ROTATOR CUFF TENDINOPATHY

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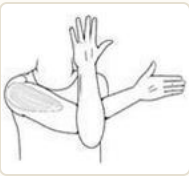
This protocol is based on the best evidence demonstrating a beneficial effect for exercise in the treatment of rotator cuff tendinitis. **It is largely unknown whether adding or eliminating exercises will affect the outcome.** The program has four components: stretching, range of motion, rotator cuff strengthening level 1, and rotator cuff strengthening level 2.

SCHEDULING | Range of motion and stretching are performed **daily**. Rotator cuff strengthening is **delayed until active motion is nearly pain-free and mobility nearly normal** — active elevation above 120° and passive internal rotation with the arm abducted approaching 50% of the opposite side are the milestones — then performed **3× per week**.

INITIAL GOALS	◆ Restore passive mobility of the shoulder to nearly normal range ◆ Pain-free active motion without resistance ◆ Reduce inflammatory symptoms, primarily pain during daily activities
MODALITIES	◆ Cold therapy and electrical modalities may be used to reduce the inflammatory response in high and moderately irritated tissues ◆ **Ultrasound is no better than controls and should not be used**
MANUAL THERAPY	◆ Joint and soft tissue mobilization techniques augment the effect of the exercise program — joint mobilization, soft-tissue mobilization and release techniques ◆ Initially, supervised exercise with manual therapy is recommended; instruct the patient in a home program during that time ◆ Patients may move entirely to a home program when manual therapy is no longer needed

COMPONENT 1 · STRETCHING

Performed daily. Each stretch is held for 30 seconds and repeated five times, with 10 seconds of rest between each stretch. Incorporating scapula-stabilized stretching within pain tolerance is encouraged.



STRETCH 01

POSTERIOR SHOULDER STRETCH

Bring the involved arm across in front of the body as shown. Hold the elbow with the other arm and gently flex the bent elbow, which assists in pulling the arm across the chest until a stretch is felt in the back of the shoulder.

HOLD	30 Seconds
REPEAT	5 Times
REST	10 Seconds
PERFORM	Daily

STRETCH 02

ANTERIOR SHOULDER STRETCH

Place hands at shoulder level on each side of a door or in a corner of a room. Gently step forward into the door or corner and hold. Modify arm position if you have discomfort.

HOLD	30 Seconds
REPEAT	5 Times
REST	10 Seconds
PERFORM	Daily

STRETCH 03

SLEEPER STRETCH

Lie on your side with a pillow supporting your head. Bring your elbow up to a 90° angle from your body. Gently push your hand toward the surface until you feel a stretch in your shoulder, without pain.

HOLD	30 Seconds
REPEAT	5 Times
REST	10 Seconds
PERFORM	Daily

STRETCH 04

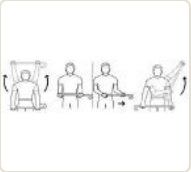
CROSS-BODY STRETCH, SCAPULA STABILIZED

Lie on your back with the arm on a table. A partner or clinician stabilizes the lateral border of the scapula while the patient gently pulls the arm across the body until a stretch is felt, without pain.

HOLD	5 Seconds
REPEAT	10 Times
PERFORM	Daily

COMPONENT 2 · RANGE OF MOTION

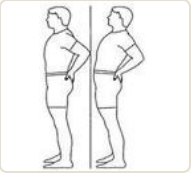
Begin restoring active range of motion using active-assistive devices such as a cane, pulley or the uninvolved arm. Glenohumeral motion begins with pendulum exercises, progresses to active-assisted motion, then to active motion as comfort dictates.



MOTION 01

ACTIVE-ASSISTED ROM WITH A CANE

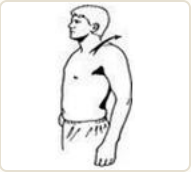
Lying supine, hold the cane with both hands. Elevate the arms using the healthy arm to guide the injured arm, increasing the use of the injured arm as comfort directs. Images show forward elevation, external rotation and abduction. Can be done standing when comfortable.



MOTION 02

POSTURE EXERCISE

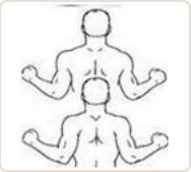
Put hands on hips, lean back and hold.



MOTION 03

SCAPULAR SHRUGS

Active training of the scapula muscles. Pull the shoulders up and back and hold.



MOTION 04

SCAPULAR RETRACTION

Active training of the scapula muscles. Pinch the back of the shoulder blades together using good posture.

MOTION 05

ACTIVE RANGE OF MOTION

In front of a mirror, practise raising your arm in front of your body **without hiking or excessively shrugging** the shoulder. You may slide your arm along a wall or stair rail to minimize the load on your arm. The opposite hand on the trapezius also helps prevent hiking.

