

SUBSCAPULARIS DISRUPTION



■ ■ ■ Description

Subscapularis disruption is characterized by pain and weakness of the shoulder due to partial or complete tearing of the subscapularis muscle and tendon from the upper arm (humerus). The subscapularis is one of the four rotator cuff muscles that surround the ball of the shoulder (humeral head) and is the muscle in the front of the humeral head. It is the strongest of the four cuff muscles. The muscle attaches directly to the humerus in the lower 25% and via a tendon for the rest. The main function of the subscapularis is to help maintain the humeral head in the center of the socket and provide strength for rotating the arm inward. This is an uncommon injury. It may occur as part of a rotator cuff tear.

■ ■ ■ Common Signs and Symptoms

- Pain around the shoulder, often in the front of the shoulder and upper arm
- Pain that is worse with shoulder function, especially when reaching overhead or lifting
- Occasionally, tenderness, swelling, warmth, or redness over the front of the shoulder
- Loss of strength, especially on inward rotation of the shoulder and arm
- Increased outward rotation of the shoulder
- Crepitation (crackling sound) when the shoulder is moved
- Biceps tendon pain and inflammation (in the front of the shoulder), worse with bending the elbow or lifting
- Recurrent shoulder dislocation (if rupture is associated with or caused by initial dislocation)

■ ■ ■ Causes

- Violent outer rotation of the shoulder or arm
- Hyperextension of the shoulder
- Direct blow to the shoulder or a fall
- Resumption of activity too soon after shoulder surgery (especially shoulder stabilization surgery)
- Shoulder dislocation

■ ■ ■ Risk Increases With

- Contact sports, such as football, wrestling, and basketball
- Previous injury to rotator cuff
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or play
- Inadequate protective equipment
- Shoulder dislocation
- Surgery that requires moving the subscapularis

■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.

- Maintain appropriate conditioning:
 - Cardiovascular fitness
 - Shoulder flexibility
 - Strength and endurance
- Use proper technique.

■ ■ ■ Expected Outcome

Subscapularis tears do not heal on their own. Surgery is often recommended to optimize shoulder strength, alleviate pain, improve function, and help prevent recurrent dislocation.

■ ■ ■ Possible Complications

- Persistent pain
- Shoulder stiffness, frozen shoulder, or loss of motion (uncommon)
- Persistent weakness
- Recurrence of symptoms, especially if treated without surgery
- Inability to return to same level of sports
- Recurrent shoulder dislocation
- Risks of surgery, including infection, bleeding, injury to nerves, shoulder stiffness, weakness, retearing of the subscapularis, and persistent pain

■ ■ ■ General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain and stretching and strengthening exercises. These all can be carried out at home, although referral to a physical therapist or athletic trainer may be prescribed. Surgery to reattach the tendon to the humerus is almost always recommended. Surgery performed after 6 months has a poorer result than if performed within the first 3 months following injury. Surgery is performed through an open incision. Return to full activity usually requires 6 to 12 months.

■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Strong pain relievers may be prescribed as necessary. Use only as directed and only as much as you need.

■ ■ ■ Heat and Cold

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.

- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

■ ■ ■ **Notify Our Office If**

- Symptoms get worse or do not improve in 2 to 4 weeks despite treatment
- You experience pain, numbness, or coldness in the hand
- Blue, gray, or dusky color appears in the fingernails
- Any of the following occur after surgery:
 - Increased pain, swelling, redness, drainage or bleeding in the surgical area
 - Signs of infection (headache, muscle aches, dizziness, or a general ill feeling with fever)
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

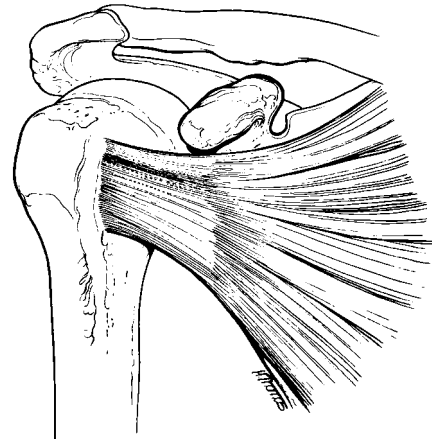


Figure 1

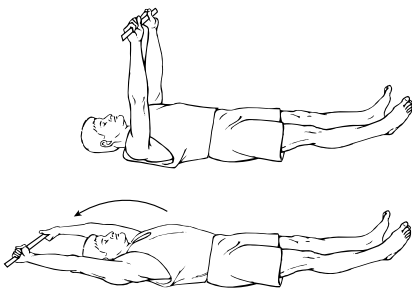
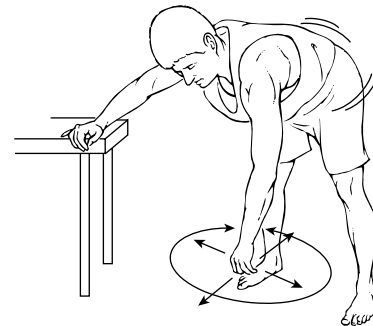
From Rockwood CA Jr., Matsen FA III: The Shoulder, 2nd ed. Philadelphia, WB Saunders, 1998, p. 17.

