

## Shoulder Pain and Common Shoulder Problems

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What most people call the shoulder is really several joints that combine with tendons and muscles to allow a wide range of motion in the arm – from scratching your back to throwing the perfect pitch.

Mobility has its price, however. It may lead to increasing problems with instability or impingement of the soft tissue or bony structures in your shoulder, resulting in pain. You may feel pain only when you move your shoulder, or all of the time. The pain may be temporary or it may continue and require medical diagnosis and treatment.

This article explains some of the common causes of shoulder pain, as well as some general treatment options. Your doctor can give you more detailed information about your shoulder pain.

### Anatomy

Your shoulder is made up of three bones: your upper arm bone (humerus), your shoulder blade (scapula), and your collarbone (clavicle).

The head of your upper arm bone fits into a rounded socket in your shoulder blade. This socket is called the glenoid. A combination of muscles and tendons keeps your arm bone centered in your shoulder socket. These tissues are called the rotator cuff. They cover the head of your upper arm bone and attach it to your shoulder blade.

### Cause

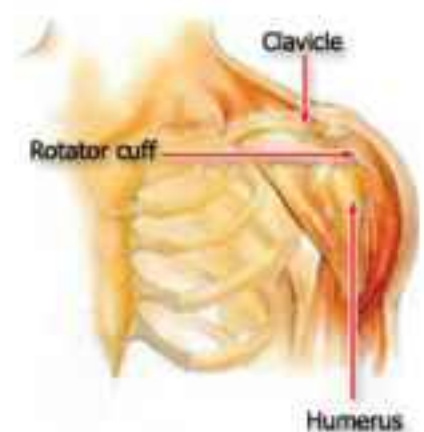
Most shoulder problems fall into four major categories:

- Tendon inflammation (bursitis or tendinitis) or tendon tear
- Instability
- Arthritis
- Fracture (broken bone)

Other much less common causes of shoulder pain are tumors, infection, and nerve-related problems.

### Bursitis

Bursae are small, fluid-filled sacs that are located in joints throughout the body, including the shoulder. They act as cushions between bones and the overlying soft tissues, and help reduce friction between the gliding muscles and the bone.



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

Sometimes, excessive use of the shoulder leads to inflammation and swelling of the bursa between the rotator cuff and part of the shoulder blade known as the acromion. The result is a condition known as subacromial bursitis. Bursitis often occurs in association with rotator cuff tendinitis. The many tissues in the shoulder can become inflamed and painful. Many daily activities, such as combing your hair or getting dressed, may become difficult.

### **Tendinitis**

A tendon is a cord that connects muscle to bone. Most tendinitis is a result of a wearing down of the tendon that occurs slowly over time, much like the wearing process on the sole of a shoe that eventually splits from overuse.

Generally, tendinitis is one of two types:

- **Acute.** Excessive ball throwing or other overhead activities during work or sport can lead to acute tendinitis.
- **Chronic.** Degenerative diseases like arthritis or repetitive wear and tear due to age, can lead to chronic tendinitis.

The most commonly affected tendons in the shoulder are the four rotator cuff tendons and one of the biceps tendons. The rotator cuff is made up of four small muscles and their tendons that cover the head of your upper arm bone and keep it in the shoulder socket. Your rotator cuff helps provide shoulder motion and stability.

### **Tendon Tears**

Splitting and tearing of tendons may result from acute injury or degenerative changes in the tendons due to advancing age, long-term overuse and wear and tear, or a sudden injury. These tears may be partial or may completely split the tendon into two pieces. In most cases of complete tears, the tendon is pulled away from its attachment to the bone. Rotator cuff and biceps tendon injuries are among the most common of these injuries.

### **Impingement**

Shoulder impingement occurs when the top of the shoulder blade (acromion) puts pressure on the underlying soft tissues when the arm is lifted away from the body. As the arm is lifted, the acromion rubs, or "impinges" on, the rotator cuff tendons and bursa. This can lead to bursitis and tendinitis, causing pain and limiting movement. Over time, severe impingement can even lead to a rotator cuff tear.

### **Instability**

Shoulder instability occurs when the head of the upper arm bone is forced out of the shoulder socket. This can happen as a result of a sudden injury or from overuse.

Shoulder dislocations can be partial, with the ball of the upper arm coming just partially out of the socket. This is called a subluxation. A complete dislocation means the ball comes all the way out of the socket.

