



ROTATOR CUFF NON-OPERATIVE REHABILITATION PROTOCOL

This handout describes details of the exercise program to improve the function of your shoulder. Through proper rehabilitation, the intact muscles around the shoulder can compensate for the impingement pain or weakness caused by a rotator cuff tear. In fact, up to 70% of patients with a symptomatic cuff tear can gain satisfactory results with a non-operative rehabilitation program.

The main facets of rehabilitation are:

1. Decreasing pain and protecting the shoulder from ongoing injury
2. A stretching program to restore shoulder motion
3. A strengthening program the strength and function of the intact muscles

The rehab program should be performed each day. Starting with the stretching, then doing the strengthening program, followed by another set of stretching to finish.

DECREASE PAIN AND ONGOING INJURY

The dysfunction in your shoulder causes pain through rubbing of the tendons on the thickened bursa, ongoing irritation of the tendon or abnormal movement of the ball in the socket. The rehab program is designed to correct those problems.

In the meantime, and during the program:

- Keep your shoulder as mobile as possible
- Avoid doing things that cause painful catching in your shoulder this applies to both the exercises in this program and to your sporting and work activities. You can't really "work through" rotator cuff pain and can make things worse.
- Regularly use ice therapy if the shoulder is sore. A plastic bag of crushed ice, or frozen peas, wrapped in a damp towel and resting on the front of the shoulder for 5-10 minutes, 3-5 times per day.





STRETCHING PROGRAM

This program is made up of a series of stretches; each designed to improve the flexibility of a specific region of the shoulder capsule and shoulder girdle. Proper performance of the stretching program should ensure balanced shoulder flexibility.

Frequency

Each stretch should be performed 3-5 times during a session of exercises. Stretching sessions should be performed 3 times per day to prevent scar tissue from reforming between sessions.

If too much time is allowed between sessions, the shoulder will tighten back up, resulting in little progress.

Duration

When the limit of a stretch is reached, it should be held for a minimum of 30 seconds. Remember to relax and breathe as the stretch is held. Do not bounce at the end range, rather apply persistent gentle pressure during the count. Repeat each stretch 3-5 times and try to push a little farther with each repetition.

Exertion

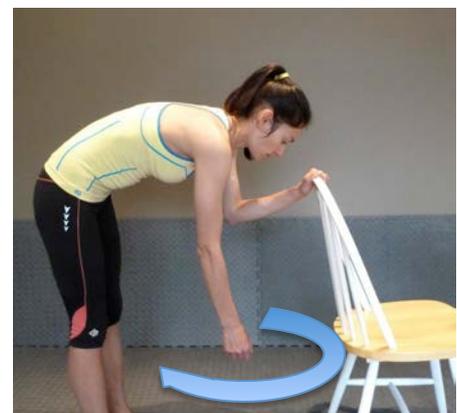
At the beginning of a stretching program, the shoulder may initially ache more as a result of the exercises. This should not cause concern and you should continue to work through the discomfort, which should subside with continued efforts. If stretching results in moderate to severe pain that lasts for greater than 15 minutes following the program, you should back off on the exertion.

The directions of stretch you need to concentrate on are:

1. Pendulums
2. External rotation
3. Forward flexion (reaching up overhead)
4. Cross body reaching
5. Internal rotation (reaching up behind the back)
6. Abduction (reaching out to the side)
7. "Sleeper " stretch

1. PENDULUMS

Stand next to a table or support and lean forward.
Gently let the involved arm hang down freely and relaxed.
Swing your arm forwards, backwards, sideways and in circles, using gravity to help you. Initially perform this exercise for 1 minute, 3-4 times (rest between sets).





2. EXTERNAL ROTATION

External rotation at waist height:

Lie on your back.

Hold a pole (eg broom handle or ski pole) with your arms by your sides and elbows bent to 90°.

Support the elbow on the involved side throughout the movement on a rolled towel (about 15cm high).

With your uninvolved arm gently push the affected arm outwards into external rotation as far as it will comfortably go. Do not let your elbow move away from the side of your body.

Hold for 30 seconds. Repeat 3-5 times.



This can also be done standing.

With your stiff arm at your side and your elbow bent 90°, stabilize the arm by placing your hand against a wall or door frame.

Turn your body away so that your stiff arm rotates out to the side. Keep your elbow tucked in against your side.



External rotation at shoulder height:

Place your hand against the wall at shoulder height or above, with the elbow bent. Turn your body away from the wall, so that your arm turns outwards.

Hold for 30 seconds. Repeat 3-5 times

3. FORWARD FLEXION

Lying

Lie on your back and use your good arm to grasp your involved elbow.

Gradually lift your involved arm upwards over your head. The aim is to get to at least 90°. This movement may be tight, but should not be painful.

