

# THORACIC OUTLET SYNDROME

## What is thoracic outlet syndrome?

The thoracic outlet is a passage between your neck and armpit that contains blood vessels and nerves. In thoracic outlet syndrome there is a compression of the nerves, blood vessels or both.

## How does it occur?

Thoracic outlet syndrome occurs when the size and shape of the outlet is compressed and narrowed. This can happen because of posture, muscle tightness, exercise, trauma, pregnancy, or being born with an extra rib (a cervical rib which is above the first rib).

Certain activities or postures can lead to thoracic outlet syndrome. People who stand for long periods of time (like cashiers or assembly line workers) may droop their shoulders and lean their head forward. People who carry heavy loads on their shoulders can develop a compression in the outlet. Athletes or those in occupations with repetitive overhead arm movements may also develop thoracic outlet syndrome.

## What are the symptoms?

Symptoms can be caused by the compression of nerves, blood vessels or both. They can include:

- tingling or numbness in the fingers, hands, arm, shoulder or neck
- weakness of the hand or arm
- hand or arm swelling
- aching in the shoulder or neck

Symptoms may be worse when the arm is lifted above shoulder height.

## How is it diagnosed?

Your provider will listen to your history and will do a exam examine your neck, shoulder, arm and hand. There may be swelling, weakness or numbness in your hand or arm. You may have tightness in your neck. You may have a loss or decrease of the pulse at your wrist. Your provider may order X-rays to see if you have a cervical rib or to make sure there are no problems in your neck. They may order special nerve tests.

## How is it treated?

Treatment is aimed at reducing the compression in the thoracic outlet. This can include:

- exercises to improve your posture that will allow you to stand and sit straighter

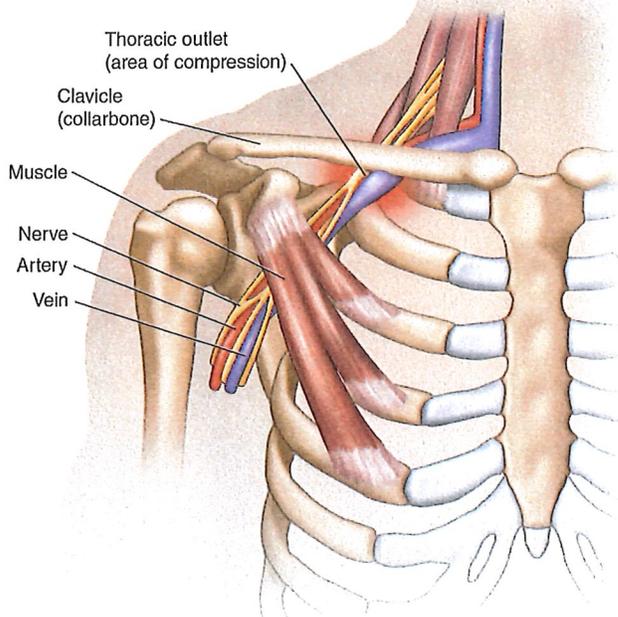
- exercises to help stretch tight tissue around the thoracic outlet
- exercises to strengthen and stabilize the muscles in the shoulder and neck
- changing your workstation to have better posture.
- avoiding sleeping with your arm in an overhead position
- losing weight (if you are overweight)
- taking anti-inflammatory medication as needed (adults aged 65 years and older should not take non-steroidal anti-inflammatory medicine for more than 7 days without their healthcare provider's approval)

In rare cases surgery is done to relieve the symptoms of thoracic outlet syndrome.

## When can I return to my sport or activity?

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers at a different rate. Return to your sport or activity will be determined by how soon your symptoms

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improve, not by how many days or weeks it has been since you started having symptoms. In general, the longer you have symptoms before treatment, the longer it will take to get better.

It is important that your sport or activity does not worsen your symptoms. You may need to make modifications such as reducing repetitive activities or changing your posture or technique.

If you have had surgery your provider will give you specific instructions about return to activity.

### How can I prevent thoracic outlet syndrome?

Thoracic outlet syndrome is best prevented by avoiding repetitive overhead activities, avoiding carrying heavy loads on your shoulders, and by having good posture.

CHEST/ABDOMEN

## THORACIC OUTLET SYNDROME REHABILITATION EXERCISES

**1. SCALENE STRETCH:** This stretches the neck muscles that attach to your ribs. Sitting in an upright position, clasp both hands behind your back, lower your left shoulder, and tilt your head toward the right. Hold this position for 15 to 30 seconds and then come back to the starting position. Lower your right shoulder and tilt your head toward the left until you feel a stretch. Hold for 15 to 30 seconds. Repeat 3 times on each side.



SCALENE STRETCH



**2. PECTORALIS STRETCH:** Stand in a doorway or corner with both arms on the wall slightly above your head. Slowly lean forward until you feel a stretch in the front of your shoulders. Hold 15 to 30 seconds. Repeat 3 times.

PECTORALIS STRETCH

**3. SCAPULAR SQUEEZE:** While sitting or standing with your arms by your sides, squeeze your shoulder blades together and hold for 5 seconds. Do 3 sets of 10.



SCAPULAR SQUEEZE

**4. ARM SLIDE ON WALL:** Sit or stand with your back against a wall and your elbows and wrists against the wall. Slowly slide your arms upward as high as you can while keeping your elbows and wrists against the wall. Do 3 sets of 10.

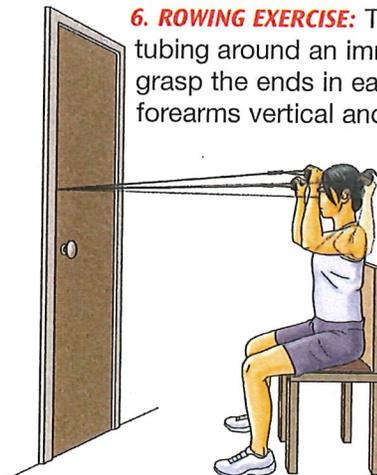


ARM SLIDE ON WALL



**5. THORACIC EXTENSION:** While sitting in a chair, clasp both arms behind your head. Gently arch backward and look up toward the ceiling. Repeat 10 times. Do this several times per day.

THORACIC EXTENSION



**6. ROWING EXERCISE:** Tie a piece of elastic tubing around an immovable object and grasp the ends in each hand. Keep your forearms vertical and your elbows at shoulder level and bent to 90 degrees. Pull backward on the band and squeeze your shoulder blades together. Repeat 10 times. Do 3 sets.

ROWING EXERCISE

## THORACIC OUTLET SYNDROME REHABILITATION EXERCISES *(continued)*

**7. MID-TRAP EXERCISE:** Lie on your stomach on a firm surface and place a folded pillow underneath your chest. Place your arms out straight to your sides with your elbows straight and thumbs toward the ceiling. Slowly raise your arms toward the ceiling as you squeeze your shoulder blades together. Lower slowly. Do 3 sets of 15. Progress to holding soup cans or small weights in your hands.



MID-TRAP EXERCISE