Once the ligaments, tendons, and muscles around the shoulder become loose or torn, dislocations can occur repeatedly. Recurring dislocations, which may be partial or complete, cause pain and unsteadiness when you raise your arm or move it away from your body. Repeated episodes of subluxations or dislocations lead to an increased risk of developing arthritis in the joint.

### Arthritis

Shoulder pain can also result from arthritis. There are many types of arthritis. The most common type of arthritis in the shoulder is osteoarthritis, also known as "wear and tear" arthritis. Symptoms, such as swelling, pain, and stiffness, typically begin during middle age. Osteoarthritis develops slowly and the pain it causes worsens over time.

Osteoarthritis may be related to sports or work injuries and chronic wear and tear. Other types of arthritis can be related to rotator cuff tears, infection, or an inflammation of the joint lining.

Often people will avoid shoulder movements in an attempt to lessen arthritis pain. This sometimes leads to a tightening or stiffening of the soft tissue parts of the joint, resulting in a painful restriction of motion.

### Fracture

Fractures are broken bones. Shoulder fractures commonly involve the clavicle (collarbone), humerus (upper arm bone), and scapula (shoulder blade).

Shoulder fractures in older patients are often the result of a fall from standing height. In younger patients, shoulder fractures are often caused by a high energy injury, such as a motor vehicle accident or contact sports injury.

Fractures often cause severe pain, swelling, and bruising about the shoulder.

## Doctor's Examination

In the case of an acute injury causing intense pain, seek medical care as soon as possible. If the pain is less severe, it may be safe to rest a few days to see if time will resolve the problem. If symptoms persist, see a doctor.

Your doctor will conduct a thorough evaluation in order to determine the cause of your shoulder pain and provide you with treatment options.

### Medical History

The first step in the evaluation is a thorough medical history. Your doctor may ask how and when the pain started, whether it has occurred before and how it was treated, and other questions to help determine both your general health and the possible causes of your shoulder problem. Because most shoulder conditions are aggravated by specific activities, and relieved by specific activities, a medical history can be a valuable tool in finding the source of your pain.

### Physical Examination

A comprehensive examination will be required to find the causes of your shoulder pain. Your doctor will look for physical abnormalities, swelling, deformity or muscle weakness, and check for tender areas. He or she will observe your shoulder range of motion and strength.

### Tests

Your doctor may order specific tests to help identify the cause of your pain and any other problems.

**X-rays.** These pictures will show any injuries to the bones that make up your shoulder joint.

**Magnetic resonance imaging (MRI) and ultrasound.** These imaging studies create better pictures of soft tissues. It may help your doctor identify injuries to the ligaments and tendons surrounding your shoulder joint.

**Computed tomography (CT) scan.** This tool combines x-rays with computer technology to produce a very detailed view of the bones in the shoulder area.

**Electrical studies.** Your doctor may order a tests, such as the EMG (electromyogram), to evaluate nerve function.

**Arthrogram.** During this x-ray study, dye is injected into the shoulder to better show the joint and its surrounding muscles and tendons.

**Arthroscopy.** In this surgical procedure, your doctor looks inside the joint with a fiber-optic camera. Arthroscopy may show soft tissue injuries that are not apparent from the physical examination, x-rays, and other tests. In addition to helping find the cause of pain, arthroscopy may be used to correct the problem.

## Treatment

### Activity Changes

Treatment generally involves rest, altering your activities, and physical therapy to help you improve shoulder strength and flexibility. Common sense solutions such as avoiding overexertion or overdoing activities in which you normally do not participate can help to prevent shoulder pain.

### Medications

Your doctor may prescribe medication to reduce inflammation and pain. If medication is prescribed to relieve pain, it should be taken only as directed. Your doctor may also recommend injections of numbing medicines or steroids to relieve pain.

### Surgery

Surgery may be required to resolve some shoulder problems; however, 90% of patients with shoulder pain will respond to simple treatment methods such as altering activities, rest, exercise, and medication.

Certain types of shoulder problems, such as recurring dislocations and some rotator cuff tears, may not benefit from exercise. In these cases, surgery may be recommended fairly early.

Surgery can involve arthroscopy to remove scar tissue or repair torn tissues, or traditional, open procedures for larger reconstructions or shoulder replacement.

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