

**75 MILLION PEOPLE EACH YEAR GO TO THE DOCTOR REPORTING SHOULDER PAIN. 21% OF THEM REPORT ROTATOR CUFF INJURY**

40% of those people reported injury lasting one year or more.

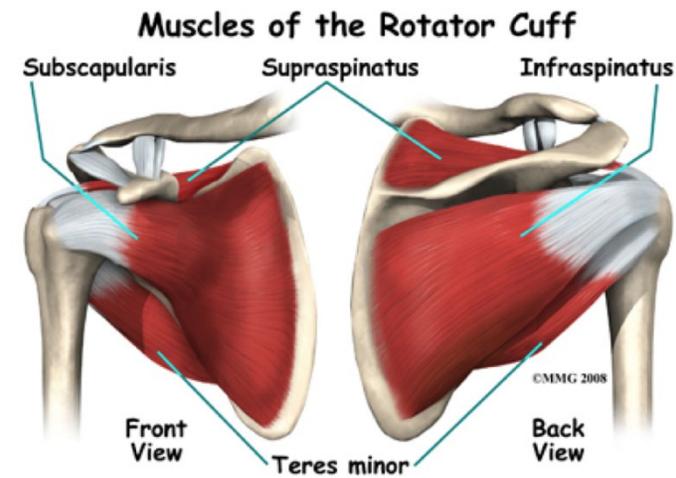


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# ROTATOR CUFF

INFORMATION GUIDE

**MAX U LLC**

Health, Wellness, Rugged Independence

# ROTATOR CUFF INJURY COSTS

It is estimated that rotator cuff injuries cost Americans more than 39 billion each year!

## WHAT IS THE ROTATOR CUFF?

The rotator cuff is a sheath of tendinous tissue that surrounds and stabilizes the humerus in the shoulder glenoid fossa. The tendons that make up the rotator cuff are known as the SITS muscles (Supraspinatus, Infraspinatus, Teres Minor, and Subscapularis) muscles.

## WHAT DOES THE ROTATOR CUFF DO?

The shoulder is the most mobile joint in the body. It is also the least stable. In comparison to the hip joint, the glenoid fossa is relatively shallow. The tendons of the SITS muscles connect to the Greater and Lesser Tubercle of the humerus to stabilize it, pull it tight to the fossa and perform horizontal, lateral, medial, internal, external rotation and abduction.

## HOW DOES A ROTATOR CUFF INJURY AFFECT ME?

Shoulder rotator cuff injuries are painful, limit motion, and affect strength. The shoulder is used in every movement from normal gait while walking and running to lifting and carrying. A rotator injury effects quality of life.

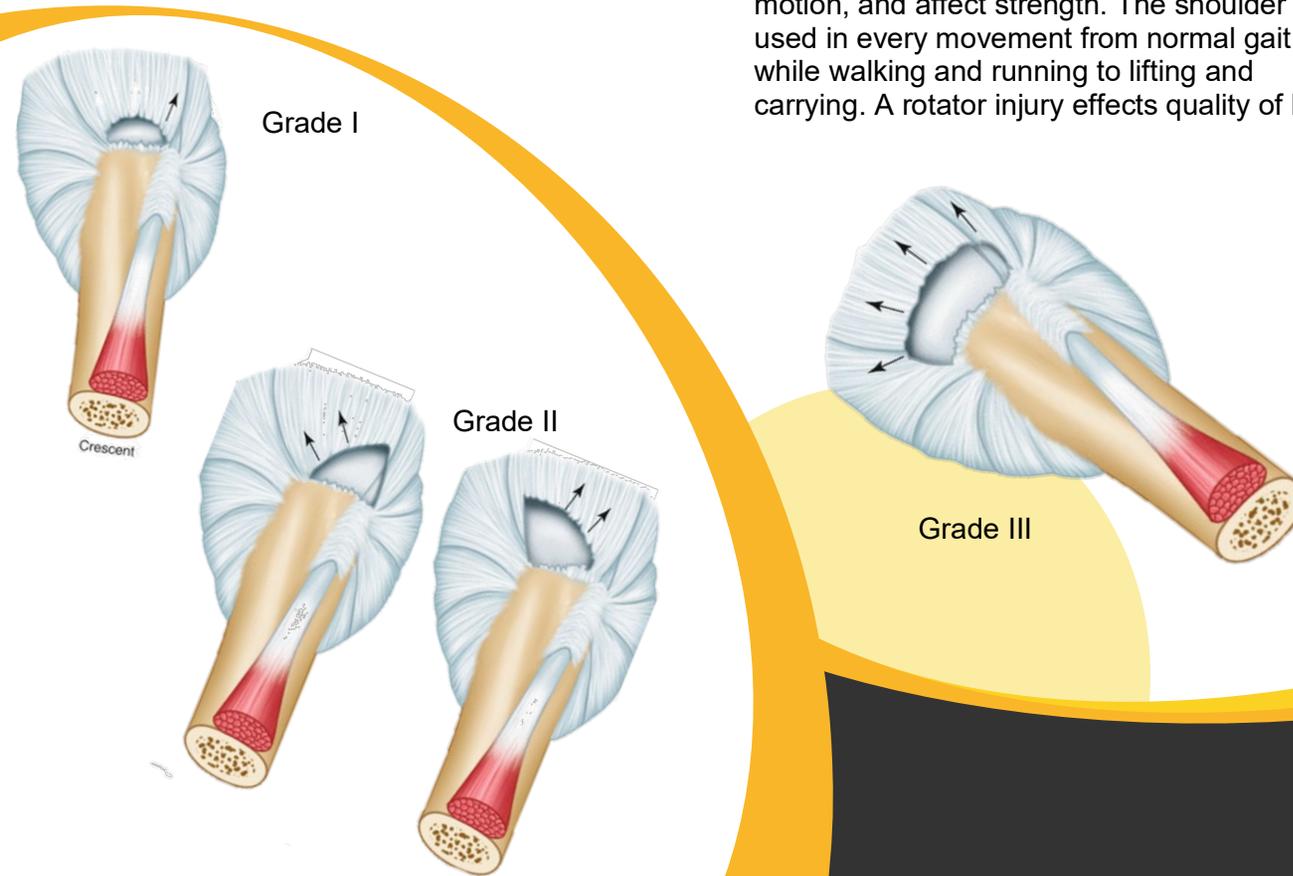
## WHAT IS A ROTATOR CUFF INJURY?

