

Exercises to help manage your thoracic outlet syndrome (TOS)

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Information for Patients

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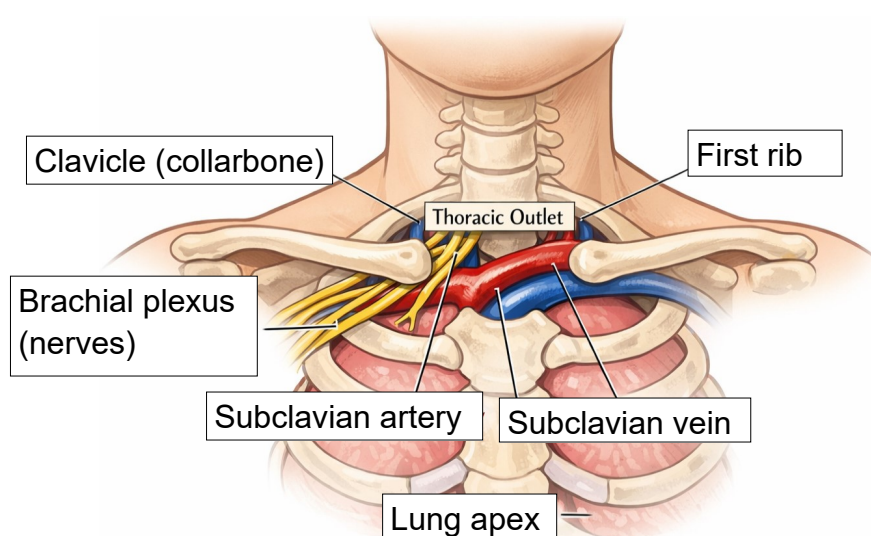
What is thoracic outlet syndrome (TOS)?

The thoracic outlet is the narrow space between your collarbone and first rib. This is where the nerves, arteries and veins pass through. When they are squeezed together or compressed it is called thoracic outlet syndrome (TOS).

Muscles run through the thoracic outlet from your neck to your shoulder. This includes the nerves and blood vessels that go down your arm. When something presses on any of these, you can have pain and other symptoms. There are different types of compressions:

- **Neurogenic TOS:** This is the most common. It happens in a network of nerves from your spinal cord (brachial plexus).
- **Vascular TOS:** This is where 1 or more of the veins (venous thoracic outlet syndrome) or arteries (arterial thoracic outlet syndrome) under the collarbone are compressed.
- **Nonspecific-type TOS:** This is where people have chronic pain in the area of the thoracic outlet.

The Thoracic Outlet



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or call 111 for non-emergency medical advice**

Visit www.uhleicester.nhs.uk for maps and information about visiting Leicester's Hospitals.
To give feedback about this information sheet, contact uhl-tr.informationforpatientsmailbox@nhs.net

How might you be affected?

The symptoms you get depend on the structures that are being compressed.

Neurogenic TOS symptoms include:

- The loss of muscle in the fleshy base of the thumb.
- Numbness or tingling in arm or fingers.
- Pain or aches in your neck, shoulder or hand.
- Weakening grip.

Vascular TOS symptoms include:

- Discolouration of hand (bluish colour).
- Arm pain and swelling.
- Lack of colour in 1 or more of your fingers/whole hand.
- Cold fingers, hands or arms.
- Weakness of arm and hand.

What causes it?

The compression can be because of:

- An extra rib (called a cervical rib) which can press on nerves and blood vessels.
- Large neck muscles from heavy exercise or sports with overhead movements, like tennis or swimming.
- Poor posture. Slouching or pushing your head forward can also cause problems.
- A traumatic injury can cause changes inside the body that squeeze the nerves.
- Doing the same movement over and over again can also lead to symptoms.

How will I be diagnosed?

Diagnosing TOS can be hard.

Symptoms and pain levels are different for each person.

Healthcare professionals will ask you detailed questions and do a physical exam. You may also need tests such as imaging scans, to help confirm the diagnosis.

Treatment

Neurogenic TOS:

This is the most common type and is often not serious.

- It is often treated with physiotherapy to stretch and strengthen the neck and shoulder muscles.
- Medications like anti-inflammatories, pain relievers, or muscle relaxants may help manage symptoms.

Vascular TOS:

This is less common and is often treated by a vascular specialist.

- Surgery may sometimes be needed to remove an extra rib or tissue causing pressure.
- Good posture, regular movement and stretching, and maintaining a healthy weight can help reduce strain on the shoulders and prevent TOS.

Management exercises

Stretching exercises

- These exercises are intended to stretch the neck and shoulders to open up the thoracic outlet.
- Aim for a mild stretch during the movements.
- Hold the stretch for 10 seconds to increase range of movement.
- Relax out of the stretch and repeat, slowly increasing the length of the muscles.
- If get pins and needles or increased numbness of the arm, reduce the range of movement.

Scalene muscle stretch

1. Sit on a chair.
2. Hold on to the chair as shown.
3. Lean your head and turn away from the arm holding onto the chair. Hold for 10 seconds.
4. Repeat 5 times.
5. Repeat using the other hand.



Images have been generated using AI and have been checked for their accuracy.

