they should be nice and warm in order to keep the soft tissues flexible and prevent injury. Various wraps and splints can also be applied in order to provide some compression and immobilization.

Non-steroidal anti-inflammatory medications (NSAID's) — such as Motrin, Ibuprophen, Advil, Aleve, Naprosyn, Celebrex, Diclofenac, and Relafen — can help alleviate pain and associated nonspecific inflammation. These types of medications should be taken after meals. Many people take these medications on a long-term basis without any difficulty. If you end up taking NSAID's for more than 3 months at a time, you should ask your primary care physician about obtaining blood work to check that your liver and kidneys are functioning normally. Additionally Tylenol or Acetaminophen can be taken along with an NSAID for additional pain relief. Tylenol may also be a reasonable alternative if one is unable to take NSAID's due to gastrointestinal issues or anticoagulation for other medical problems.

Some people also find glucosamine and chondroitin sulfate tablets of benefit. There are a number of topical treatments, which some patients have found helpful including Capsaicin cream, Bengay, CBD oil, Voltaren Gel, and Icy-Hot ointment to name a few. Proven benefit and mechanism of action of these topical treatments are not well established, but they usually do not cause any harm and may provide some relief.

What activities should I avoid?

During a flare of tendonitis, repetitive activities that stress the tendon(s) involved should be limited or avoided. For tendons that cross the wrist, avoiding *repetitive* flexion and extension as well as supination (palm up) and pronation (palm down) may be recommended. Your physician can go over some further specific restrictions depending on your particular tendonitis. Vigorous and uncontrolled actions may lead to a worsening of the situation. As the tendonitis improves, one can start to work back into regular activities followed by more strenuous activities. Realize that tendonitis and tenosynovitis can take a number of months to improve and not necessarily in a smooth trajectory. Tendonitis may also flare again in the future. This is not to say that you should not use your hands and wrists for activity and work when experiencing tendonitis symptoms, but rather one needs to find the right balance between activity and symptoms. You may use your hands and wrists for activities which you find tolerable. Some pain from tendonitis during activities is allowable and does not necessarily mean that you are causing any irreparable harm or that your tendonitis is worsening as a result.

What about cortisone?

Cortisone injections can relieve symptoms of pain, swelling, and inflammation. Cortisone injections can sometimes even resolve tendonitis symptoms permanently, but it is difficult to predict how effective a cortisone injection will be and how long it will last for any one patient. There are also possible complications from cortisone injections including infection, bleeding, subcutaneous atrophy, depigmentation, and tendon rupture (especially with FCR tendonitis). In addition, aspirations along with cortisone injections can sometimes be performed for EDC Tenosynovitis (see Picture).



Is there surgery for all forms of tendonitis and tenosynovitis?

Yes. While surgery for trigger fingers (stenosing flexor tenosynovitis) and de Quervain's tenosynovitis is quite common and effective, surgery for more uncommon forms of tendonitis, including FCR, FCU, ECU Tendonitis, and EDC Tenosynovitis, is less commonly performed. This is because these other types of tendonitis often respond to nonoperative treatment over time. There are also higher rates of recurrence following surgery for these forms of tendonitis. If sufficient time and treatment fail to provide adequate improvement of symptoms, surgery can be considered in these refractory cases. Surgery may include tenosynovectomy, tenolysis, tenodesis, tendon resection, or pisiform excision (for FCU tendonitis). These surgeries hopefully improve the situation although some residual symptoms may persist. Remember that the decision to proceed with surgery is based on a combination of factors including symptoms, duration/effectiveness of nonoperative treatment, and function. Your hand surgeon can help you decide what treatment is best for you.