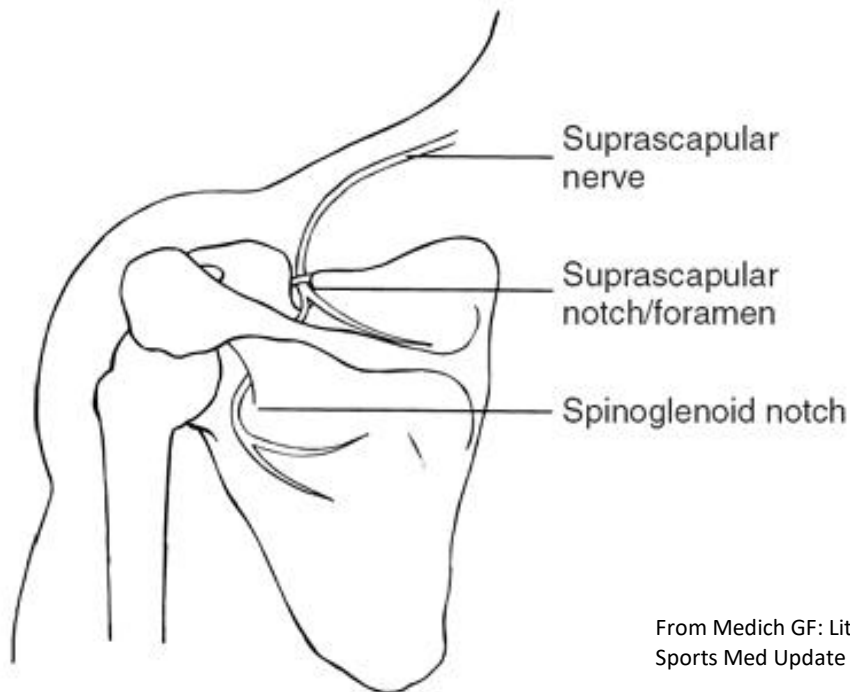


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Suprascapular Nerve Entrapment

Suprascapular nerve entrapment is an uncommon nerve condition in the shoulder, causing pain and weakness. It involves compression of the suprascapular nerve at the top or back of the shoulder, usually caused by a ligament, a cyst from the shoulder, or excessive stretching. The suprascapular nerve passes in a groove in the shoulder blade (scapula), under a ligament, then under the supraspinatus muscle (which it supplies) on the top of the shoulder, and then under another ligament before it divides and supplies the infraspinatus muscle in the back of the shoulder. The nerve may be injured before it supplies the supraspinatus muscle (thus causing weakness of both the supraspinatus and infraspinatus) or after it supplies the supraspinatus (causing weakness of only the infraspinatus). These muscles, which are part of the rotator cuff, are important in stabilizing the shoulder and assisting in raising and rotating the shoulder and arm.



From Medich GF: Little league elbow.
Sports Med Update 1989;4, 17



Orthopaedic Surgery & Sports Medicine
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630-324-0402 • contactus@chudikmd.com
stevenchudikmd.com

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Frequent Signs and Symptoms

- Pain and discomfort (burning or dull ache) that is poorly localized, often in the top or back of the shoulder
- Heaviness or fatigue of the shoulder and arm
- Pain that may be made worse by exercise or raising the arm over head
- Weakness raising the arm to the side or overhead or rotating the shoulder outward
- Tenderness in the top or back of the shoulder
- Atrophy (shrinkage) of the supraspinatus or infraspinatus muscle

Etiology (Causes)

- Pressure on the supraspinatus nerve at the top or back of the shoulder, often by a cyst from the shoulder joint
- Pressure on the supraspinatus nerve at the top or back of the shoulder by one of two ligaments of the shoulder blade that the nerve passes beneath
- Repetitive stretch injury to the nerve

Risk Factors

- Contact sports
- Sports that require repetitive overhead activity, such as baseball, volleyball, and tennis
- Poor physical conditioning (strength and flexibility)

Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
 - Shoulder flexibility
 - Muscle strength and endurance

Outcomes

This condition usually resolves spontaneously. Sometimes, however, surgery is necessary, especially when one or more muscles are atrophied (wasting or shrinkage).