Hold for 30 seconds, then slowly lower the arm to the starting position.

Repeat 3 times.





Seated overhead stretch:

Sit in a chair beside a table or flat surface that supports your arm in a comfortable amount of forward elevation. By leaning your body forward and allow your arm to slide forward, to a gentle elevation pressure can be applied to the arm. Hold for 30 seconds to several minutes as tolerated.

Standing overhead stretch:

Place the hand on the wall and gently leaning your body forward as indicated to raise the arm relative to the body. Hold for 30 seconds. Repeat 3-5 times.



4. CROSS - BODY REACHING

With your thumb pointed down and elbow straight, use your good arm to pull the arm of your stiff shoulder across your chest. Hold for 30 seconds, then slowly release. Repeat 3-5 times.

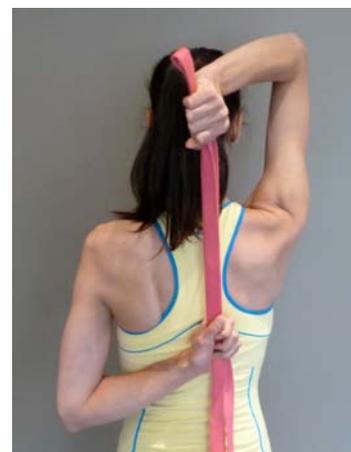
Perform this stretch at three different levels:

1. Slightly below shoulder height
2. At shoulder height
3. Slightly above shoulder height



5. INTERNAL ROTATION

Place the arm of your stiff shoulder behind your back. Using a towel or a stick in your good arm, pull the arm of your stiff shoulder up your back. Initially hold for 15-20 second, building up to 30 seconds. Repeat 3-5 times





6. ABDUCTION

Either lying down or standing with you back against a wall, use your good arm holding a broomstick or similar to elevate the arm away from the body to the side.

Concentrate on keeping the shoulders relaxed. Avoid leaning sideways or hunching the shoulder to increase the movement achieved.

Hold 30 seconds, repeat 3-5 times.



7. "SLEEPER" STRETCH

Side lying sleeper stretch:

Lie on a flat surface on your side with the stiff shoulder side down, the arm in front of you with the elbow bent 90° and the hand pointing up.

Use your good arm to lever down on the forearm of your stiff shoulder (push your hand toward the ground).

Hold for 30 seconds then release. Repeat 3-5 times.

To increase the intensity of the stretch, roll your body forwards about 30° onto the affected arm and repeat the stretch.

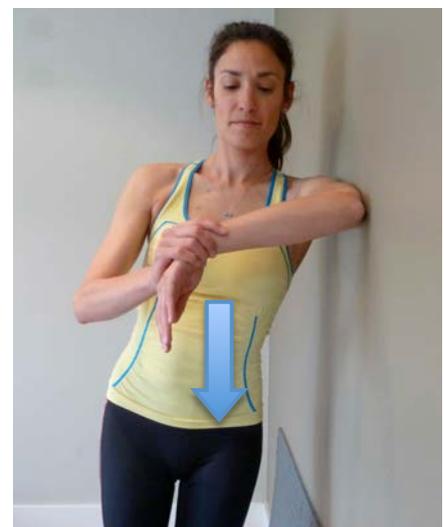


Standing sleeper stretch:

Standing about 20cm from a wall, lean against the wall, with the affected side closest to the wall.

Use your good hand to push your affected hand towards the ground, allowing the arm to rotate.

Similar to cross body reaching, this exercise should be performed in 3 positions: with arm at shoulder height, slightly above and slightly below





STRENGTHENING PROGRAM

In the strengthening program, you are trying to improve the function of the intact muscles to compensate for the weakness of the damaged ones. There are 3 groups of muscle to concentrate on:

The rotator cuff muscles (forward flexion, internal and external rotation)

The postural or scapular muscles (Rhomboids, Latissimus dorsi)

The Periscapular muscles (Pectorals and Deltoid muscles)

At the same time as strengthening these muscles, you want to avoid making the impingement symptoms or muscle irritation worse. Do all of the exercises as tolerated, within what is comfortable for you. Movement should always be smooth, slow and under control. Concentrate on good form with the exercise, rather than on increasing the resistance or number of repetitions.

Start with one set of 10 repetitions, increase reps and number of sets as tolerated

Perform strengthening exercises equally on both arms, not just the problematic one.

After exercising, your shoulder may feel fatigued and ache. This is okay, but severe discomfort is not. Using an ice pack and anti-inflammatory medication is okay as part of your rehab after exercising. If still having significant discomfort in spite of this, back off on the intensity and/or number of repetitions of exercises you are doing.