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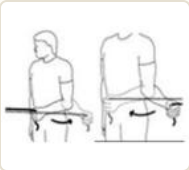
CRITERIA TO PROGRESS TO STRENGTH TRAINING

1. Pain at rest below 2 out of 10
2. Pain with active motion, without a load, less than 3 out of 10
3. Nearly normal passive and active motion restored (85% of the opposite side), especially ER / IR with the shoulder in 90° of abduction

COMPONENT 3 · STRENGTHENING, LEVEL 1

Focus on the rotator cuff and scapula stabilizing muscles, using elastic resistance bands. Each exercise is performed as 3 sets of 10 repetitions, increasing elastic resistance as strength improves.

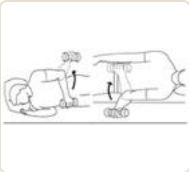


STRENGTH 01

EXTERNAL & INTERNAL ROTATION — STANDING

External rotation: secure the elastic at waist level, hold the elbow at 90° with the arm at the side, and pull the hand away from the body. **Internal rotation:** same setup, pulling the hand across the body.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

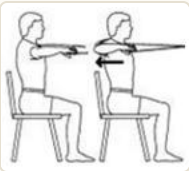


STRENGTH 02

EXTERNAL & INTERNAL ROTATION — SIDE-LYING

External rotation: lie on your side, involved side up, arm at side with the elbow bent, with or without weight; move the hand up. **Internal rotation:** lie on the involved side, elbow bent at 90°; pull the hand inward across the body.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week



STRENGTH 03

ROWS

Seated or standing, bend the elbows and pull the elastic cord back. Try to pinch the shoulder blades together.

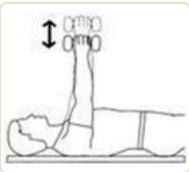
REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

STRENGTH 04

UPRIGHT ROW

One arm at a time. While standing, lean over a table and bend at the waist. Pull the hand and weight back, pulling the shoulder blade back.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week



STRENGTH 05

PRESS UP

Lie on your back with the elbow locked straight and weights in the hands. Move the arm up toward the ceiling as far as possible.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

CRITERIA TO PROGRESS TO STRENGTHENING LEVEL 2

1. No pain at rest
2. Pain with active motion, without a load, less than 1 out of 10
3. Nearly normal passive and active motion restored (95% of the opposite side)
4. Performs all Level 1 exercises with red or green (3–5 lb) resistance for 30 repetitions without pain or substitution

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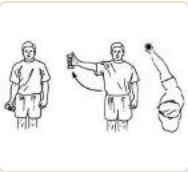
COMPONENT 4 · STRENGTHENING, LEVEL 2

Continue to focus on the rotator cuff and scapula stabilizers, progressing to long lever arm exercises and functional tasks for the individual demands of the patient — as long as there is no pain or compensation. Scapular stabilizer work can progress to body-weight activities. 3 sets of 10 repetitions.



STRENGTH 06

SCAPTION

Hold the arm 30° forward with the thumb up or down and raise the arm. Resistance may be added. **This exercise should be done only if there is no pain.**

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

STRENGTH 07

PRONE HORIZONTAL ABDUCTION

Lie on your stomach and squeeze your shoulder blades together as you lift your arm out to the side with your thumb up.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

STRENGTH 08

PUSH-UP PLUS

Do a push-up, either on your hands or forearms, and then really push to bring your spine to the ceiling. You may place a hand on a stable surface if it hurts to get on your knees.

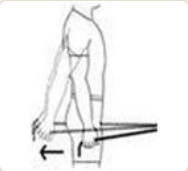
REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

STRENGTH 09

CHAIR PRESS

While seated, press up on the chair, lifting the body off the seat. Try to keep the spine straight.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week



STRENGTH 10

LOW TRAPEZIUS

Stand upright and grasp the elastic bands. Keep the elbows straight and pull, trying to reach behind you.

REPEAT	10 Times
COMPLETE	3 Sets
PERFORM	3× a Week

Combination strengthening while standing using elastic bands should also include **forward elevation** and **extension**.

REFERENCES

1. McClure PW, Michener LA. Staged approach for rehabilitation classification: shoulder disorders (STAR-Shoulder). *Phys Ther.* 2015; 95(5): 791–800.
2. Kuhn JE. Exercise in the treatment of rotator cuff impingement: a systematic review and a synthesized evidence-based rehabilitation protocol. *J Shoulder Elbow Surg.* 2009; 18(1): 138–160.

Adapted from the MOON Shoulder Group guideline for nonoperative treatment of rotator cuff tendinopathy, after Kuhn JE, *J Shoulder Elbow Surg* 2009. Illustrations are from the original guideline.

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