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## Diseases and Conditions

# Rotator cuff injury

By Mayo Clinic Staff

The rotator cuff is a group of muscles and tendons that surround the shoulder joint, keeping the head of your upper arm bone firmly within the shallow socket of the shoulder. A rotator cuff injury can cause a dull ache in the shoulder, which often worsens when you try to sleep on the involved side.

Rotator cuff injuries occur most often in people who repeatedly perform overhead motions in their jobs or sports. Examples include painters, carpenters, and people who play baseball or tennis. The risk of rotator cuff injury also increases with age.

Many people recover from a rotator cuff injury with physical therapy exercises that improve flexibility and strength of the muscles surrounding the shoulder joint. Severe rotator cuff injuries, involving complete tears of the muscle or tendon, may require surgical repair.

The pain associated with a rotator cuff injury may:

- Be described as a dull ache deep in the shoulder
- Disturb sleep, particularly if you lie on the affected shoulder
- Make it difficult to comb your hair or reach behind your back
- Be accompanied by arm weakness

## When to see a doctor

Seek medical attention if your shoulder pain is severe or if it's remained unchanged for more than a few days.

Causes of rotator cuff injuries include:

- **Falling.** Using your arm to break a fall or falling on your arm can bruise or tear a rotator cuff tendon or muscle.
- **Lifting or pulling.** Lifting an object that's too heavy or doing so improperly — especially overhead — can strain or tear your tendons or muscles.
- **Repetitive stress.** Repetitive overhead movement of your arms can stress your rotator cuff muscles and tendons, causing inflammation and eventually tearing.
- **Bone spurs.** An overgrowth of bone can occur on a part of the shoulder blade that protrudes over the rotator cuff. This extra bone can irritate and damage the tendon.

The following factors may increase your risk of having a rotator cuff injury:

- **Age.** As you get older, your risk of a rotator cuff injury increases. Rotator cuff tears are most common in people older than 40.
- **Certain sports.** Athletes who regularly use repetitive arm motions, such as baseball pitchers, archers and tennis players, have a greater risk of having a rotator cuff injury.
- **Construction jobs.** Occupations such as carpentry or house painting require repetitive arm motions, often overhead, that can damage the rotator cuff over time.

Although resting your shoulder is necessary for your recovery, keeping your shoulder immobilized can cause the connective tissue enclosing the joint to become thickened and tight (frozen shoulder).

You'll probably start by seeing your family doctor. If your injury is severe, you might be referred to an orthopedic surgeon.

## What you can do

Before the appointment, you might want to write a list that answers the following questions:

- When did you first begin experiencing shoulder pain?
- What movements and activities worsen your shoulder pain?
- Have you ever injured your shoulder?
- Have you experienced any symptoms in addition to shoulder pain?
- Does the pain travel down your arm below your elbow?
- Is the shoulder pain associated with any neck pain?
- Does your job or hobby aggravate your shoulder pain?

## What to expect from your doctor

Your doctor is likely to ask you a number of questions. Being ready to answer them may reserve time to go over any points you want to spend more time on. Your doctor may ask:

- Where exactly is the pain located?
- How severe is your pain?
- What movements and activities aggravate and relieve your shoulder pain?
- Do you have any weakness or numbness in your arm?

During the physical exam, your doctor will press on different parts of your shoulder and move your arm into different positions. He or she will also test the strength of the muscles around the shoulder and in the arms.

In some cases, he or she may recommend imaging tests, such as:

- **X-rays.** Although a rotator cuff tear won't show up on an X-ray, this test can visualize bone spurs or other potential causes for your pain — such as a broken bone.
- **Ultrasound.** This type of test uses sound waves to produce images of structures within your body, particularly soft tissues such as muscles and tendons.
- **Magnetic resonance imaging (MRI).** This technology uses radio waves and a strong magnet, and is excellent at revealing problems in both bones and soft tissues.

Conservative treatments — such as rest, ice and physical therapy — often are all that's needed to recover from a rotator cuff injury. If your injury is severe and involves a complete tear of the muscle or tendon, you might need surgical repair.

## Medications

If conservative treatments haven't reduced your pain, your doctor might recommend a steroid injection into your shoulder joint, especially if the pain is interfering with your sleep, daily activities or exercise. While such shots are often helpful, they should be used judiciously as they can contribute to weakening of the tendon.

## Therapy

Physical therapy exercises can help restore flexibility and strength to your shoulder after a rotator cuff injury.

## Surgery

Surgical options may include:

- **Bone spur removal.** If an overgrowth of bone is irritating your rotator cuff, this excess bone can be removed and the damaged portion of the tendon can be smoothed. This

procedure is often performed using arthroscopy, where a fiber-optic camera and special tools are inserted through tiny incisions.

- **Tendon repair or replacement.** Many times, a torn rotator cuff tendon can be repaired and reattached to the upper arm bone. If the torn tendon is too damaged to be reattached to the arm bone, surgeons may decide to use a nearby tendon as a replacement.
- **Shoulder replacement.** Massive rotator cuff injuries associated with severe degenerative joint disease (arthritis) of the shoulder may require shoulder replacement surgery. To improve the artificial joint's stability, an innovative procedure (reverse shoulder arthroplasty) installs the ball part of the artificial joint onto the shoulder blade and the socket part onto the arm bone

A minor injury often heals on its own, with proper care. If you think you've injured your rotator cuff, try these steps:

- **Rest your shoulder.** Stop doing what caused the pain and try to avoid painful movements. Limit heavy lifting or overhead activity until your shoulder pain subsides.
- **Apply ice and heat.** Putting ice on your shoulder helps reduce inflammation and pain. Use a cold pack for 15 to 20 minutes every three or four hours. After a few days, when the pain and inflammation have improved, hot packs or a heating pad may help relax tightened and sore muscles.
- **Take pain relievers.** Over-the-counter pain relievers such as ibuprofen (Advil, Motrin IB), naproxen (Aleve) or acetaminophen (Tylenol) may be helpful.

If you are at risk of rotator cuff injuries or if you've had a rotator cuff injury in the past, daily shoulder stretches and exercises can help prevent future injury.

Most people exercise the front muscles of the chest, shoulder and upper arm, but it is equally important to strengthen the muscles in the back of the shoulder and around the shoulder blade to optimize shoulder muscle balance. Your doctor or a physical therapist can help you plan an exercise routine.

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