Potential Complications

- Permanent weakness of the shoulder, particularly when rotating arm outward and lifting the arm, and inability to throw
- Persistent pain in the shoulder
- Increasing weakness of the extremity
- Disability and inability to compete



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Treatment Considerations

Initial treatment consists of rest from the offending activity and nonsteroidal anti-inflammatory medications to help reduce inflammation and pain. Stretching exercises of the shoulder muscles are useful. Referral to physical therapy or an athletic trainer may be recommended for further treatment, including ultrasound and other modalities. If three to six months of conservative treatment is not successful, surgery may be necessary to free the pinched nerve by cutting the ligaments where the nerve is being pinched. Surgery is also indicated to relieve pressure from the cyst either by removing the cyst or by removing damage within the shoulder joint that may be the cause of the cyst. Surgery may be recommended sooner if there is significant atrophy of the muscles. When surgery is necessary, it provides almost complete relief in most patients who undergo this operation, although the atrophy may not be reversible.

Possible Medications

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (DO NOT take within seven 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.
- Pain relievers may be prescribed by your physician, usually only after surgery. Use only as directed.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin
- 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 My Office at 630-324-0402 If:

- Symptoms get worse or do not improve in 4 to 8 weeks despite treatment
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)



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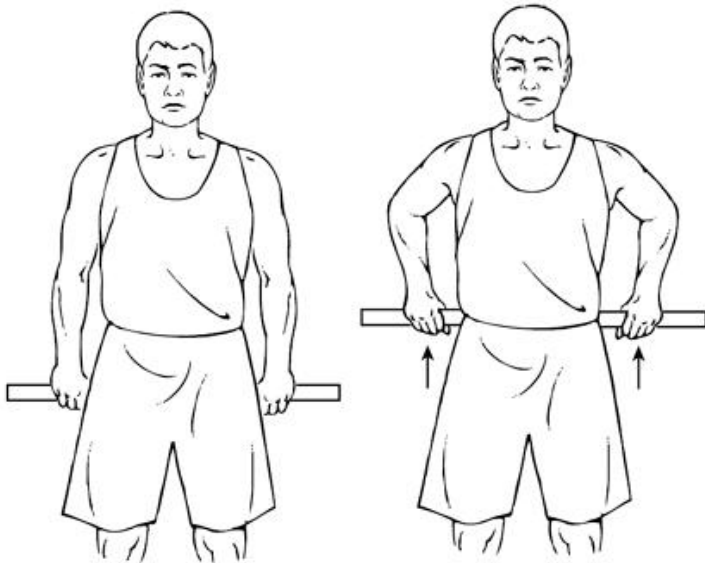
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Range of Motion and Stretching Exercises
for Suprascapular Nerve Entrapment

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 (Internal Rotation)

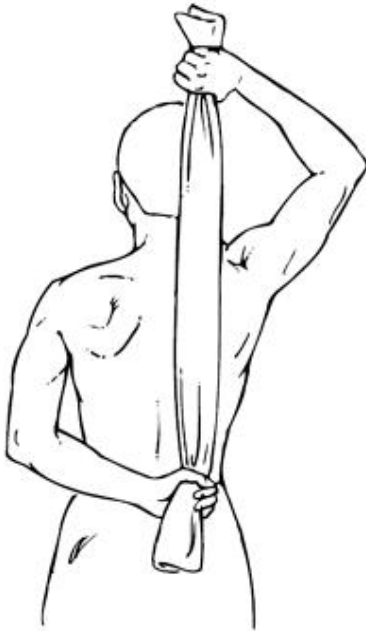


1. Grasp a stick behind your back with both hands as shown.
2. Slide the stick up your back until you feel a gentle stretch.
3. Repeat exercise _____ times, _____ times per day.
4. Hold each repetition 5 to 10 seconds.