Once you are comfortably doing the exercises in phase one, progress to phase 2, continuing to do the exercises from phase 1. Once comfortable with phase 2, stop phase 1 and start phase 3 exercises. Gradually progress through the phases until able to perform them all easily.

PHASE 1 STRENGTHENING

1. Wall push ups

- A. Stand about 20cm from the wall.
Place your hands against the wall palms flat and fingers up.
Lean towards the wall by bending your elbows. Slowly alternate pressure from one shoulder to the other by rocking from side to side.
Hold for 30 seconds, repeat 3 times
- B. Once performing this easily, move your feet further away from the wall.



2. Seated Stabilization

Sit on a bench or chair firm chair with your hands on the chair. Lean from one side to the other, putting gradually increasing weight through each arm to support you on either side as you slowly rock side to side. 3 sets of 10 repetitions



3. Internal rotation

Isometrics (Exercises where you use the muscles without moving the arm).

Standing with inner forearm against the wall and your elbow at your side. Push your hand against the wall trying to rotate your forearm into your body. Keep pushing for 10 seconds then relax. 3 sets of 10 repetitions.



4. External rotation

Isometrics

In this case stand beside a wall with the outside of your bent forearm against the wall. Push outwards against the wall. Keep pushing for 10 seconds and then relax. Repeat 3 sets of 10 repetitions.



Side-lying ER

Lying on your *unaffected* side, rotate your arm outwards as far as comfortable, slowly return it to the starting position.

Repeat as tolerated, slowly building up to 3 sets of 10 repetitions. This can be repeated with your arm held in front of you, with your elbow at the same level as your shoulder, supported on pillows or books. Rotate your arm outwards towards the ceiling. Aim for 3 sets of 10 repetitions



5. Shoulder blade circles:

Shrug your shoulder blades forward, up back and then down in a circle. Repeat with both forward and backward circles. Perform for 1-2 minutes, 3 times daily.



6. Shoulder Blade Retraction:

Stand in the pendulum position, bending forwards from the waist with both arms hanging forward. Draw your shoulder blades back to squeeze them together behind your back. Hold for 5 seconds and then slowly release. Repeat 10 times, 3 times daily.



PHASE 2 STRENGTHENING

1. *Forward flexion*

Elevate your arm forwards as far as comfort allows, hold for 5 seconds, then slowly lower to the starting position. Repeat as tolerated, slowly building up to 3 sets of 10 repetitions.

2. *Scratching the Itch: part 1*

Reach up behind your back as far as you can go comfortably. From the push it a little further – you'll feel it pulling in your shoulder, which may be a bit uncomfortable. Hold for a few seconds and then back off until it is comfortable. Repeat this 10 times. Do 3 sets.

3. *Scratching the Itch: part 2*

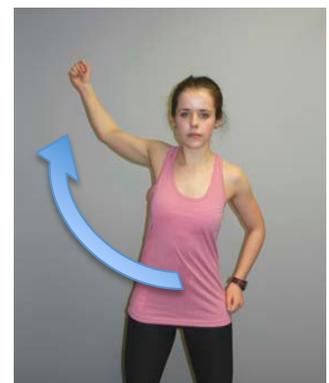
Reach over your opposite shoulder and try to reach across your shoulder blade. Start at the edge of what is comfortable and then push a bit further, hold for a few seconds and then back off. Repeat this 10 times. Do 3 sets.

4. *Drawing the Sword:*

This movement mimics the action it is named for. Imagine you have a sword in its scabbard by your opposite hip.

Reach down and grasp it with your hand, then lift your arm up, out to the side and back so that your hand moves diagonally from beside one hip to above the other shoulder.

3 sets of 10 repetitions.

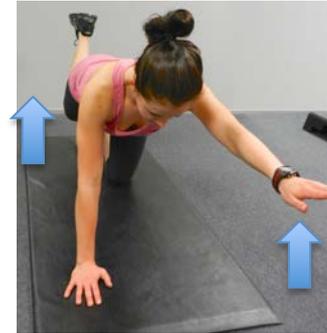




PHASE 3 STRENGTHENING

1. 2 point kneeling

Kneel on all fours. Lift your good shoulder and opposite knee so that your weight is going through your sore shoulder. Hold for 30 seconds. Repeat 3 times. Gradually increase the duration of the pose as you get stronger.



2. Cobra pose

This exercise promotes good posture and strengthens the back muscles to place the shoulder in a better position for pain-free function.

Lying face down, turn the hands so your palms face down (or outwards if you are really flexible) thumbs are facing out away from your body. Open out and extend using your back muscles to lift your chest from the floor. Hold for 30 seconds. 3 repetitions. Gradually increase the duration of the pose as you get stronger.



