

DeQuervain's Tenosynovitis

While there are many problems that can cause wrist pain and swelling, one of the most common is *DeQuervain's Tenosynovitis*, which is an inflammation around the tendons on the thumb side of the wrist. The *synovium* (a slick membrane that surrounds the tendons allowing them to glide easily with motion) becomes inflamed.

Symptoms

- Pain and tenderness at the thumb side of the wrist
- Swelling and occasionally redness in the affected area

Causes

- Repetitive movement or overuse of the wrist. (New mothers often develop this as a result of lifting their small children)
- Direct trauma
- Inflammatory diseases such as rheumatoid arthritis

Diagnosis

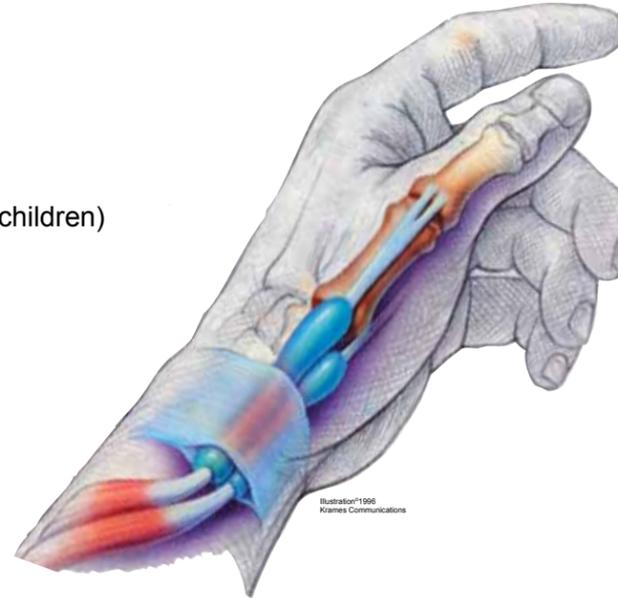
Diagnosis is made by history and performing an examination of the hand and wrist.

Non-surgical treatment

- Rest to avoid movements and activities that cause pain
- Oral anti-inflammatory medications to decrease inflammation
- A special brace called a thumb spica splint which helps rest the tendons of the thumb and wrist thus decreasing inflammation
- An injection of cortisone (to decrease inflammation)

Surgical treatment

This may be recommended if pain persists. This procedure entails the release of the ligamentous tunnel surrounding the tendons, which permits the tendons to glide more easily thus reducing inflammation and pain. Postoperative hand therapy may be needed in order to restore grip strength and range of motion, as well as to minimize swelling and scar formation.^{KSF}



Extensor Carpi Ulnaris Tenosynovitis

Extensor Carpi Ulnaris (ECU) Tenosynovitis is a common cause of wrist pain and swelling along the ulnar side of the wrist (the same side as the small finger). The tendon and/or its lining may become inflamed with certain activities or following an injury.

Symptoms

- Pain and swelling, usually with certain movements such as lifting

Causes

- Repetitive motion/overuse
- Direct trauma
- Inflammatory diseases such as Rheumatoid Arthritis

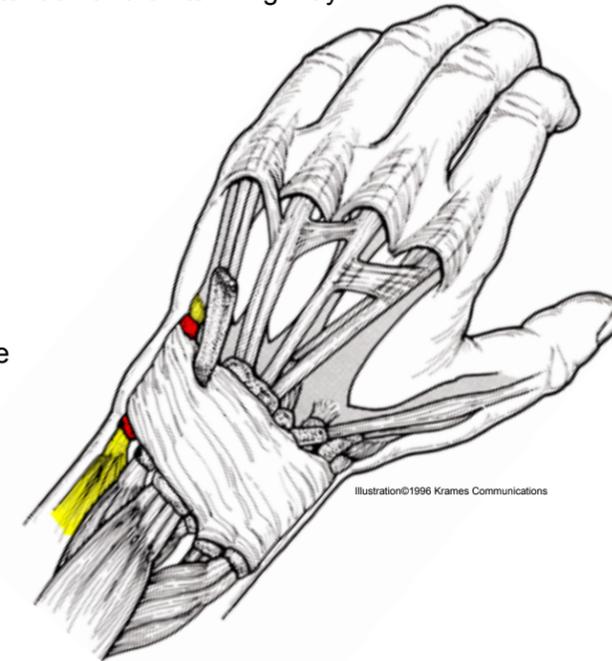
Diagnosis and Treatment

ECU Tenosynovitis can generally be diagnosed by history and examination. Inflamed tendons will be evident upon examination of the wrist and hand.

Treatment includes:

- Rest (taking a break from activities that cause pain)
- Oral anti-inflammatory medications such as Ibuprofen to decrease inflammation
- A resting splint to decrease activity and allow recovery
- An injection of cortisone to decrease inflammation
- Hand therapy to decrease inflammation and improve strength

While often effective, if conservative treatment does not relieve symptoms, surgery may be recommended. After surgery hand therapy will be needed to treat scarring, strengthen the wrist and restore range of motion. The recovery period is short with minimal limitation in wrist and hand use.^{KSF}



Mallet Finger

Mallet Finger is a condition in which the end joint of a finger bends down and is unable to be straightened on its own or maintain a straight position when placed that way. This condition occurs when the extensor tendon to the tip of the finger is stretched or torn, or the bone attached to the tendon is broken (fractured)

