

# DeQuervain's Tenosynovitis

**Introduction** Pain on the side of the wrist and forearm just above the thumb may be DeQuervain's tenosynovitis. This is a common problem that is usually easily diagnosed. Like many other problems caused by repetitive injury to the hand and arm, this disorder results when the tendons (and the covering of the tendons called the tenosynovium) become inflamed.

**Anatomy** Two tendons are the problem in DeQuervain's tenosynovitis. The two tendons involved are used to pull the thumb out and back from the hand. They are named the abductor pollicis longus (APL) and the extensor pollicis longus (EPL). These two tendons run in a tunnel on the side of the wrist just above the thumb.



The tunnel is formed by ligaments that form an arch over the tendons to keep the tendons in place, similar to the guides on a fishing rod. The tendons pass through a common tunnel in the forearm that is lined with a slippery coating called tenosynovium. Tenosynovium is a slippery covering on the tendons that helps limit friction as the tendons glide back and forth moving the thumb. Inflammation of the tenosynovium and tendon is called tenosynovitis.

**Causes** Problems arise when the two tendons are unable to glide through the tunnel. Repetitive activities such as repeatedly performing activities like grasping, pinching, squeezing, or wringing may lead to a inflammation of the tendons and the covering around the tendons, the tenosynovium. This inflammation can lead to swelling, which further hampers the smooth gliding action of the tendons within the tunnel. An injury to the tendons in this area can lead to irritation of the tendons in the tunnel if scar tissue forms that makes it difficult for the tendons to slide easily through the tunnel. Other arthritis type diseases that affect the whole body, such as rheumatoid arthritis, can also lead to a tenosynovitis in this area.

**Symptoms** At first, the only sign of trouble may be soreness on the thumb side of the forearm. If the problem isn't treated, pain may spread up the forearm or down into the wrist and thumb. Due to an increase in friction, the two tendons may

actually begin to squeak as they attempt to move through the constricted tunnel. This noise is called crepitus. There may be swelling along the tunnel if the condition is particularly severe. Use of the hand and thumb for grasping becomes increasingly painful.

**Diagnosis** The diagnosis of DeQuervain's tenosynovitis is usually easily made on the physical examination. Usually no fancy tests are required. The major problem can be distinguishing the DeQuervain's tenosynovitis from intersection syndrome, which is very similar. Careful attention must be paid to where the pain is located - over DeQuervain's tunnel or over the intersection point.

The Finklestein Test is one of the best tests used to make the diagnosis. This is a test you can perform on yourself: Bend your thumb into the palm and grasp the thumb with the fingers. Now bend your wrist away from your thumb. Pain over the tendons to the thumb suggests the problem may be DeQuervain's tenosynovitis.

**Treatment** Take frequent breaks or limit the amount of time you are performing tasks that require repetitive wringing, grasping, turning and twisting type movements of the wrist. Keeping the wrist in a neutral alignment may help prevent this syndrome. The best way to keep the wrist in neutral alignment is by wearing a brace or splint on the wrist and thumb. These braces may be used for short term relief to rest the area and quiet the inflammation.

Anti-inflammatory medications, (such as ibuprofen, aspirin, and naprosyn) are commonly prescribed to try and quiet the inflammation in the tendons and synovium. In cases where this fails to relieve the pain, an injection of cortisone into the tunnel will usually control the inflammation in the early stages of the process, but may be temporary.

Finally, if all else fails, surgery may be recommended to treat your problem. Remember that the main cause of DeQuervain's tenosynovitis is the constant rubbing of the tendons as they glide through the surrounding tunnel. To remove this constant rubbing, surgical release of the roof of the tunnel is done to give the tendons more space. The procedure is done by making a small incision in the skin of the wrist, just above the tunnel where the tendons run. The tendons and the tunnel are then located. An incision is made to split the roof, or top, of the tunnel. Once this has been done the tube, or tunnel, formed by the ligaments opens to allow more room for the tendons to move. This reduces the constant rubbing and reduces the pain. The tunnel will eventually heal back, but it will be larger than before, because it will heal back in the more open position. Scar tissue will simply fill the gap where the tunnel was cut.

This surgery can usually be done as an outpatient. The surgery can be done using a general anesthetic (where you are put to sleep) or some type of regional anesthetic. A regional anesthetic is a type of anesthesia where the nerves going

to only a portion of the body are blocked. Injection of medications similar to novocaine are used to block the nerves for several hours. This type of anesthesia could be an axillary block (where the arm is asleep) or a wrist block (where only the hand is asleep). The surgery can also be performed by simply injecting novocaine around the area of the incision.