

Subscapularis Tear



The front part of the rotator cuff is known as the subscapularis, and a tear of this tendon can be very painful, as well as affect function and flexibility. If you have experienced a subscapularis tear, fear not—there are several treatment options available.

“The subscapularis is the largest and most powerful muscle involved in the rotator cuff.”

The shoulder joint is a ball-and-socket joint, where the ball is the head of the upper arm bone (humeral head), and the socket (glenoid fossa) is a cavity on the side of the shoulder blade. It's a really important joint for day-to-day activities, but it's also extremely vulnerable to injury.

The subscapularis is one of the four muscles of the rotator cuff, the structure that helps the shoulder both move and stay stable. Each of these four muscles has a tendon (a tough bundle of tissue) that connects it to the bone that it moves, and each of the four muscles and tendons move the arm in a different way.

The four muscles of the rotator cuff are the:

- » Subscapularis (rotates the arm inward and stabilizes the joint in the socket)
- » Supraspinatus (raises the arm)
- » Infraspinatus (rotates the arm outward)
- » Teres Minor (rotates the arm outward)

Each of these muscles originates on the shoulder blade (scapula) and connect to the arm bone (humerus). By beginning on the scapula, and then attaching around the humeral head, the rotator cuff is in an ideal position to squeeze or compress the humeral head into the socket, providing stability throughout a vast range of motion. The rotator cuff also allows for complicated rotational movements of the arm, such as throwing a baseball.

The subscapularis muscle lies on the front of the shoulder blade (sandwiched between the shoulder blade and the back of the chest wall) and its tendon connects to the front (anterior) part of the shoulder.

It is the largest and most powerful muscle involved in the rotator cuff, and its tendon is the largest part of the rotator cuff.

Symptoms

An injury to the subscapularis tendon:

- » Is quite painful, especially when reaching behind your back at the level of your waist
- » Weakens the shoulder
- » Is often accompanied by problems with the biceps tendon (which is right next to it)

Causes

Typically, subscapularis tears happen to people between the ages of 30 and 50 due to a work- or sport-related traumatic injury. They are more common in men than women.

When we get older, the subscapularis tendon can tear with strenuous daily activities (e.g., gardening) or because of a sudden fall. Often, subscapularis tendon tears in older people also involve the supraspinatus tendon (which helps lift the arm) as well as the biceps tendon (which helps bend the elbow).

Diagnosis

Injuries to the subscapularis may be overlooked when people with a shoulder problem first come to

see a doctor. In the past, medical literature sometimes referred to it as “the forgotten tendon.” Your subscapularis tear might very well be overlooked—or even misdiagnosed—if a complete examination of all four tendons of the rotator cuff is not performed.

A significant subscapularis injury is less common than other rotator cuff tears. Even when there is a tear, many of them involve a small area of the tendon that is compensated for by the other healthy muscles and tendons around the shoulder. Anterior (frontward) shoulder pain that persists after an injury should trigger a full evaluation of the subscapularis.

In addition to understanding the mechanism of injury, a careful and unique set of examination tests, different from those for the other parts of the rotator cuff, is necessary to fully assess the subscapularis.

Ten years ago, Dr. Romeo and others reported that more than half of subscapularis tendon injuries seen at the time of surgery were not identified on standard MRIs. However, as the technology has improved and the potential for a subscapularis injury is better understood, high-quality MRIs can now help routinely confirm this diagnosis before going to the operating room.

Nonsurgical treatment options

If the subscapularis tear is not severe, treatments may include rest, activity modification, anti-inflammatory medication, physical therapy, a corticosteroid injection, or a combination of the above.

The first step in treatment is physical therapy and a home exercise program. The primary goals of physical therapy are to preserve or even extend your arm’s range of motion and alleviate any pain.

Once the pain is reduced, and motion is improving, it is equally important to then include exercises that will strengthen the rotator cuff and other shoulder muscles, taking some of the stress off the subscapularis tendon.

In addition to physical therapy, many people find short-term relief with cortisone injections, which reduce inflammation and swelling. However, corticosteroid injections should be avoided if surgery is being considered within the next 6 to 12 weeks due to an increased risk of infection.

If the tear is significant, and not responding to the above steps, an outpatient procedure using an arthroscopic technique is the preferred method of treatment.



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How surgery is performed

Like all rotator cuff surgeries, this procedure is done via keyhole surgery (arthroscopically) so Dr. Romeo can actually see the tendon injury, as well as examine and treat any tears and injuries to the surrounding structures, such as the biceps tendon.

Arthroscopic repair of the subscapularis muscle and tendon requires different techniques and instruments from the more common supraspinatus tendon repair. During the procedure, Dr. Romeo can see the subscapularis tendon from all points of view by moving the arm during the surgery.

Once the injury and surrounding tissues have been completely assessed, Dr. Romeo repairs the tear by anchoring the torn tendon back onto the bone. Special stitches (sutures) and surgical tapes are passed through the tendon, then securely fixed to the bone with anchors. Other injuries to other parts of the rotator cuff can be managed using a similar process. Dr. Romeo also checks the labrum (shoulder cartilage) and biceps tendon for injuries or issues that can be fixed at the same time.

Recovery time

After surgery, recovering patients are sent home with a sling and pillow brace to wear for six weeks. Swelling and bruising are a normal part of the recovery process, and Dr. Romeo recommends applying ice packs to the shoulder several times a day to help ease swelling and discomfort. Special cold therapy machines can also be ordered in advance of the procedure to help with cooling off the surgical site (cryotherapy).

Dr. Romeo will give you specific instructions for post-op pain management before you go home on the day of surgery.

The exercise program is conservative during the first six weeks, and only simple range-of-motion activities are permitted. It takes about six weeks for the bone and the tendon to fuse back together. Although the sutures and anchors are strong, too much movement or performing activities and exercises that cause the subscapularis muscle to work on a regular

basis during the first six weeks can lead to the tendon pulling out of the sutures and tapes.

After six weeks, a strengthening program is put in place for the next three months. Physical therapy is important not only for building flexibility and strength, but also to keep scar tissue from forming at the site of the repair, which can cause stiffness and pain.

Results

Subscapularis repairs take longer than other rotator cuff repairs to regain their full range of motion. By three months, most patients have regained the majority of their motion but it often takes a few more months to regain full range of motion.

From four and a half months on, sport-specific and work-related activities may be performed. A full

recovery is expected by six months, although heavy physical demands or competitive sports activities may take up to a year before they equal the pre-injury performance.

FAQs

How should I sleep if I'm experiencing subscapularis pain?

It's common to experience pain at night with this injury or any injury involving the rotator cuff. You can try sleeping in one of these positions:

- » Sitting in a reclined position
- » Lying on your uninjured side
- » Lying flat on your back while keeping your injured arm propped up on a pillow

Want to learn more? Find relevant videos, animations, and research material related to this procedure at anthonyromeomd.com. →



For more information about causes and treatment of subscapularis tears, please request an appointment with experienced Chicago orthopaedic surgeon Dr. Anthony Romeo.

Please visit our website to find out how to schedule your appointment.