Symptoms

- Inability to straighten the fingertip on its own
- Swelling, redness, and pain

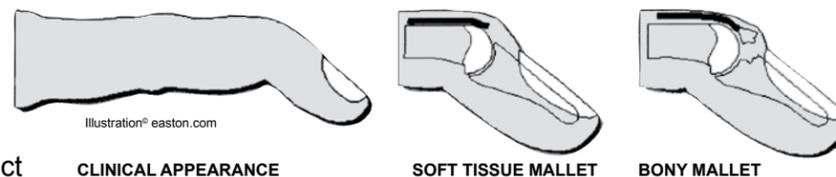
Causes

- Jamming the tip of the finger against an object
- Direct blow to the tip of the finger. This may occur while playing sports
- Following a laceration to the top of the finger

Diagnosis and Treatment

A diagnosis of mallet finger is made by physically examining the finger. An x-ray is taken to determine if a fracture, called a bony mallet, is present. In most cases, treatment consists of splinting the fingertip and securing the end joint in hyperextension allowing it to heal. The splint is custom made by a hand therapist and is worn at all times for six to eight weeks. Generally, two splints are made so that they can be changed after bathing.

If the injury is associated with a broken bone, mal-aligned joint or does not respond to splinting, surgical repair may be recommended and is performed as an outpatient procedure. Generally, surgery involves the placement of one or two small pins across the affected joint for approximately six to eight weeks. Pins are removed in the office. Hand therapy is indicated following surgery to help regain motion and strength.^{KSF}



Skier's Thumb and Gamekeeper's Thumb

Skier's Thumb and Gamekeeper's Thumb occur when the ulnar collateral ligament (UCL) of the Metacarpophalangeal (MCP) joint of the thumb is torn or stretched. The UCL helps to support pinching and grasping and is essential in maintaining thumb strength.

Symptoms

- Immediate swelling and pain
- Bruising and tenderness along the inside aspect of the first knuckle
- Pain with pinching or grasping

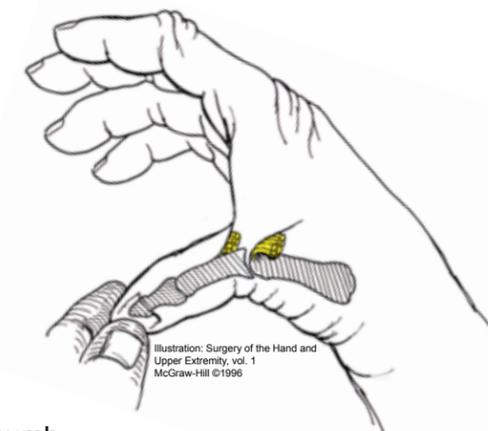
Causes

Injury occurs to the UCL when the thumb is stressed in an outward position. Skier's thumb usually refers to an acute injury. When a skier falls with his or her hand caught in a ski pole, the thumb gets caught and significant stresses are placed on the ulnar collateral ligament which can be torn. Gamekeeper's Thumb refers to a chronic condition. It was coined in Europe when this type of injury was frequently seen among gamekeepers. The injury occurred due to the way in which they killed their game.

Diagnosis and Treatment

A history will be taken and a physical examination will test the stability of the thumb. x-rays will be taken to determine if there is a fracture. A stress x-ray is a special type of x-ray to evaluate laxity of the joint. An MRI may be necessary to confirm the diagnosis and aid in planning the most appropriate treatment.

Treatment may include immobilization with a splint or cast for partial tears (usually for six weeks). A complete UCL tear may require surgical repair. Following surgery a splint is worn for six weeks to protect the repaired ligament while it heals. Hand therapy will help to regain range of motion and strength.^{KSF}



Trigger Finger (Stenosing Tenosynovitis)

Trigger Finger (also known as Stenosing Tenosynovitis) is a condition caused by inflammation of the tendon lining. It may occur in all of the fingers including the thumb. The condition causes catching or locking (triggering) of the affected finger.

The flexor tendons that bend the fingers are cordlike fibers that attach muscle to bone and allow the fingers to flex. These tendons are held in position by pulleys, which form a series of arches through which the tendons run. The tendons are wrapped in a slick membrane called tenosynovium, allowing smooth movement through the pulleys. Irritation to either the tendon or the tenosynovium can cause a nodule to form, making it difficult for the tendon to slide through the pulley. When the tendon catches and then releases as a result of this friction, it creates a “triggering” sensation.

Symptoms

- Finger or thumb becomes “locked” in a bent or straight position
- Pain where the finger or thumb joins the palm
- Triggering or clicking sensation when bending the finger or thumb
- Swelling or thickening at the base of the finger or thumb

Causes

The exact cause of Trigger Finger is unclear, though some activities and other conditions have been identified as contributors:

- Repeated use of certain tools
- Rheumatoid Arthritis
- Gout
- Diabetes

Diagnosis and Treatment

A diagnosis is made after a thorough examination of the finger or thumb, assessing whether the tendon is inflamed and triggering is occurring. The goal in treating Trigger Finger is to decrease inflammation around the tendon and tendon sheath. Treatment options include: resting the finger or thumb, oral anti-inflammatory medication, cortisone injection and splinting. If these conservative treatments fail to relieve the symptoms, a trigger finger release may be performed in order to open the pulley and allow the tendon to glide smoothly again. This surgery is performed as an outpatient procedure. Normal hand use is resumed when comfort permits. Hand therapy may be indicated after surgery to help restore range of motion and strength. ^{KSF}