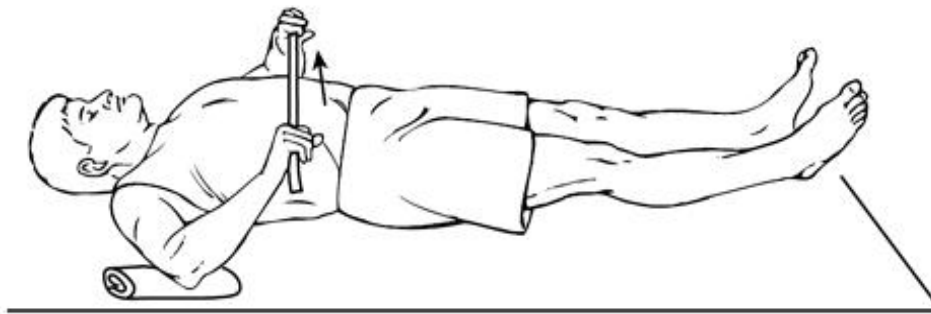


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1. Place your _____ hand behind your back.
2. Drape a towel over your opposite shoulder and grasp it with the hand that is behind your back.
3. Use the towel to gently pull your hand farther up your back until you feel a gentle stretch.
4. Repeat exercise _____ times, _____ times per day. Hold each repetition five to 10 seconds.



1. Lie on your back with your _____ arm out away from your body about 60 degrees and a rolled-up towel placed under your elbow as shown.
2. Turn/rotate your arm inward toward your body from the shoulder.
3. To assist in this stretch you may use a rope or towel to gently pull the arm farther inward as shown.
4. Make sure to keep your shoulders flat on the floor/bed on which you are lying.

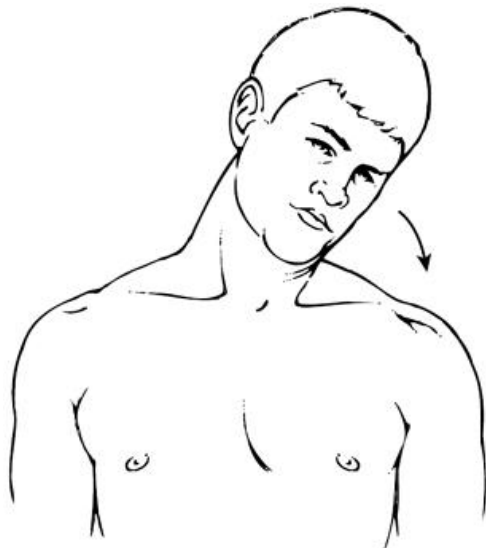
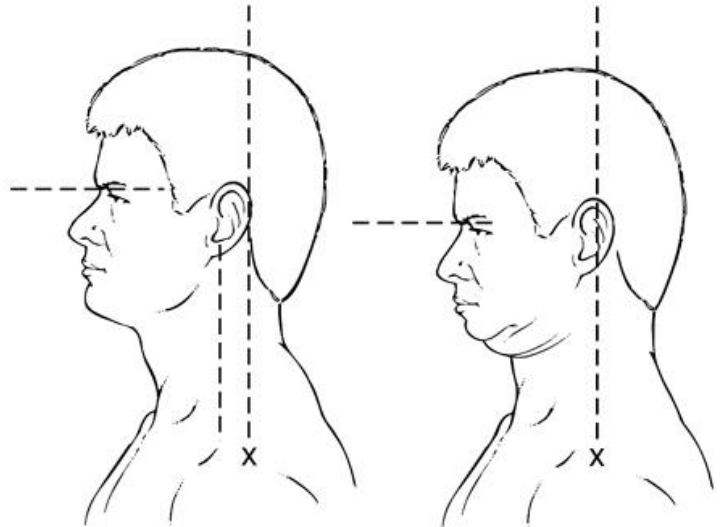


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Cervical Spine (Axial Extension)

1. Sit in a chair or stand in your normal posture.
2. Gently tuck your chin and glide your head backward. Keep your eyes level as shown. You should not end up looking up or looking down.
3. You will feel a stretch in the back of your neck and at the top of your shoulders.
4. Hold this position for _____ seconds.
5. Repeat exercise _____ times, _____ times per day.



