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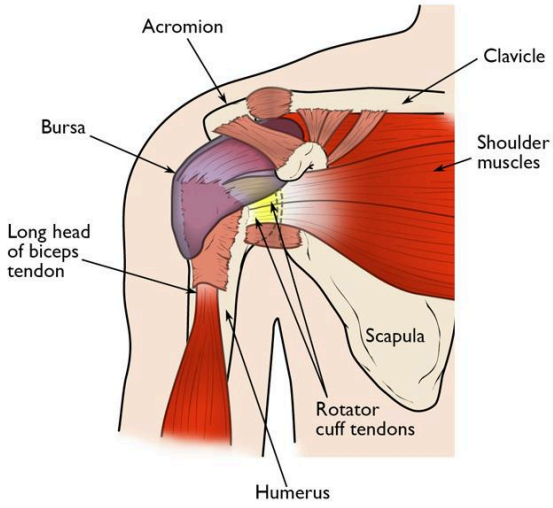
DISEASES & CONDITIONS

Shoulder Impingement/Rotator Cuff Tendinitis

This article was written and/or reviewed by a member of American Shoulder and Elbow Surgeons (ASES).

Shoulder pain is one of the most common physical complaints — affecting people of all ages and for a variety of reasons. The rotator cuff tendons and muscles, which are responsible for moving the shoulder, are a frequent cause of shoulder pain.



This illustration of the shoulder highlights the major components of the joint.

Anatomy

The shoulder is composed of several joints combined with tendons and muscles that allow for range of motion in your arm than in other joints.

The shoulder is made up of three bones:

- The humerus (upper arm bone)
- The scapula (shoulder blade)

- The clavicle (collarbone)

The rotator cuff tendons attach to the top of the humerus (humeral head) and connect the humerus to the shoulder blade's socket to allow you to move your shoulder and arm.

There is a lubricating sac called a bursa between the rotator cuff and the bone on top of your shoulder blade (a bony structure called the acromion). The bursa allows the rotator cuff tendons to glide smoothly when you move your arm.

Description

The rotator cuff is a common cause of pain in the shoulder. Pain can happen because of:

- Tendinitis — inflammation of the rotator cuff tendons.
- Bursitis — inflammation of the bursa.
- Impingement — this happens because the space between the top of your shoulder (acromion) and the rotator cuff tendons becomes smaller when you raise your arm. The acromion can rub against (or impinge on) the tendon and the bursa below, causing irritation and pain.

Cause

Rotator cuff pain is common in both young athletes and older people.

- Young athletes who use their arms overhead for swimming, baseball, tennis, and volleyball are particularly at risk.
- People who do repetitive lifting or overhead activities using the arm, such as paper hanging, construction, or painting are also at risk.
- Pain may also develop as the result of a minor injury. This may happen without an obvious cause or injury.

Symptoms

Rotator cuff injuries commonly cause pain and tenderness in the front or side of the shoulder:

- You may have pain and stiffness when you try to lift your arm and reach for things above your head.

- There may also be pain when bringing your arm down.
- The pain is typically at its worst at night.

Beginning symptoms may be mild. Patients often do not seek treatment at an early stage. These symptoms may include:

- Mild pain that is present both with use and at rest
- Pain radiating from the front of the shoulder to the side of the arm
- Sudden pain with lifting and reaching movements
- For athletes in overhead sports, possibly pain when throwing, spiking, or serving a ball

As the problem progresses, the symptoms may change to cause:

- Severe pain at night, which may affect your ability to sleep
- Loss of strength and motion
- Difficulty doing basic activities, such as getting dressed, putting on a seatbelt, or washing or brushing your hair

The pain may come on suddenly and the shoulder may be severely tender to the touch. Movement of the shoulder may be limited and painful.

Doctor Examination

Medical History and Physical Examination

After discussing your symptoms and medical history, your doctor will examine your shoulder.

- They will press on different parts of your shoulder to see whether it is tender in any specific area.
- They will ask you to move your arm in several different directions to evaluate your motion.
- If you have severe pain and cannot move your arm on your own, your doctor may gently move the arm for you to assess the degree of stiffness.
- They will test your arm strength.
- They will check for other problems with your shoulder joint.
- They may also examine your neck to make sure that the pain is not caused by a pinched nerve from the neck, and to rule out other possible shoulder conditions, such as arthritis.

Your doctor will test your range of motion by having you move your arm in different directions.