Rotator cuff injuries are numerous and range from tendonitis, tenosynovitis, bursitis, strain, impingement and tearing. If you experience a tear your physician will refer you to a specialist.

These injuries can be acute (accidents. Injury). They may be overuse related, meaning that repetitive motions have aggravated the tissue. These injuries can also be degenerative caused by lifestyle, age, muscle imbalances, movement dysfunction or other causes.

## TEARS GRADES 1 - 3

Rotator cuff injuries are progressive and cumulative in nature. Tears are graded 1 – 3 in severity. 1 is the least severe and a Grade 3 may require surgery.



## TREATMENT

These injuries can be treated either surgically or non-surgically. They Rarely heal on their own and require physical therapy.

## RICE PROTOCOL

When the injury starts to hurt it is because inflammation is occurring. Resting the shoulder, immobilizing it either with or without a sling will be beneficial. Icing the shoulder will also bring down inflammation, swelling and reduce pain.

## EXERCISE PROGRESSION

There is such a thing as too much, too soon. Therefore, exercise progression is key. A good recovery program begins with isometric tension exercises, then progresses to active isolation and finally strengthening exercises.

## ISOMETRIC TENSION

Isometric tension involves the strong contraction of a particular muscle or group of muscles. While the length of the muscle remains, the same contraction is still occurring. An example of this may be pressing against a wall and holding the contraction. Isometric tension exercise contractions should be held for 30 – 45 seconds.

## STABILITY STRENGTH

Once you have developed a strong base with isometric strengthening exercises, stability strength will be built. Stability strength exercises are meant to place the body in a proprioceptively challenging environment thus forcing the muscles to activate developing balance and stability.

## ACTIVE ISOLATION

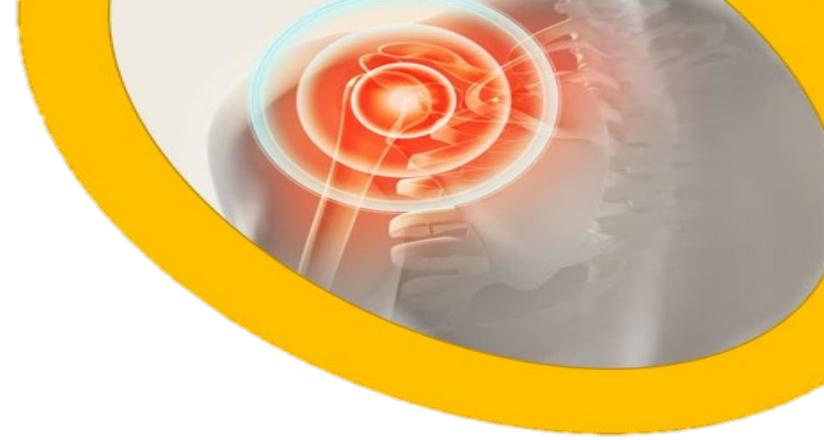
These exercises specifically target a muscle through its full range of motion, focusing on the eccentric and isometric contractions. This is where the muscle is reeducated.