Cervical Spine (side bend)

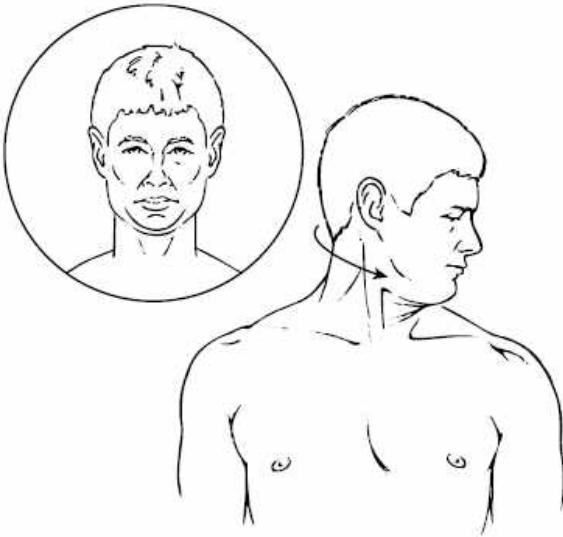
1. Sit in a chair or stand in your normal posture.
2. Gently dip your ear toward your shoulder as shown.
3. Do not turn your head when you do this exercise. You should keep looking forward.
4. You will feel a stretch on the side of your neck.
5. Hold this position for _____ seconds.
6. Repeat exercise _____ times, _____ times per day



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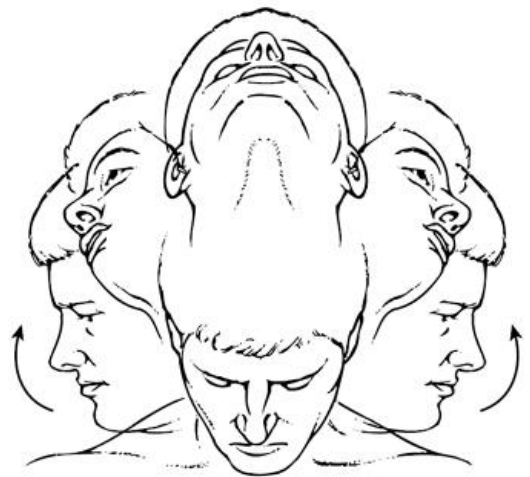
Cervical Spine (Rotation)



1. Sit in a chair or stand in your normal posture.
2. Turn your head and look over your shoulder.
3. Keep your head level. Do not dip your ear toward your shoulder when you do this exercise.
4. You will feel a stretch on the side and back of your neck.
5. Hold this position for _____ seconds.
6. Repeat exercise _____ times, _____ times per day.

Cervical Spine (Neck Circles)

1. Sit in a chair or stand in your normal posture
2. Gently circle your head and neck in a clockwise and a counterclockwise direction
3. Work within your pain free range of motion. Strive to obtain a gentle feeling of stretching and relaxation.
4. Repeat in each direction five to ten times.
5. Repeat exercise _____ times, _____ times per day.



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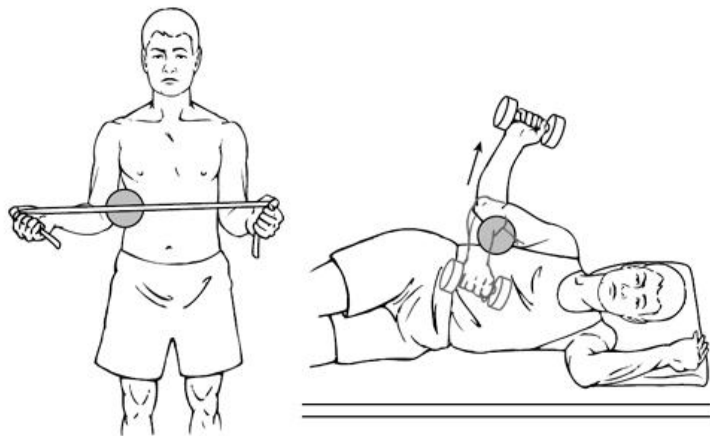
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Strengthening Exercises

The following are some **initial strengthening** 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.