EXERCISES

➤ **RANGE OF MOTION AND STRETCHING EXERCISES** • Subscapularis Disruption

These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.

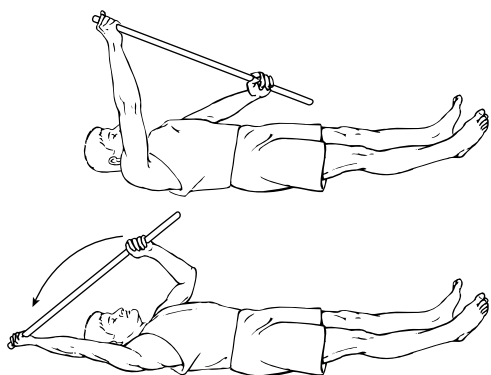


SHOULDER • Flexion

1. Lie on your back holding a stick in both hands, keeping your hands shoulder-width apart.
2. Raise both hands over your head until you feel a gentle stretch.
3. Repeat exercise _____ times, _____ times per day. Hold each repetition 5 to 10 seconds.

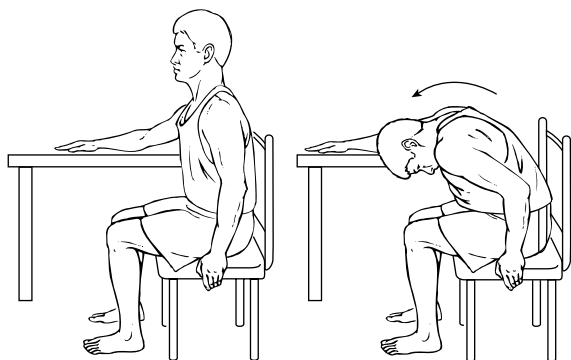
SHOULDER • Pendulum

1. Lean forward at the waist, letting your _____ arm hang freely. Support yourself by placing the opposite hand on a chair, table, or counter as shown.
2. Sway your *whole body* slowly forward and back. This will cause your arm to move. Let your arm hang freely. Do not tense it up.
3. Repeat the above swaying side to side and moving in circular patterns, clockwise and counterclockwise.
4. Do _____ repetitions in each direction.
5. Repeat exercise _____ times, _____ times per day.



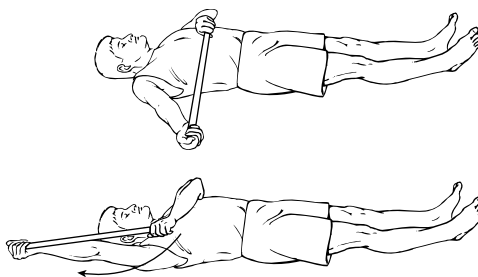
SHOULDER • Flexion

1. Lie on your back. Grasp the bottom of a stick, handle of an umbrella, or blade of a golf club in your _____ hand as shown.
2. Using the stick, raise your arm overhead as shown until you feel a gentle stretch. Lead with the thumb in a “thumbs-up” position.
3. Repeat exercise _____ times, _____ times per day. Hold each repetition 5 to 10 seconds.



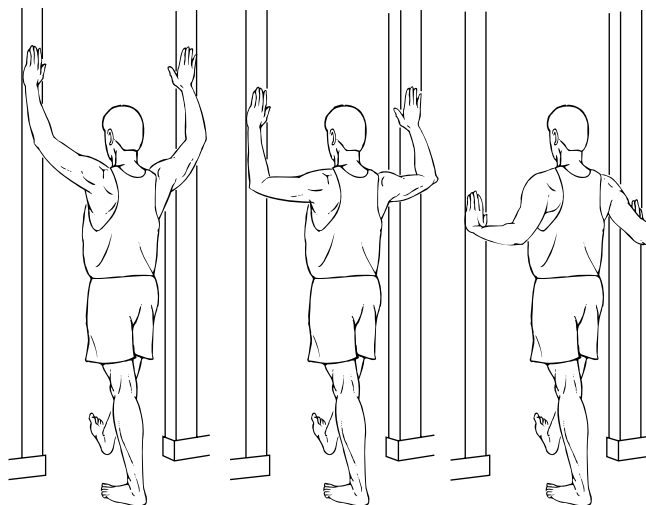
SHOULDER • Flexion

1. Sit in a chair with your _____ arm on a table as shown.
2. Lean forward, sliding your arm forward on the table until you feel a gentle stretch.
3. Return to the starting position.
4. Repeat exercise _____ times, _____ times per day. Hold each repetition 5 to 10 seconds.