## STRENGTH

Once the muscles have been activated, its time to strengthen them. Strength training will be employed at various intensities to prepare the muscles and joints for reintegration and functional activity.

## FUNCTIONAL ACTIVITY

Functional activity is subjective, but it is the activities that make you .....YOU.



# SUPRASPINATUS PROGRESSION

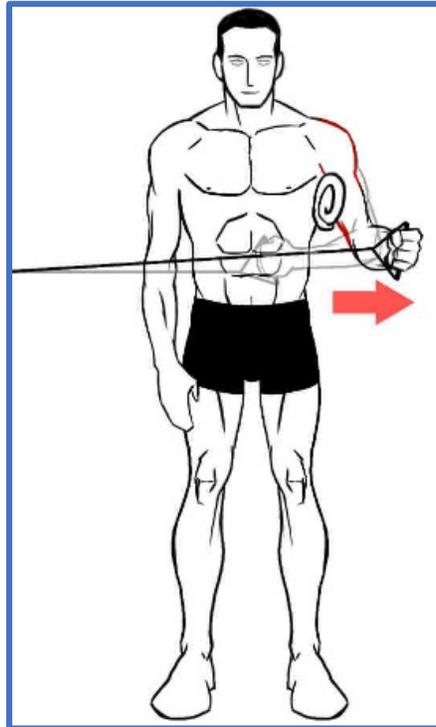
## 4 – POINT SUPPORT

This exercise is intended to build Isometric stability in the rotator cuff and specifically targets the supraspinatus. Begin in the quadruped position. Then base your weight between your hands and toes at the balls of your feet. Lift your knees off the ground. Hold for 30 – 45 seconds. Perform 3 – 5 sets.



## EXTERNAL ROTATION

Use cables or light resistance bands. Place a rolled towel between elbow and ribcage (disengages lat). Set cable or band so that line of pull is parallel to the body in the frontal plane. Start at 90 degrees elbow flexion and 0 degrees shoulder adduction/ abduction (neutral) Externally rotate to approximately 30 degrees of abduction concentrically. Adduct eccentrically beyond 0 to approximately 30 degrees adduction. This exercise should be done at a tempo of 4 seconds eccentric contraction, 2 seconds isometric hold, and one second concentric contraction (4/2/1). It should be performed for 3 – 4 sets of 15 – 25 and is a progression to the 4- point support. It may also be used in the same workout as the 4-point support.



## FRONT SUPPORT ON MEDICINE BALL

This exercise is intended to build Stability, Strength, and balance because of its proprioceptive qualities. Similar to the 4- point support, one will base on the medicine ball. One can adjust feet according to their abilities. The wider the feet the less of the proprioceptive challenge. Hold this position for 30 – 45 seconds for 3 – 4 sets. This exercise is a progression to the 4- point support and the external rotation and maybe used in the same training session as the external rotation.



# INFRASPINATUS/ TERES MINOR

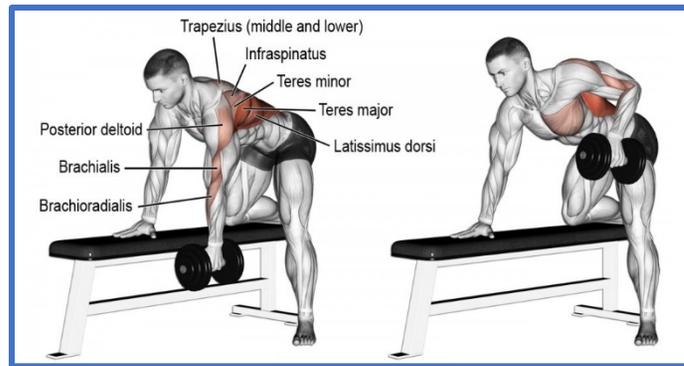
## STANDING YTWL

The focus of this exercise is muscle activation. Muscle activation is achieved by concentration on the eccentric and isometric contraction. Stand, knees bent, arms at the anatomical position. Concentrically contract the arms and shoulder into the Y position as seen in the chart. (Hold for 2 – 4 seconds isometric contraction) Eccentrically lower. Concentrically contract to the T position as seen in the chart. Eccentrically Lower. Concentrically contract to the W position as seen in the chart. Eccentrically Lower. Concentrically contract to the double L position as seen in the chart. Eccentrically Lower. Perform for 3 – 4 sets of 15 – 25 repetitions each.