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 (four to six 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

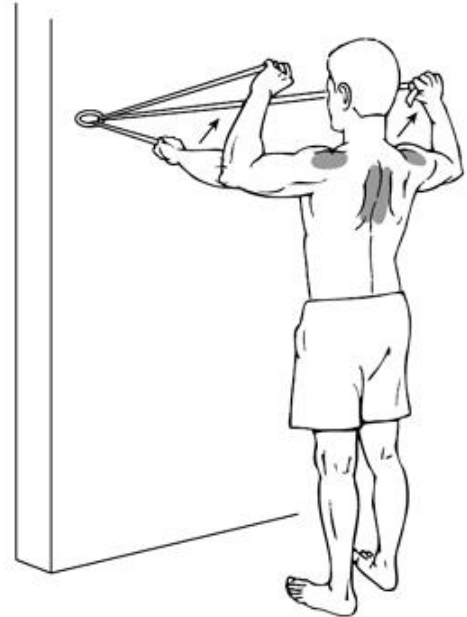


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Shoulder External Rotation (Rowing)

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 back as shown, bending your elbows. Your fists should end at shoulder height and close to your body.
4. Hold this position for _____ seconds and then **slowly** return to the starting position.
5. Repeat exercise _____ times, _____ times per day.



Shoulder External Rotation (Isometric)



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

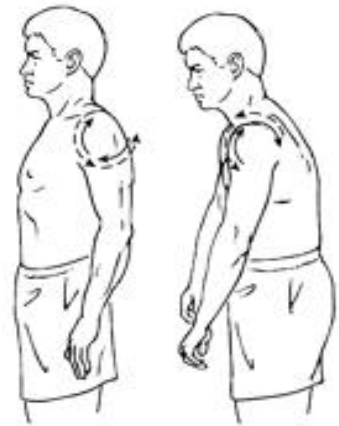


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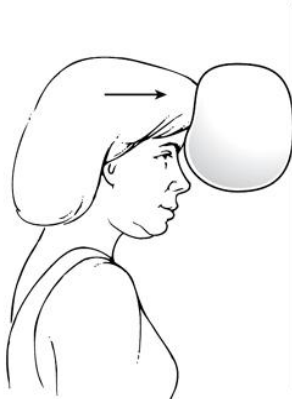
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Shoulder Scapular Elevation (Shrugs)

1. Stand with your arms at your side in a **good erect posture**.
2. Subtly “shrug” your shoulders up and back toward your ears.
3. Hold this position for _____ seconds and then **slowly** return to the starting position.
4. Repeat exercise _____ times, _____ times per day.
5. You may perform this exercise with a _____ pound weight in each hand.
6. Avoid standing in a slouched position with poor posture by using this technique intermittently throughout the day.



Cervical Spine Strengthening (Flexion)



1. Obtain a child’s playground ball or towel roll approximately six to eight inches in diameter.
2. Stand erect 12 to 18 inches from the wall.
3. Place the ball between your forehead and the wall.
4. Gently push your forehead into the ball.
5. Hold this position for 15 to 20 seconds. Count out loud. Do not hold your breath.
6. Repeat exercise _____ times, _____ times per day.

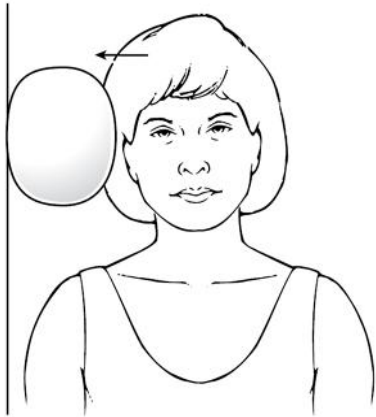
Note: You can also do this exercise by using your hands in place of the ball; however, this technique may cause some discomfort due to the use of your arms.



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Cervical Spine Strengthening (Side Bending)



1. Obtain a child's playground ball or towel roll approximately six to eight inches in diameter.
2. Stand with your shoulder next to a wall. Place the ball between the side of your head and the wall.
3. Gently push your forehead into the ball.
4. Hold this position for 15 to 20 seconds. Count out loud. Do not hold your breath.
5. Repeat exercise _____ times, _____ times per day.

Note: You can also do this exercise by using your hands in place of the ball; however, this technique may cause some discomfort due to the use of your arms.

Cervical Spine Strengthening (Extension)



1. Obtain a child's playground ball or towel roll approximately six to eight inches in diameter.
2. Stand erect 12 to 18 inches from a wall. Place the ball between the back of your head and the wall.
3. Gently push your forehead into the ball.
4. Hold this position for 15 to 20 seconds. Count out loud. Do not hold your breath.
5. Repeat exercise _____ times, _____ times per day.

Note: You can also do this exercise by using your hands in place of the ball; however, this technique may cause some discomfort due to the use of your arms.