SHOULDER • Abduction

1. Lie on your back holding a stick, umbrella handle, or golf club in your hand as shown. The hand should be in the “thumbs-up” position.
2. Using the stick, slowly push your arm away from your side and as far overhead as you can without pain. Push until you feel a gentle stretch.
3. Repeat exercise _____ times, _____ times per day. Hold each repetition 5 to 10 seconds.



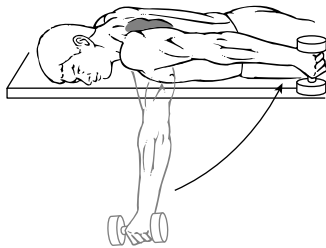
SHOULDER • External Rotation and Abduction

1. Stand in front of a door frame as shown.
2. Your hands and forearms may be placed on the door frame in any of the positions shown in the diagram. *Your physician, physical therapist, or athletic trainer will instruct you regarding which position you are to use! This exercise may be done with both arms at the same time or just one arm.*
3. Slowly step through the doorway with one foot. Use this stepping motion to obtain a stretch in the front of the shoulder and chest. **Do not lean through the doorway.**
4. Repeat exercise _____ times, _____ times per day. Hold each repetition 5 to 10 seconds.

> STRENGTHENING EXERCISES • Subscapularis Disruption

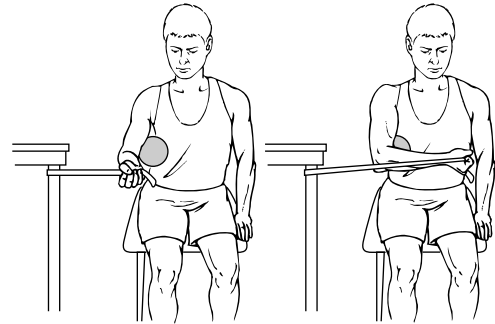
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise, gradually increasing the number of repetitions and weight used under their guidance.



STRENGTH • Shoulder Extension

1. Lie on your stomach with your _____ arm off the edge of the bed.
2. Holding a _____ pound weight in your hand, slowly raise the arm up and backward toward the ceiling.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



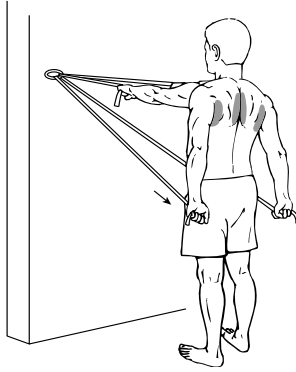
SHOULDER • Internal Rotation

1. Anchor the rubber band/tubing to a heavy/solid object as shown.
2. Place a small ball or towel between your elbow and body as shown in the drawing and bend your elbow to 90 degrees. Squeeze the ball gently to the side of your chest with your elbow.
3. Turn/rotate your arm in toward your body (across your chest/stomach). Do not let the ball move/fall away from the side of your chest.
4. Hold this position for _____ seconds and then *slowly* return to the starting position.
5. Repeat exercise _____ times, _____ times per day.



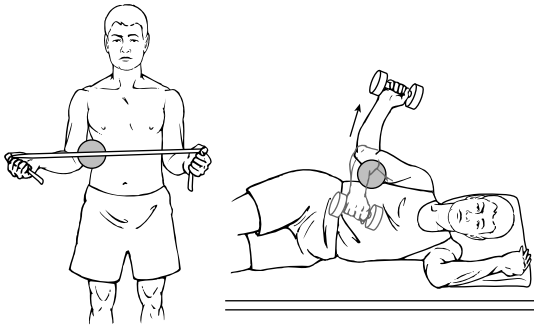
SHOULDER • Internal Rotation, Isometric

1. Bend your _____ elbow to 90 degrees as shown, holding the arm slightly in front of the body.
2. Place your opposite hand on the inside of your wrist as shown.
3. Try to turn/rotate your arm inward, toward the body, as if it were a gate swinging closed. Resist this motion with the opposite hand that is on the inside of your wrist. Do not let any motion occur.
4. Hold this position for _____ seconds.
5. Repeat exercise _____ times, _____ times per day.