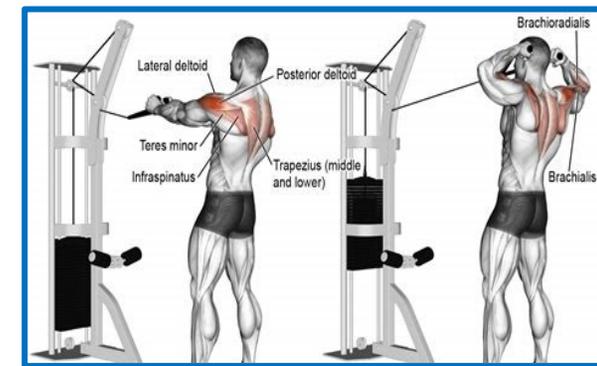
## SINGLE ARM DUMBBELL ROW

This is an isolated strengthening exercise for both the Teres Minor and Infraspinatus. Position self on a flat bench with 3 points of contact between the bench and the floor as seen in the photo. Using a dumbbell concentrically squeeze the rear deltoid, and back muscles bringing the dumbbell to approximately chest level. Eccentrically Lower. Perform for 3 – 4 sets of 15 – 25 repetitions at a 4/2/1 tempo. Progress to 3 – 4 sets of 12 – 15 repetitions at 2/0/2 Tempo.



## FACE PULL EXERCISE

This is an isolated strengthening exercise for both the Teres Minor and Infraspinatus. Starting off with a horizontal line of pull with cables or bands. Use an underhand grip to maximize the activation of the rotator cuff. Shoulders should be at 90 degrees of flexion arms straight to the front. Externally rotate using concentric contraction as seen in the photo. Eccentrically lower to the start position. Perform for 3 – 4 sets of 15 – 25 repetitions at a 4/2/1 tempo. Progress to 3 – 4 sets of 12 – 15 repetitions at 2/0/2 Tempo.

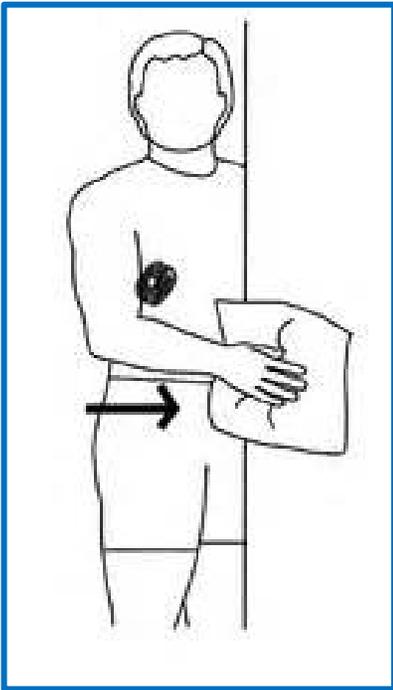


**INHIBIT – LENGTHEN – ACTIVATE – STRENGTHEN - INTEGRATE**

# SUBSCAPULARIS PROGRESSION

## ISOMETRIC INTERNAL ROTATION

This is an isometric tension exercise that emphasizes the activation of the subscapularis. The subscapularis is a medial rotator therefore internal rotation will be the movement required to engage the subscapularis. Standing in a doorway with elbow at side with 90 degrees elbow flexion. Place the hand on the wall. Press against the wall. A towel maybe used as padding. Perform these isometric contractions for 3 – 5 sets of 30 – 45 seconds.



## INTERNAL ROTATION USING BANDS OR CABLES

The focus of this movement is an active isolation and strengthening exercise that works the muscle through a full range of motion. Place a towel between elbow and ribcage (Disengages the lats) Using a lateral line of pull and elbow flexion to 90 degrees internally rotate to approximately 30 - 50° adduction. Isometrically hold 2 – 4 seconds. Using eccentric contraction move back to the start position. Perform for 3 – 4 sets of 15 – 25 repetitions at a 4/2/1 tempo. Progress to 3 – 4 sets of 12 – 15 repetitions at 2/0/2 Tempo.



## BAND/ CABLE INTERNAL ROTATION W/ ABDUCTION

The Subscapularis is a horizontal abductor therefore this exercise is intended to activate the muscle to work in this capacity as well as to strengthen it. Begin with a horizontal line of pull above shoulder level with the resistance behind. The start position is with the shoulder in 90° of flexion with the elbows bent at 90° (Flexion and Abduction) Concentrically lower the resistance cable till the hand, arm, and shoulder are on the same plane horizontally. Eccentrically allow the arm to move back into external rotation. Perform for 3 – 4 sets of 15 – 25 repetitions at a 4/2/1 tempo. Progress to 3 – 4 sets of 12 – 15 repetitions at 2/0/2 Tempo.



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