De Quervain’s — A Cousin to Carpal Tunnel Syndrome

By Kit Braun

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pronounced DEE-kwer-vanes or de-KWARE-vanes, this condition relates to pain on the thumb side of the wrist. It was named after Swiss surgeon Fritz de Quervain, who wrote about it as early as 1895. De Quervain’s happens as a result of repetitive use of excessive gripping in a sideways motion, or in pinching forces of the thumb and wrist. Before it was named after Fritz de Quervain, it was called the Washer Woman’s Sprain. Nowadays this condition is usually found in computer operators, musicians and people involved with racket sports. Another example that can cause this condition is from the awkward hand positions that are required by a new mother in caring for an infant.

Many repetitive activities in the office setting can also contribute to de Quervain’s. While typing, moving the wrist continually toward the small finger or always contracting the thumb muscles over the keyboard space bar are two examples. Forceful motions while filing and continuous tight holding of a writing instrument are types of pinching forces that may contribute to de Quervain’s. People who spend eight hours a day five days a week doing a particular task rarely develop these problems. Rather, it is the occasional typist who works on a project for three days straight who often experiences the onset of pain.

So how is de Quervain’s different but yet related to carpal tunnel syndrome? They both affect the thumb, but in separate ways.

The carpal tunnel is a bony passageway in the wrist connecting the forearm to the hand. There are nine flexor tendons and a median nerve running through this tunnel. Flexor tendons help the fingers and thumb to flex or bend down. They are surrounded by a lining called a synovial sheath. This lining allows the tendons to glide smoothly back and forth through them for flexing and bending.

The median nerve that runs through the carpal tunnel provides sensory feeling and muscular movement to the thumb and middle three fingers. The little finger is the only one not affected by this nerve. Eight wrist or carpal bones make up the sides and bottom of this tunnel structure, and a ligament stretches over the top to form a roof. The median nerve lies directly beneath this ligament and comes in contact with it when bending or straightening the wrist or fingers.

Carpal tunnel syndrome results when the median nerve becomes compressed in the tunnel as a result of inflammation from repeated or prolonged flexing of the fingers or wrist from activities like keyboarding or lawn mowing. The flexor tendons also become inflamed and swell, making it a tight fit to pass through this bony tunnel to perform their task. At times pain can radiate up the arm to the elbow and may even extend to the shoulder and neck.

Carpal tunnel syndrome can be caused by a variety of problems that may lead to compression of the median nerve. Conditions such as rheumatoid/degenerative arthritis, wrist fractures/dislocations, diabetes and even pregnancy can contribute to carpal tunnel syndrome due to inflammation exacerbated by these conditions. Carpal tunnel syndrome may also be referred to as cumulative trauma disorder or repetitive strain injury.

Out of these nine flexor tendons extending through the carpal tunnel, two of them go directly to the thumb. These two tendons are called abductor and extensor. Their function is to spread and extend the thumb away from the rest of the hand. They are located at the base of the thumb on the wrist side. De Quervain’s occurs from repetitive sideways motions like cutting with scissors or gripping the computer mouse. This sideways motion causes irritation and swelling at the base of the thumb. When the surface of the tendon becomes irritated and rough, it causes the sheath to become inflamed and constricts the tendon’s movement. There could also be a thickening of the sheath and/or the tendon. A nodule could develop in the sheath, adding to the difficulty of gliding back and forth through the synovial lining.

Pain over the thumb side of the wrist is the primary symptom. It may occur “overnight” or gradually, and it may radiate into the thumb and up the forearm. It is worse with the use of the hand and thumb, especially with any forceful grasping, pinching or twisting. Because of the pain and swelling, there may be some decreased thumb motion.

De Quervain’s may also be referred to as de Quervain’s tenosynovitis. Tenosynovitis is irritation of both the tendon and the synovial sheath. Tendinitis pertains only to irritation of the tendon and is often accompanied or preceded by tenosynovitis. Tendinitis occurs when a tendon rubs against other structures as it passes through its synovial sheath. Risk for tendinitis increases with age due to tendon stiffening.

Another term used to describe de Quervain’s or tenosynovitis is “trigger finger.” Trigger finger happens when the finger or thumb is flexed, and because of inflammation in the tendon and sheath, there is resistance to re-extension. This causes a trigger effect where one experiences a snapping or catching sensation when attempting to re-position the finger or thumb that can sometimes be loud enough to be heard.

A Finkelstein test is used to diagnose de Quervain’s. In this test, the patient makes a fist with fingers over the
thumb. The wrist is then bent in the direction of the little finger. This test can be quite painful for the person suffering from de Quervain’s.

De Quervain’s and carpal tunnel syndrome both pertain to inflammation of the tendons involving the thumb, but carpal tunnel syndrome involves more. It involves nerve damage. The median nerve is the most vulnerable component. When this nerve becomes trapped in the carpal tunnel, it results in a lack of blood flow. This causes the pins-and-needles pain, or the feeling of tingling and numbness in the fingers and thumb that is often complained of by people suffering from CTS. This pain and numbness can happen at any time. Often these symptoms occur at night and may awaken you from sleep. This nerve compression causes a decrease in sensation that may result in clumsiness and weakness of the affected hand. Patients may find themselves dropping objects and less capable of performing tasks requiring gripping strength.

Conservative treatment for de Quervain’s is to decrease swelling which, in turn, will decrease the patient’s discomfort. The patient rests the thumb in a splint for three weeks, aided by oral anti-inflammatories. You can also receive a cortisone injection. These holding devices are meant to keep the wrist from drooping into flexion so that the wrist stays in the straight, neutral position in order to reduce further impingement of the median nerve in the carpal tunnel. Wrist braces and splints are also recommended at night because most people make a fist or curl their wrist in flexion while they sleep. Sleeping with the hands in a fist makes the muscles become even tighter and shorter, resulting in further impingement and damage to the carpal tunnel.

If conservative treatment does not achieve the desired results, or in cases involving more severe symptoms such as muscle wasting and extensive weakness and numbness, surgery may be recommended. The surgery is an outpatient procedure where the physician makes an incision on the palm of the hand just above the wrist to expose the roof of the carpal tunnel. The ligament roof of the tunnel is opened up giving the tendons and the median nerve more room to pass through. The natural healing process and regeneration of nerve fibers in the median nerve will occur through the following six months to a year. The length of recovery in regaining strength and sensation will depend upon the extent of the nerve damage prior to seeking treatment.

Taking preventative measures will help to combat the onset of de Quervain’s and carpal tunnel syndrome. Certainly not all people involved in repetitive wrist activities will develop carpal tunnel syndrome or de Quervain’s. Proper work pacing, regular rest breaks, reducing repetition and ergonomically designed tools and equipment are some easy steps you can take to protect against these injuries. To further alleviate de Quervain’s symptoms, you can use rubber fingertips while filing and add rubber grips on pens for writing. This will reduce the pinching forces of the thumb. Try to relax the thumbs while typing, and concentrate on moving the hand and wrist together as one to keep the wrist in a neutral position. When using the keyboard space bar, try to alternate the thumbs.

Kit Braun, RDR, from Enid, Okla., was diagnosed with de Quervain’s in 1997. Since her surgery, she’s fully recovered, but admits she does things differently — using software, wrist wraps and a tilting tripod to ease her reporting.