3. Swiss ball Stability

Kneeling down, place both hands on the sides of a Swiss ball and lean forwards. Hold this position for 30 seconds. 3 repetitions. To increase the intensity, increase the duration of the pose and move your knees further away from the ball. Once comfortably performing two-handed, do the same exercise one-handed.





4. Theraband strengthening

Using a progressive resistance elastic (Theraband) to provide resistance for four movements.

In each movement aim for 3 sets of 10 repetitions.

Increase the resistance of the band if completing the exercises easily.

As for the stretching exercises. Take the movement to the end of your comfort zone, then push a little further and hold for several seconds before backing off.

1. External rotation.

Have the band secured at waist height (a door handle is good) on the side opposite the exercising shoulder. Keeping the elbow to the side, rotate the hand outwards as far as you can comfortably go. Slowly return to the start position



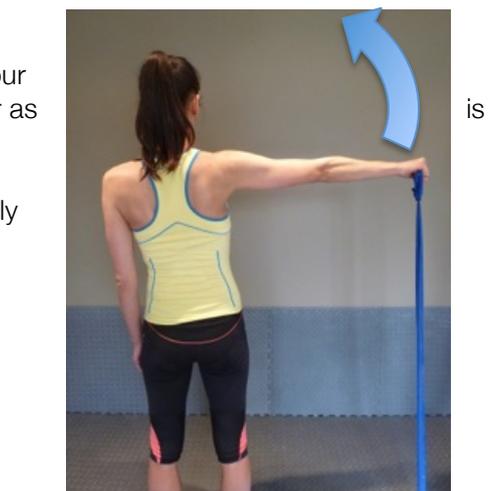
2. Internal rotation

Keep the band in the same place, but turn around, so the band is under tension with your arm rotated outwards in the finishing position of external rotation. Rotate the arm in to touch your belly. Slowly return to the starting position.



3. Forward flexion

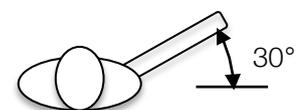
Have the theraband secured around your foot. Start with your arm straight, about waist height. Raise your arm against the resistance of the band. Raise your arm as far as is comfortable plus a bit more, hold for several seconds, then slowly lower.



4. Abduction

Again, the theraband is secured at foot level. Have your arm about 30° forwards of being straight out to the side. Raise your arm against the resistance of the band. Raise your arm as far as comfortable plus a bit more, hold for several seconds, then slowly lower.

Once performing this comfortably, you can take your arm fully out to the side and repeat the exercise.





PHASE 4 STRENGTHENING

1. Theraband Drawing the Sword

Secure the theraband under your foot or at ground level. Repeat the Drawing the Swords exercise with the theraband. 3 sets of 10 repetitions.



2. External rotation at shoulder height

Have the band secured at shoulder height on the side opposite the exercising shoulder. Start with the elbow at shoulder height. Without moving your elbow, rotate your hand outwards (back and upwards) as far as you can comfortably go. Slowly return to the start position. 3 sets of 10 repetitions.



3. Internal rotation at shoulder height

Keep the band in the same place, but turn around, so the band is under tension with your arm rotated outwards in the finishing position of external rotation. Now, without moving your elbow, rotate your hand downwards until it is facing directly forwards. Slowly return to the starting position.

3 sets of 10 repetitions.

Once doing this easily, progress the movement by raising the elbow above shoulder height.



4. Seated push-ups

Sit on a firm chair and using your arms raise your body off the chair. Hold for 5 seconds and lower. Repeat 3 sets of 3 repetitions. Progress the exercise by increasing the duration of the hold.

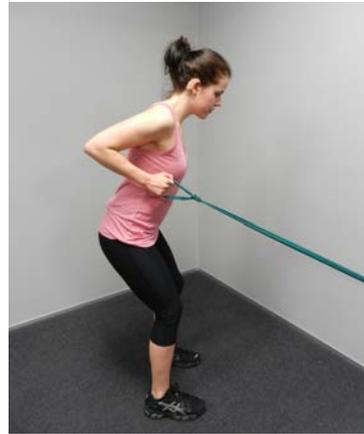




5. Cable rows

Secure the theraband at ground level. Keeping the elbow close to your body draw your arm backwards.

3 sets of 10 repetitions.



This exercise can be varied by rotating your arm outwards, so your forearm and palm are facing forwards. Repeat the same motion of extending the arm back, while keeping the elbow close to the body.

6. Ball throwing

This is mimicking the motion of throwing a ball overhand in slow motion. Start gently and gradually increase the range of movement and speed of the action as you feel comfortable. 3 sets of 10 repetitions.

Once you are comfortable with this exercise, it can be progressed by using a theraband to provide resistance to the movement. Again aim for 3 sets of 10 repetitions.

