*Adapted for patients of OrthoBalance PT from Move Forward; American Physical Therapy Association*

# Physical Therapist's Guide to Rotator Cuff Tear

The "rotator cuff" is a group of 4 muscles that are responsible for keeping the shoulder joint stable. Unfortunately, injuries to the rotator cuff are very common, either from injury or with repeated overuse of the shoulder. Injuries to the rotator cuff can vary as a person ages. Rotator cuff tears are more common later in life, but they also can occur in younger people. Athletes and heavy laborers are commonly affected; older adults also can injure the rotator cuff when they fall or strain the shoulder, such as when walking a dog that pulls on the leash. When left untreated, this injury can cause severe pain and a decrease in the ability to use the arm.

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## What is a Rotator Cuff Tear?

The "rotator cuff" is a group of 4 **muscles** and their **tendons** (which attach them to the bone). These muscles connect the upper-arm bone, or humerus, to the shoulder blade. The important job of the rotator cuff is to keep the shoulder joint stable. Sometimes, the rotator cuff becomes inflamed or irritated due to heavy lifting, repetitive arm movements, or a fall. A rotator cuff **tear** occurs when injuries to the **muscles** or **tendons** cause tissue damage or disruption.

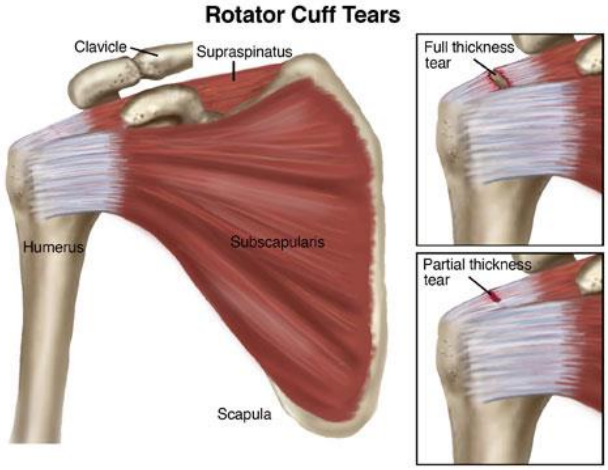
Rotator cuff tears are called either "**full-thickness**" or **partial-thickness**," depending on how severe they are. **Full-thickness** tears extend from the top to the bottom of a rotator cuff muscle/tendon. **Partial-thickness** tears affect at least some portion of a rotator cuff muscle/tendon, but do not extend all the way through.

Tears often develop as a result of either a traumatic event or long-term overuse of the shoulder. These conditions are commonly called **acute** or **chronic**:

- An **acute** rotator cuff tear is one that just recently occurred, often due to a trauma such as a fall or lifting a heavy object.
- **Chronic** rotator cuff tears are much slower to develop. These tears are often the result of repeated actions with the arms working above shoulder level—such as with ball-throwing sports or certain work activities.

People with chronic rotator cuff injuries often have a history of rotator cuff tendon irritation that causes shoulder pain with movement. This condition is known as **shoulder impingement syndrome (SIS)**.

Rotator cuff tears also may occur in combination with injuries or irritation of the biceps tendon at the shoulder, or with labral tears (to the ring of cartilage at the shoulder joint).



# How Does it Feel?

Rotator cuff tears can cause:

- **Pain over the top of the shoulder or down the outside of the arm**
- **Shoulder weakness**
- **Loss of shoulder motion**

The injured arm often feels heavy, weak, and painful. In severe cases, tears may keep you from doing your daily activities or even raising your arm. People with rotator cuff tears often are unable to lift the arm to reach high shelves or reach behind their backs to tuck in a shirt or blouse, pull out a wallet, or fasten a bra.

# How Is It Diagnosed?

Your physical therapist will review your health history, perform a thorough examination, and conduct a series of tests designed specifically to help pinpoint the cause of your shoulder pain.

Physical therapists perform specialized tests--such as the Hawkins-Kennedy impingement test, Neer's impingement sign, and the external rotation lag sign-- to diagnose an impingement or a tear. For instance, your therapist may raise your arm, move your arm out to the side, or raise your arm and ask you to resist a force, all at specific angles of elevation. These tests may cause you to feel some temporary discomfort, but don't worry—that's normal and part of what helps the therapist identify the exact source of your problem.

