

Shoulder Impingement Syndrome and Rotator Cuff Problems



SHOULDER IMPINGEMENT

Rotator cuff problems are a common source of shoulder pain. Inflammation and tearing of the rotator cuff are more common with increased age. Treatment options range from medications and rehabilitation to surgery. Your physician will evaluate multiple factors, such as your age, overall health status, activity level, severity and duration of symptoms, as well as the degree of damage to the rotator cuff in order to determine which treatment is the best for you.

The shoulder is a ball (humeral head) and socket (glenoid) joint surrounded by the rotator cuff muscles and tendons (the cords which connect muscle to bone) which function to stabilize your shoulder joint as you lift your arm overhead. The rotator cuff is a group of four muscles, but the supraspinatus muscle is the most frequently involved in tendinitis and tears. The upper part of the shoulder blade (acromion) and the collar bone (clavicle) join at the acromioclavicular (AC) joint to form a roof over the rotator cuff tendons. There is a bursa sac between the rotator cuff and the acromion that provides a gliding surface between these two structures. (Fig. 1)

What is impingement syndrome?

As one ages, the rotator cuff tendons can gradually deteriorate. These tendons can become inflamed causing shoulder pain (called rotator cuff tendinitis or impingement syndrome). The bursa sac usually becomes inflamed along with the rotator cuff tendons (bursitis). The pain is usually localized to the shoulder or outside of the upper arm. It is usually worse with overhead activities or

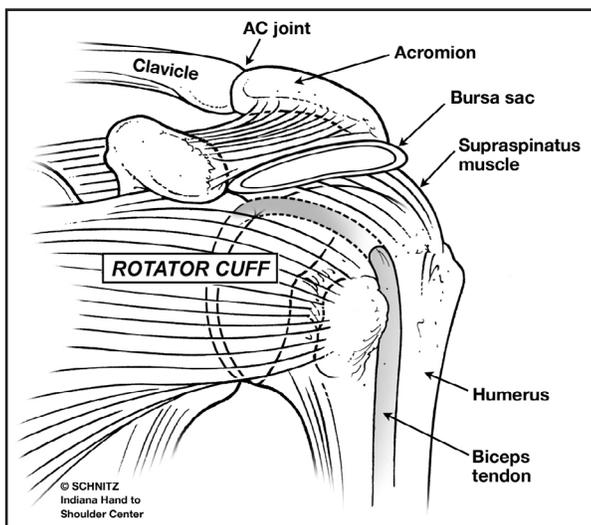


Fig. 1: Normal shoulder anatomy.

positioning of the arm behind the back and often wakes you from sleep. If the pain persists for an extended period limiting the use of the shoulder, the joint may stiffen. This is commonly referred to as a frozen shoulder.

What are the causes?

There are many causes of rotator cuff tendinitis and bursitis. One common cause is excessive use of the shoulder, especially in an overhead position. These activities cause rubbing (impingement) of the rotator cuff tendons and bursa sac under the acromion and AC joint. Anything that causes narrowing of the space over the rotator cuff, such as spurs on the undersurface of the acromion or clavicle or weakness of the shoulder muscles, will predispose the shoulder to rotator cuff tendinitis and bursitis.

How is it treated?

Your physician may decide to obtain x-rays or an MRI to look for spurs, arthritis, or a tear of the rotator cuff tendons.

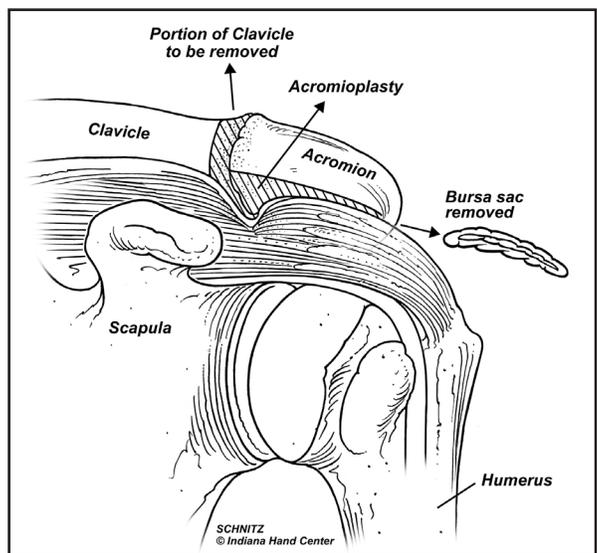


Fig 2: Acromioplasty and partial clavicle resection.

Treatment usually involves rest and avoidance of activities that cause continued irritation. Medications and injections may be used to reduce pain. If stiffness develops, a home stretching exercise program will be initiated. Organized therapy may be prescribed to reduce pain and restore flexibility.

If shoulder pain persists despite nonoperative treatment, your physician may recommend several options. Occasionally, stretching of the stiff shoulder under anesthesia is helpful in restoring mobility and decreasing pain. If your shoulder motion is maintained or restored with exercises but your pain persists, your physician may recommend surgery.

