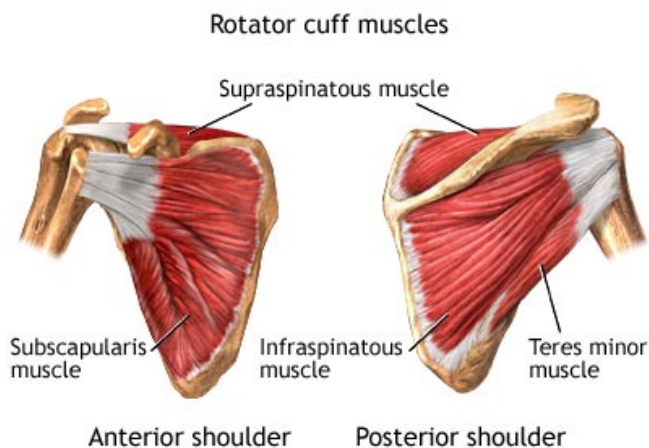




Rotator Cuff Tendinosis

Rotator cuff tendinosis is a very common disorder that causes shoulder pain and loss of function, generally in people over age 40. While many cases are caused by overuse, there is often no clear reason why this condition occurs. Tendinosis refers to intrinsic tendon degeneration or failure of the tendon fibers at a microscopic level. The goal of treatment of this condition is to provide an opportunity for the tendon to repair itself through an adequate tissue healing response. This involves rest, activity and technique modification, correction of underlying mechanical abnormalities of the shoulder such as muscle weakness and fatigue and, finally, patience. Tendon healing is a slow process that takes many weeks to several months.



Rotator Cuff Anatomy

The rotator cuff is composed of four tendons that surround the humeral head (ball). In addition to moving the shoulder joint, the rotator cuff compresses the ball into the socket. This compression helps stabilize the shoulder joint, providing the shoulder the widest range of motion of any joint in the body. The most common tendon involved in tendinosis and rotator cuff tears is the supraspinatus tendon. This tendon is positioned between the humeral head and the acromion bone which provides a roof above the ball and socket joint.



Causes/Risk Factors:

Rotator cuff tendinosis has many possible causes that may act alone or in combination to result in tendon degeneration. The causes are listed as follows:

- **Age:** as we age, our tendons and ligaments lose strength and their internal capacity for tissue repair and healing decreases. Thus, they are equally more prone to injury and less likely to recover quickly.
- **Overuse:** repetitive use of the arms, especially at or above shoulder level may cause fatigue and damage to the rotator cuff tendons. If the rate of tissue breakdown exceeds the rate of tissue healing, tendon degeneration may occur. This may be known as Repetitive Strain Injury (RSI). Giving the damaged tissue sufficient time to heal is essential to recovery. Continued pain during activity is an indicator of internal tissue damage and should not be ignored. Efforts to work through the pain will likely only result in further injury.
- **Poor Posture:** forward slumping of shoulders causes the shoulder blade to tilt forward and down. The narrow space created for the rotator cuff and may cause abrasion of the tendon's surface
- **Weakness:** many people who engage in repetitive motion activities, whether through work, sport or recreation, develop fatigue in the rotator cuff muscles. If the muscles are not allowed sufficient time to rest, recover and remodel, fatigue can lead to internal damage to the muscle and tendon. In addition, fatigue promotes faulty mechanics in the ball and socket mechanism that accelerate this damage.

Symptoms and Signs

Progressively worsening pain both with use and at night are typical features of rotator cuff tendinosis. Most patients cannot recall a single incident that caused the onset of pain. Pain with reaching and lifting, especially at or above shoulder height, are common complaints. Many patients may be unable to sleep on the affected side or may be awoken at night when they roll onto the side. Most patients are relatively comfortable at rest with the arm at the side. Because the tendon is structurally intact and not torn, strength is generally unaffected but limited by pain. Some patients have pain that radiates into the neck, back or upper arm due to shoulder fatigue.

How is Rotator Cuff Tendinosis Diagnosed?

In straight forward cases, the patients history and physical exam may be all that is necessary to make a diagnosis of cuff tendinosis. In some patients, extreme pain may make it difficult to adequately assess the degree of tendon disease, raising suspicion of a possible partial or full thickness rotator cuff tear. Plain X-rays are generally obtained to screen for other possible causes of shoulder pain including arthritis or calcific tendonitis. If the clinical history and exam are suspicious of a possible rotator cuff tear, an MRI with dye injected into the shoulder joint is the most accurate diagnostic study to assess the integrity of the tendon and look for tendinosis versus rotator cuff tear.

What is the Prognosis?

Tendinosis tends to be a self-limited process that resolves with adequate treatment. Tendon healing, however, is a slow process that may take many weeks and up to a few months. During this time, the patient must avoid exposing the tendon to the same conditions that caused tendonitis in the first place, especially overuse of the arm.

How is Rotator Cuff Tendinosis Treated?

The goal of treatment for rotator cuff tendinosis is fourfold. The first goal is to promote tendon healing by promoting rest and avoidance of aggravating activities. The second goal is to correct any underlying mechanical abnormalities that may have promoted the development of tendinosis, such as postural deficits. The third goal is to promote tendon strengthening and remodeling once adequate healing has occurred with a progressive, exercise program. The fourth goal is to prevent recurrence through a maintenance program of flexibility, strengthening and aerobic conditioning.

If a thorough course of non-operative treatment fails to result in resolution of pain and restoration of shoulder function, surgical treatment may be necessary. Generally surgery is not entertained or recommended until 3-6 months of non-operative treatment have been completed.



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