In some cases, the results of these tests might indicate the need for a referral to an orthopedist or for imaging tests, such as ultrasound imaging, magnetic resonance imaging (MRI), or computed tomography (CT).

# How Can a Physical Therapist Help?

Once a rotator cuff injury has been diagnosed, you will work with your orthopedist and physical therapist to decide if you should have surgery or if you can try to manage your recovery without surgery. If you don't have surgery, your therapist will work with you to restore your range of motion, muscle strength, and coordination, so that you can return to your regular activities. In some cases, your therapist may help you learn to modify your physical activity so that you put less stress on your shoulder. If you decide to have surgery, your therapist can help you both before and after the procedure.

Regardless of which treatment you have—physical therapy only, or surgery and physical therapy—early treatment can help speed up healing and avoid permanent damage.

### If You Have an Acute Injury

If a rotator cuff tear is suspected following a trauma, seek the attention of a physical therapist or other health care provider to rule out the possibility of serious life- or limb-threatening conditions. Once serious injury is ruled out, your physical therapist will help you manage your pain and will prepare you for the best course of treatment.

### If You Have a Chronic Injury

A physical therapist can help manage the symptoms of chronic rotator cuff tears as well as improve how your shoulder works. For large rotator cuff tears that can't be fully repaired, physical therapists can teach special strategies to improve shoulder movement.

## If You Have Surgery

Once a full-thickness rotator cuff tear develops, you may need surgery to restore use of the shoulder or decrease painful symptoms. Physical therapy is an important part of the recovery process. The repaired rotator cuff is vulnerable to reinjury following shoulder surgery, so it's important to work with a physical therapist to safely regain full use of the injured arm. After the surgical repair, you will need to wear a sling to keep your shoulder and arm protected as the repair heals. Once you are able to remove the sling for exercise, the physical therapist will begin your exercise program.

Your physical therapist will design a treatment program based on both the findings of the evaluation and your personal goals. He or she will guide you through your postsurgical rehabilitation, which will progress from gentle range-of-motion and strengthening exercises and ultimately to activity- or sport-specific exercises. Your treatment program most likely will include a combination of exercises to strengthen the rotator cuff and other muscles that support the shoulder joint. Your therapist will instruct you in how to use therapeutic resistance bands. The timeline for your recovery will vary depending on the surgical procedure and your general state of health, but full return to sports, heavy lifting, and other strenuous activities might not begin until 4 months after surgery. **Your shoulder will be very susceptible to reinjury, so it is extremely important to follow the postoperative instructions provided by your surgeon and physical therapist.**

Physical therapy after your shoulder surgery is essential to restore your shoulder's function. Your rehabilitation will typically be divided into 4 phases:

- **Phase I (maximal protection).** This phase lasts for the first few weeks after your surgery, when your shoulder is at the greatest risk of reinjury. During this phase, your arm will be in a sling. You will likely need assistance or need strategies to accomplish everyday tasks such as bathing and dressing. Your physical therapist will teach you gentle range-of-motion and isometric strengthening exercises, will provide hands-on techniques such as gentle massage, will offer advice on reducing your pain, and may use cold compression and electrical stimulation to relieve pain.
- **Phase II (moderate protection).** This next phase has the goal of restoring mobility to the shoulder. You will reduce the use of your sling, and your range-of-motion and strengthening exercises will become more challenging. Exercises will be added to strengthen the "core" muscles of your trunk and shoulder blade (scapula) and "rotator cuff" muscles that provide additional support and stability to your shoulder. You will be able to begin using your arm for daily activities, but will still avoid any heavy lifting with your arm. Your physical therapist may use special hands-on mobilization techniques during this phase to help restore your shoulder's range of motion.
- **Phase III (return to activity).** This phase has the goal of restoring your strength and joint awareness to equal that of your other shoulder. At this point, you should have full use of your arm for daily activities, but you will still be unable to participate in activities such as sports, yard work, or physically strenuous work-related tasks. Your physical therapist will advance the difficulty of your exercises by adding more weight or by having you use more challenging movement patterns. A modified weight-lifting/gym-based program may also be started during this phase.
- **Phase IV (return to occupation/sport).** This phase will help you return to sports, work, and other higher-level activities. During this phase, your physical therapist will instruct you in activity-specific exercises to meet your needs. For certain athletes, this may include throwing and catching drills. For others, it may include practice in lifting heavier items onto shelves, or instruction in raking, shoveling, or housework.

# Can this Injury or Condition be Prevented?

A physical therapist can help you decrease your risk of developing or worsening a rotator cuff tear, especially if you seek assistance at the first sign of shoulder pain or discomfort. To avoid developing or progressing to a rotator cuff tear from an existing shoulder impingement, it is imperative to avoid future exacerbations. Your physical therapist can help you strengthen your rotator cuff muscles, train you to avoid potentially harmful positions, and determine when it is appropriate for you to return to your normal activities.

***General Tips:***

- Avoid repeated overhead arm positions that may cause shoulder pain. If your job requires such movements, seek out the advice of a physical therapist to learn arm positions that may be used with less risk.
- Apply rotator cuff muscle and scapular strengthening exercises into your normal exercise routine. The strength of the rotator cuff is just as important as the strength of any other muscle group. To avoid potential detriment to the rotator cuff, general strengthening and fitness programs may improve shoulder health.
- Practice good posture. A forward position of the head and shoulders has been shown to alter shoulder blade position and create shoulder impingement syndrome.
- Avoid sleeping on your side with your arm stretched overhead, or lying on your shoulder. These positions can begin the process that causes rotator cuff damage.
- Avoid carrying heavy objects at your side; this can strain the rotator cuff.
- Avoid smoking; it can decrease the blood flow to your rotator cuff.
- Consult a physical therapist at the first sign of symptoms.

# Real Life Experiences

Over the past 3 weeks, Jonathan has felt pain in his shoulder while repainting his house. Now, every time he raises his arm overhead, it hurts. He notices that the pain has been steadily getting worse.

*What should he do?*

- **Rest**. Avoid activities that require reaching overhead and rest his elbow on an armrest when sitting. This may allow the irritated muscles and tendons to heal.
- **Ice**. Apply ice to the shoulder to help decrease any irritation and swelling.

Jonathan has stopped reaching overhead to paint and puts ice on his shoulder in the evening. But he still feels pain and stiffness in the area, and he can't move his arm without pain or weakness. He contacts his physical therapist, who prescribes exercises to strengthen his rotator cuff muscles and improve postural habits, and provides education to avoid exacerbating activities.

*This story was based on a real-life case. Your case may be different. Your physical therapist will tailor a treatment program to your specific case.*

# What Kind of Physical Therapist Do I Need?

All physical therapists are prepared through education and experience to treat patients who have a rotator cuff tear, but you may want to consider:

- A physical therapist who is experienced in treating people with musculoskeletal problems. Some physical therapists have a practice with an orthopedic focus.
- A physical therapist who is a board-certified clinical specialist or who completed a residency or fellowship in orthopedics physical therapy has advanced knowledge, experience, and skills that may apply to your condition.

You can find physical therapists who have these and other credentials by using Find a PT, the online tool built by the American Physical Therapy Association [www.APTA.org] to help you search for physical therapists with specific clinical expertise in your geographic area.

General tips when you're looking for a physical therapist (or any other health care provider):

- Get recommendations from family and friends or from other health care providers.
- When you contact a physical therapy clinic for an appointment, ask about the physical therapists' experience in helping people with labral tears.
- During your first visit with the physical therapist, be prepared to describe your symptoms in as much detail as possible, and say what makes your symptoms worse.

# Further Reading

The American Physical Therapy Association (APTA) believes that consumers should have access to information that could help them make health care decisions and also prepare them for their visit with their health care provider.

APTA has determined that the following articles provide some of the best scientific evidence for how to treat rotator cuff tears. The articles report recent research and give an overview of the standards of practice for treatment both in the United States and internationally. The article titles are linked either to a PubMed* abstract of the article or to free access of the full article, so that you can read it or print out a copy to bring with you to your health care provider.

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