In order to relieve the tendinitis, the space through which the rotator cuff moves is opened, removing any spurs from the undersurface of the acromion (acromioplasty) and removing the thickened bursa. If there is arthritis and spurring of the AC joint, a small section at the end of the collarbone may be removed as well. (Fig. 2)

Your Physician may choose to perform this procedure through an open incision, or through a smaller incision with the aid of a small camera called an arthroscope. The primary advantage of the arthroscopic procedure is that it is less invasive allowing for a more aggressive rehabilitation program with a potentially earlier return to full activity. The surgery is performed under a general anesthetic (you must be put to sleep), along with an anesthetic block to numb the arm.

ROTATOR CUFF TEARS

Rotator cuff tendons can tear and this usually occurs at the attachment site to bone. Most tears involve the supraspinatus tendon, but other tendons may also be involved. (Fig. 3)

Most torn tendons start by fraying and weakening secondary to age or repeated grinding of the tendons on the acromion or AC joint. This can lead to a partial tear. As the fraying progresses, the weakened tendon can tear completely often while lifting a heavy object. Tears can occasionally occur through previously normal tendon due to a violent fall or an episode of very heavy lifting. Symptoms of a rotator cuff tear are very similar to impingement syndrome with pain with use and at night, and weakness especially overhead as well as a grinding sensation in the shoulder. In order to assess the rotator cuff, your physician might order x-rays or an MRI.

Treatment

Since rotator cuff tears tend to enlarge with time and they don't have the ability to heal without surgery, surgical repair is usually recommended

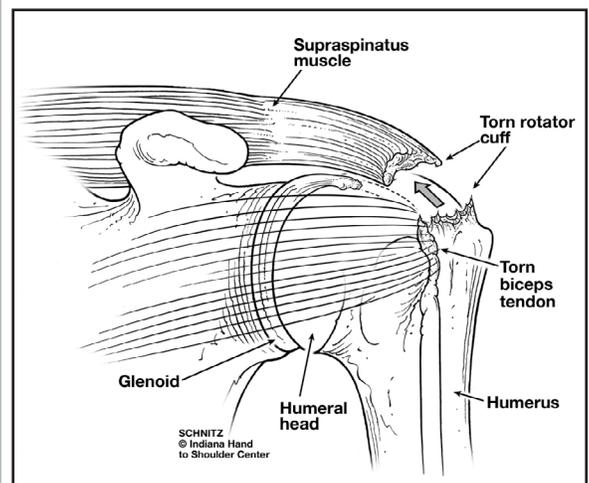


Fig. 3: A tear of the supraspinatus portion of the rotator cuff.

for most active patients with complete tears. This is especially true for patients with longstanding symptoms, large tears, significant weakness, or an acute injury.

Non operative treatment may be recommended for small partial tears or in patients with small complete tears or those that are not healthy enough to undergo surgery. Nonsurgical treatment options include rest, activity modification, therapy to restore motion and strength as well as medications and/or steroid injections.

Surgery

Surgery to repair a torn rotator cuff tendon is done under general anesthesia along with an anesthetic block to numb the arm. Surgery most often involves reattaching the tendon with sutures that are attached to anchors placed into the bone.

Your surgeon may choose to perform an acromioplasty, partial clavicle resection, or other soft tissue procedure in addition to the

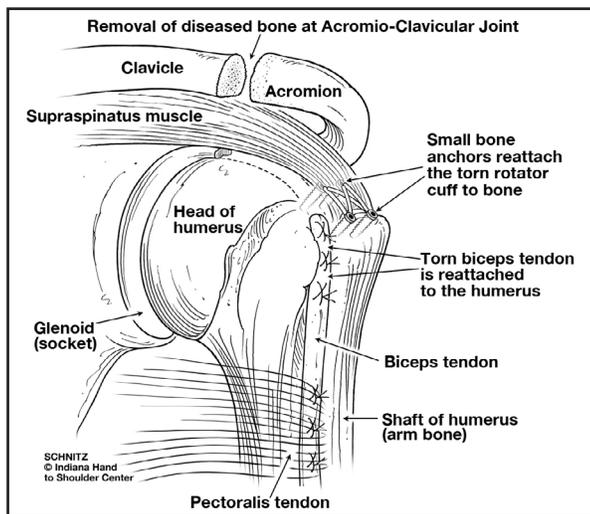


Fig. 4: Tenodesis of biceps and “double row” repair of the rotator cuff.

rotator cuff repair. (Fig. 4) These may be done arthroscopically, through a traditional open incision, or through a mini open incision. All three repair methods result in the same degree of pain relief, strength improvement and overall satisfaction.

Rehabilitation

After surgery, therapy progresses in stages. At first the repair needs to be protected for 4-8 weeks while the tendons heal. You will wear a sling and do very gentle exercises during this period.

After 4-8 weeks, your sling will be discontinued and you will begin to move your arm on your own. As the tendon repair gets stronger (8-12 weeks) you will start strengthening exercises. Although pain relief is achieved in 4-5 months, full return of strength and motion may take up to 9-12 months.



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