InfoSheet – DeQuervain's Tendinitis

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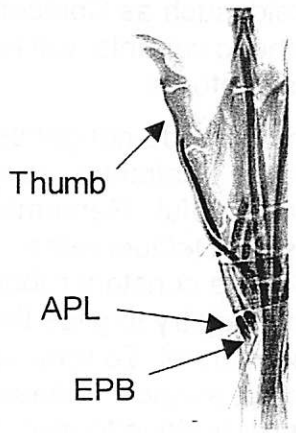
WHAT DO YOU FEEL?

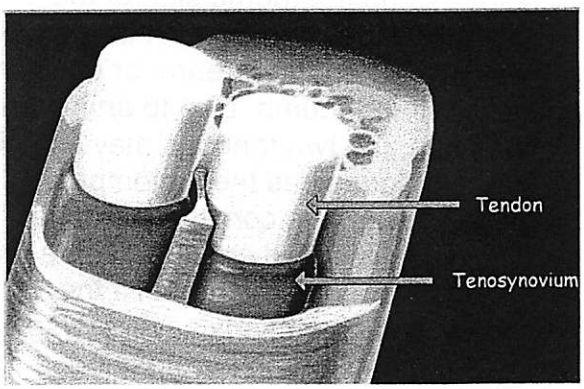
DeQuervain's tendinitis is a pain on the thumb side of the wrist. It is often felt with grasping or twisting and the pain may travel up the forearm towards the elbow. Swelling of this area of the wrist is often noted. Occasionally there may be a catching or popping sensation when moving the thumb and the wrist. In rare cases, there may be a numb sensation to the back of the wrist or the back of the hand.

WHAT CAUSES THE PROBLEM?

Most of the functions of the hand and the fingers are driven by muscles in the forearm. Tendons are strong, flexible bands, like cords or ropes, which connect muscles to the bones. Two tendons, known as the first dorsal compartment 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 brevis (EPB)**.



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**.



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 an 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. Friction is then created when the tendon moves, causing pain.

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.

Often, a change in activity or in the way that activities are performed can lead to the onset of DeQuervain's tendinitis. Commonly, packing and moving causes the problem. Other times, caring for a new baby can lead to the problem. Less often, the symptoms may follow a twisting injury of the wrist.

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.

WHO GETS DEQUERVAIN'S TENDINITIS?

DeQuervain's tendinitis can happen at all ages, and happens in both men and women. Often, some people who are more prone to other types of tendinitis would be likely to get DeQuervain's tendinitis.

WHO WAS DEQUERVAIN?

Fritz de Quervain was a Swiss surgeon. He described this tendinitis in 1895, and recommended surgical release of the overlying ligamentous tunnel. This is the same surgical treatment that we use today.

HOW IS DEQUERVAIN'S TREATED?

- Restricting activities that require painful wrist positions
- Wearing a splint to support the area and limit movement
- Over-the-counter and prescription anti-inflammatory medications
- Icing the area 3 to 4 times per day, 10 to 15 minutes at a time
- A cortisone injection to reduce swelling and pain
- Surgical release of the tunnel

The object of treatment is to allow the swelling and inflammation to improve. This can be done by changing the activity that the person is doing or changing the way that this activity is performed. The wrist joint and the tendons can be rested by immobilizing them in a splint. Anti-inflammatory medications taken by mouth may sometimes be helpful, and almost two thirds of people who receive injections of a local steroid, such as Cortisone or one of its synthetic variants, will have relief of their symptoms.

When the symptoms do not get better with nonoperative treatments, surgical release may be helpful. Remember that the main cause of DeQuervain's tenosynovitis is the constant rubbing of the tendons as they try to 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 room to move. This allows the swelling to resolve.

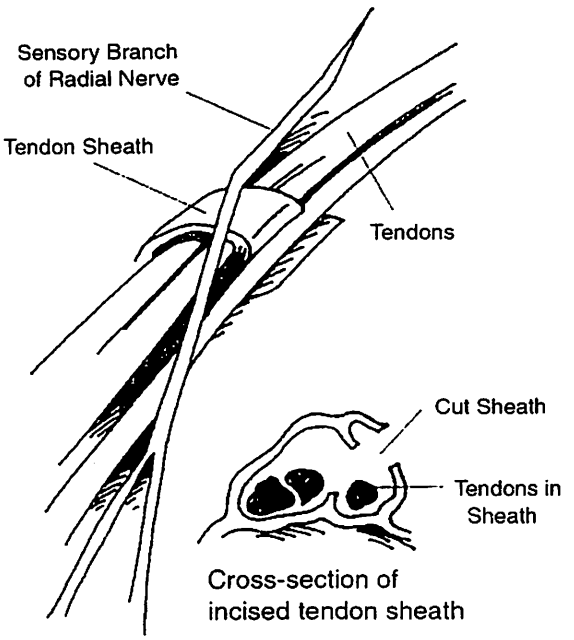


Figure – View of the tendons in the First Dorsal Compartment, showing release

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 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 be done as an outpatient, 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. An injection of medications similar to novocaine is 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.

Following the surgery, the wrist and the thumb need to be splinted for approximately two weeks. This can prevent further problems with the tendon in the future. It is common to have pain and swelling at the site of the surgery that slowly gets better over as long a two to four months. Additionally, numbness on the back of the thumb or the hand is often a side effect of the surgery. This numbness, caused by manipulation of the sensory nerve that passes directly over the top of the tendon compartment, usually gets better with time.