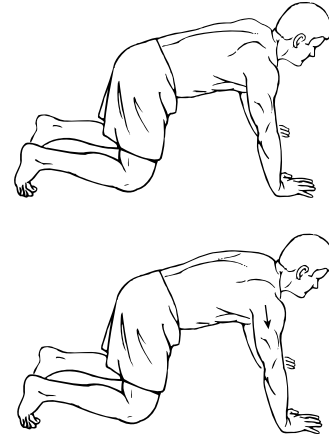
STRENGTH • Shoulder Extension

1. Anchor/secure rubber band/tubing around a stable object such as a stair post or around the knob of a closed door.
2. Stand holding the rubber band/tubing in front of you with your arms extended as shown.
3. Squeeze/pinch your shoulder blades together and pull your arms down and backward as shown. **Do not pull arms past the midline of your body.**
4. Hold this position for ____ seconds and then *slowly* return to the starting position.
5. Repeat exercise ____ times, ____ times per day.



STRENGTH • Shoulder External Rotation

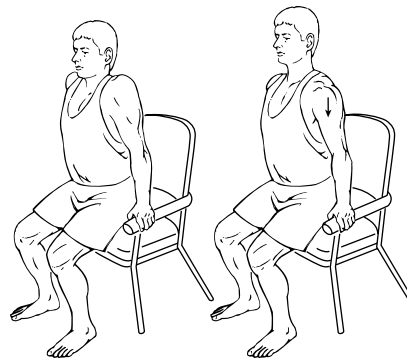
1. Lie on your side with your ____ arm up and the elbow bent to 90 degrees, or stand with your arms at your side and the elbows bent to 90 degrees as shown. Place a small rubber ball (4 to 6 inches in diameter) or rolled-up towel between your elbow and your side as shown.
2. Hold a ____ pound weight in your hand and turn the arm up toward the ceiling, keeping the elbow bent as shown. If using rubber band/tubing, turn the arm(s) out from your side while keeping the elbows bent.
3. Do this slowly and in control through your *pain free* range of motion only. If this is painful, stop and discuss this with your physician, physical therapist, or athletic trainer.
4. Hold this position for ____ seconds and then *slowly* return to the starting position.
5. Repeat exercise ____ times, ____ times per day.



SHOULDER • Scapular Protraction

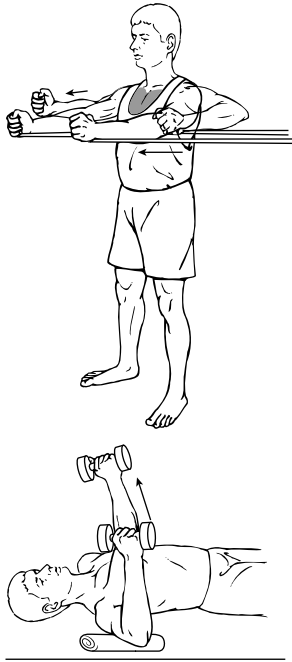
1. Position yourself on your hands and knees as shown.
2. Keep your elbows straight and push down with your hands, raising the back of your shoulders up as shown in the drawing.
3. Hold this position for ____ seconds and then *slowly* return to the starting position.
4. Repeat exercise ____ times, ____ times per day.

This exercise may be made harder by assuming a push-up position. Before trying this check with your physician, physical therapist, or athletic trainer.



SHOULDER • Depression

1. Support yourself as shown in an armchair. Your elbows should be straight and your feet flat on the floor.
2. Push your shoulders downward. **Do not bend your elbows.**
3. Support your weight as needed by using your legs.
4. Hold this position for ____ seconds and then *slowly* return to the starting position.
5. Repeat exercise ____ times, ____ times per day.



SHOULDER • Horizontal Adduction

1. ***If using a weight***—Lie on your back with your _____ arm on the bed as shown, holding a _____ pound weight in your hand.
 2. Raise your arm up slowly toward the ceiling, straightening out your elbow.
 3. Hold this position for _____ seconds and then ***slowly*** return to the starting position.
 4. Repeat exercise _____ times, _____ times per day.
1. ***If using rubber band/tubing***—Anchor the rubber band/tubing to a solid object.
 2. Hold one end of the band/tubing in each hand as shown with your elbows bent. Your elbows should be in line with your body, ***not*** behind your body.
 3. Push your arms forward, straightening out your elbows. Keep your arms parallel to the floor.
 4. Hold this position for _____ seconds and then ***slowly*** return to the starting position.
 5. Repeat exercise _____ times, _____ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions