

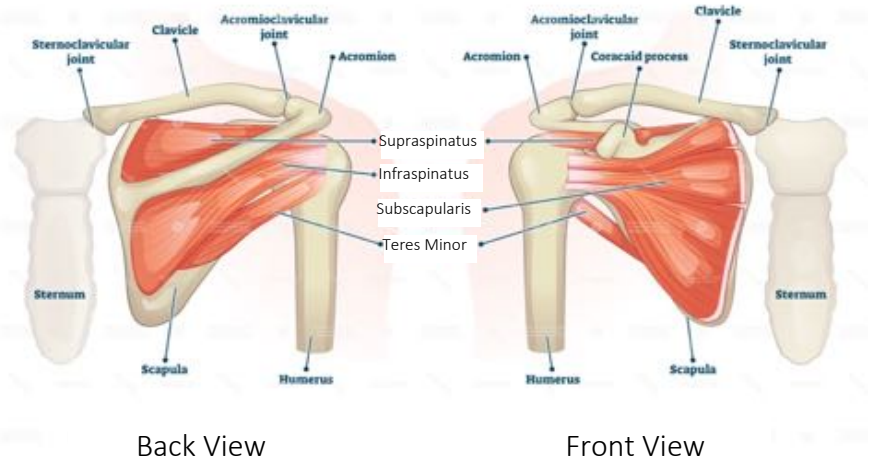


# Rotator Cuff Injuries

## THE SHOULDER

The shoulder is the most mobile and complex joint in the human body. There are three bones that make up the shoulder: upper arm bone (humerus), shoulder blade (scapula) and collarbone (clavicle).

The rotator cuff is a group of four muscles that support the shoulder. It consists of the supraspinatus, infraspinatus, subscapularis and teres minor. These four muscles form a cuff around the joint with the tendons connecting the muscles to the bone. The rotator cuff is the primary stabilizer of the joint during any movements of the shoulder.



## CAUSES OF ROTATOR CUFF INJURIES

The rotator cuff can be injured in a traumatic injury, over time or due to a combination of both (acute-on-chronic)<sup>1</sup>. A detailed history and assessment can help to determine the nature of your rotator cuff injury and recommendations for treatment. Your healthcare professional will determine if and what imaging may be necessary, with the first step generally being an x-ray. An ultrasound and/or MRI may be valuable if surgery is being considered.

**TRAUMATIC** – These tears occur during a specific incident (i.e. lifting something heavy, fall, etc.). They can also be associated with a fracture or dislocation. If a trauma occurred recently and there is significant shoulder dysfunction, a surgical consultation may be beneficial.

**DEGENERATIVE or CHRONIC** – Like other tissues in our body, the rotator cuff degenerates as we get older due to a number of factors. The blood supply to the rotator cuff is reduced as we age, in particular to the supraspinatus. Blood supply is important for tissue healing and therefore when reduced can contribute to the degeneration of the tendon over time. Smoking, diabetes and other chronic health issues can also reduce blood flow to the tendon, making you more susceptible to rotator cuff issues. Other factors include repetitive stress and bone spurs.

Chronic or degenerative tears typically are difficult to repair surgically as the tissue quality degrades with time. Conservative management, including physiotherapy in conjunction with injections when needed for pain, has been shown to be effective in improving pain and function in the majority of these types of tears.

**ACUTE ON CHRONIC** – This is when the rotator cuff was previously weakened through the degenerative process and then torn further with a traumatic injury. These tears typically improve with physiotherapy but may benefit from surgical intervention if there is persistent dysfunction after a period of appropriate rehabilitation.

## TYPES OF TEARS

A tear of the rotator cuff is when one or more of the tendons is no longer fully attached to the humerus. These are the terms that may be used to describe your rotator cuff injury in your imaging results:

**PARTIAL THICKNESS** – These tears do not extend the full tendon depth and essentially are a result of ‘thinning of the tendon’. This means there is still a portion of the tendon that is attached and functioning.

**FULL THICKNESS** – These tears involve a complete tear of a portion of or the full width of a tendon. You may have full thickness tears of multiple tendons in the shoulder.

## TREATMENT OPTIONS

**CONSERVATIVE MANAGEMENT** - Not all rotator cuff injuries require surgery – generally 80% of patients with shoulder pain improve with non-operative management. The size and severity of rotator cuff tears does not always correlate with your symptoms and does not always require surgery.

Physiotherapy and home exercises are the most important part of your treatment plan. The shoulder is built with a ‘back up’ system of muscles that in many cases can compensate for a rotator cuff tear to help reduce your symptoms and improve your function without surgery. Seeing a physiotherapist is important to identify your specific limitations and functional goals and provide an individualized exercise program.

Cortisone injections and/or medications can be used to help reduce pain and improve your ability to do your exercises. It is important to engage in an exercise program in conjunction with pain relief techniques in order to provide long lasting benefits. We generally caution against having multiple injections for the shoulder and recommend discussing repeat injections with your physician.

**SURGICAL MANAGEMENT** – Surgery for rotator cuff tears can be considered if symptoms persist after 3-6 months of appropriate conservative care for chronic tears or in the case of some acute traumatic injuries. Surgery typically involves an arthroscopic day surgery. Post operatively, there is an extensive rehabilitation process that includes up to 6 weeks in a sling and an 8-12 month course of rehabilitation and activity modification. Depending on your job, you may be unable to work for a prolonged period.

## MANAGING YOUR ROTATOR CUFF INJURY – KEY TIPS

**PAIN CONTROL** – Consider using heat or ice for short term pain relief – use whatever feels best to you! Pain medication such as acetaminophen, aspirin or ibuprofen can help reduce your pain and allow you to start exercising. Check with your doctor first to ensure that the pain medication is right for you if you have other medical conditions. Take the recommended dose at the recommended intervals to manage your pain. If your pain is not improving with over-the-counter medication see your doctor and they may prescribe a medication that can help you.

**POSTURE** – Posture affects our shoulder blade position where the rotator cuff muscles are attached. Good posture prevents impingement, giving space for the rotator cuff to move through when you lift your arms. It also recruits the muscles that attach your shoulder blades to your spine (scapular muscles). When you use these muscles, your rotator cuff has support when you lift your arms or anything of weight. Without these muscles, your rotator cuff has to strain more to lift your arm, which can cause pain.

**STAY ACTIVE!** – Staying active with activities that don’t increase your shoulder pain can be helpful in your recovery. Go for a walk, ride a stationary bike or work on lower body and core strengthening exercises.

**DO's and DON'Ts** – As a general rule, **if it hurts don't do it**. However, continuing to move your shoulder in a gentle fashion is important to help you heal and keep your shoulder from getting stiff. Consider doing gentle stretching and postural exercises often throughout the day.



Consider trying this pendulum exercise, which some patients have found helpful for their pain.

Bend at the waist so your arm is dangling down. You may want to hold onto a table or chair for support. Gently rock your body weight in a circular motion to move your arm in a circular pattern about the size of a dinner plate. Do this 10 times in both a clockwise and counter clockwise direction.

Here are a few additional things to consider to help reduce aggravation / pain in your shoulder:

- Keep all arm and hand movement in front of your body (i.e. do not reach into the back seat of your car)
- Minimize prolonged repetitive positions and activities at or above shoulder height initially
- Avoid heavy lifting, pushing or pulling with the affected arm at home or at the gym
- Avoid long lever lifting. Keep anything of weight or load close to your body. Think of the 'front burner of the stove' rule by bringing the objects you are lifting closer to you and not lifting with your arms extended.

**POSITIONING** – You can help relieve your pain by using positions that reduce tension on the shoulder. Here are some ideas to try when sitting and lying down:

Sitting: use an arm rest or pillow under your elbow to support your arm.

Lying on your back: place a pillow or folded towel under your elbow and upper arm to keep it level or above the midline of your body. You may also find having the pillow placed under your arm and chest more comfortable.

Side Lying: Many people find it very uncomfortable or painful to lie on the injured or painful side. When lying on your unaffected side, you may want to place a large pillow in front of you to support the arm. Some patients have found it helpful to sleep in a more upright position such as in a recliner or propped up on pillows.



**For more information, check out the resources on our website!**



**ACCESS**  
ORTHOPAEDICS  
PHYSIOTHERAPY  
SPINE

[www.accessorthopaedics.ca/patients](http://www.accessorthopaedics.ca/patients)

Special thanks to the physiotherapists at Access Orthopaedics and Edmonton Bone and Joint Clinic for their contributions to this resource.  
© Access Orthopaedics, 2022. Exercise photos courtesy of Simpleset, used with permission.