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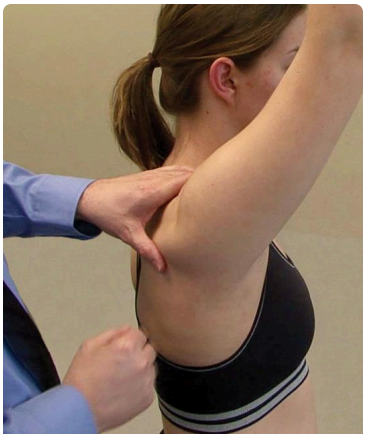

Imaging Tests

Other tests which may help your doctor confirm your diagnosis include:

X-rays. Because X-rays do not show the soft tissues of your shoulder like the rotator cuff, plain X-rays of a shoulder with rotator cuff pain are usually normal or may show a small bone spur. A special X-ray view, called an outlet view, sometimes will show a small bone spur on the front edge of the acromion.

(Left) Normal outlet view X-ray. **(Right)** Abnormal outlet view showing a large bone spur causing impingement on the rotator cuff.

Images courtesy of Stuart J. Fischer, MD, FAAOS

Magnetic resonance imaging (MRI) and ultrasound. MRI scans provide better images of the rotator cuff tendons and surrounding soft tissue structures. They can show fluid or inflammation in the bursa or rotator cuff. In some cases, tears in the rotator cuff tendons will be seen.

An ultrasound may also be used to evaluate the rotator cuff tendon if you are unable to get an MRI.

Treatment

The goal of treatment is to reduce pain and restore function. In planning your treatment, your doctor will consider your age, activity level, and general health.

Nonsurgical Treatment

In most cases, initial treatment is nonsurgical. Many patients experience a gradual improvement and return to function, although it may take several weeks to months for complete recovery.

Rest. Your doctor may suggest rest and activity modification, such as avoiding overhead activities that tend to cause your symptoms.

Nonsteroidal anti-inflammatory drugs (NSAIDs). Anti-inflammatory medications like ibuprofen, aspirin, and naproxen reduce pain and swelling.

Physical therapy. A physical therapist will focus on restoring motion to your shoulder. Stretching exercises to improve motion are very helpful.

Once your pain is improving, your therapist can start you on a strengthening program for the rotator cuff muscles. They will also work on your overall posture to prevent other injuries to your shoulder.

Steroid injection. If rest, medications, and physical therapy do not help your pain, an injection of a local anesthetic and steroid may be helpful. Steroids are very effective anti-inflammatory medicines. The steroid is usually injected into the bursa beneath the acromion. This can be done in the doctor's office, with or without the use of ultrasound or other form of image guidance.

A cortisone injection may relieve painful symptoms.

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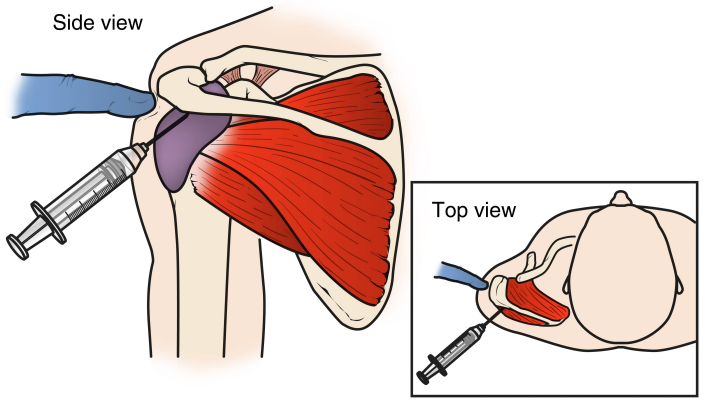

Surgical Treatment

When nonsurgical treatment does not relieve pain, your doctor may recommend surgery.

The goal of surgery is to create more space for the rotator cuff. To do this, your doctor will:

- Remove the inflamed portion of the bursa — a procedure called **bursectomy**

- Remove any bone spurs on the acromion — a procedure called **acromioplasty** (subacromial decompression)

These procedures are typically performed arthroscopically and may be performed along with other procedures.

Arthroscopic technique. In arthroscopy, thin surgical instruments are inserted into the shoulder through two or three small incisions. The doctor examines your shoulder through a fiberoptic scope connected to a television camera, then guides the small instruments using a video monitor and removes bone and soft tissue. In most cases, the front edge of the acromion is removed along with some of the bursal tissue.

Your surgeon may also treat other conditions present in the shoulder at the time of surgery. These can include:

- Arthritis between the clavicle (collarbone) and the acromion (acromioclavicular arthritis)
- Inflammation of the biceps tendon (biceps tendinitis)
- A partial or full-thickness rotator cuff tear

Rehabilitation. After surgery, your arm may be placed in a sling for a short period of time. This allows for early healing. As soon as your comfort allows, your doctor will remove the sling so you can begin shoulder exercises and use of the arm. The amount of time in the sling may be adjusted based on any additional procedures performed.

Your doctor will provide a rehabilitation program based on your needs and the findings at surgery. This will include exercises to regain motion of the shoulder and strength of the arm. It typically takes 2 to 4 months to achieve complete relief of pain, but it may take up to 1 year.

Learn more about American Shoulder and Elbow Surgeons (ASES)

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