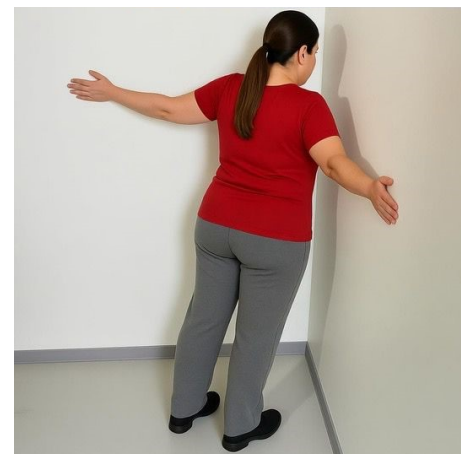
Chest stretch

1. Standing in a doorway. Put your hand (affected side) on the wall. Raise your elbow to a right angle.
 2. Lean forward and turn your shoulders and hips away from your arm. Hold for 10 seconds then relax.
 3. Repeat 10 times
- Stop if you feel tingling or numbness in your fingers.



Pectoral muscle stretch

1. Stand in a corner of a room, facing the corner.
2. Lift both arms to position against the walls as shown in picture.
3. Let your upper chest lean into the corner until you feel the stretching of your chest muscles.
4. Hold for 10 seconds then relax.
5. Repeat 10 times.



Scapula retraction

1. Relax your arms by your side.
2. Roll your shoulders back and squeeze your shoulder blades together.
3. Hold for a few seconds then relax.
4. Repeat 10 times.



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Upper trap muscle squeeze

1. Start in standing position. Then bend over from your hips.
2. Let your arms hang towards the floor, with your elbows straight.
3. Pull your elbows backwards and shoulder blades together.
4. Straighten your arms back to starting position.
5. Repeat 10 times.



Surgery aftercare

If you have had surgery, please do the following:

- Do not lift or pull anything heavier than a half full kettle. Lifting or pulling can stress the sensitive nerves.
- Maintain a good posture. Do not round your shoulders or bend your head and neck forward. You might find sitting in a high back chair helpful.
- You may support your operated arm with your unaffected arm whilst walking or sitting. Do not round your shoulders.
- Support your arm on a pillow when sitting or lying down if it makes it more comfortable.
- You might find walking regularly throughout the day helps healing and to maintain your exercise levels.
- Slowly increase your range of movement. Move to the point where you feel some mild discomfort or a gentle stretch. Do not push your movement whilst feeling pain.
- It is important to keep your neck and shoulder moving after surgery to prevent any stiffness.

Exercises

These exercises are designed to give you a gentle stretch and help maintain or slowly improve your joints' range of movement. You may notice some discomfort or a pulling sensation, especially if there is swelling after your surgery. This is normal. Take regular pain relief as advised. This can help you stay comfortable.

While doing the exercises, avoid pushing into pain. Any discomfort you feel should settle once you return to a resting position. Mild soreness during or after exercising is common. If you get severe pain, stop the exercises.

Begin slowly and move only to the point of a comfortable stretch. With time and consistency, your range of movement should improve.

If you notice any changes to your wound, such as increased redness or tenderness to touch, contact your GP for advice.

Exercise to do after surgery

Supported shoulder flexion

1. Sit on a chair near a table and place your hands on a table.
2. Place a towel under your hands and forearms resting on the table.
3. Keep your spine in this normal position,
4. Lean forwards through your hips and slide your hands along the table, gently reaching your arms forward. Keep your neck aligned with your spine. Then slide back to starting position
5. Repeat 10 times.



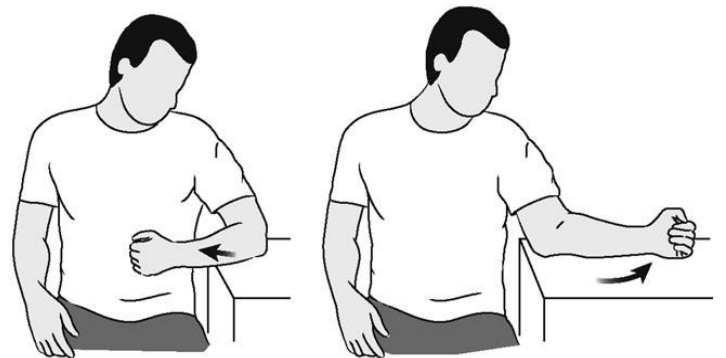
Shoulder abduction/adduction

1. Stand and grip 1 end of the stick with the arm to be exercised.
2. Lift the stick up forwards or sideways by assisting with the other arm.
3. Hold for 5 seconds.
4. Repeat 10 times



Shoulder rotation

1. You can complete this exercise lying on your back or sitting with your arm supported on a table.
2. Bend your elbow into your side.
3. Keeping your elbow tucked in, move your hand out to the side.
4. Hold for a few seconds then return to your starting point.
5. Repeat 10 times.



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Neck exercises

Rotation

1. Sit in a chair.
2. Turn your head to 1 side until you feel a stretch.
3. Hold for 5 seconds then relax.
4. Repeat 10 times.
5. Do the same turning your head to the other side.



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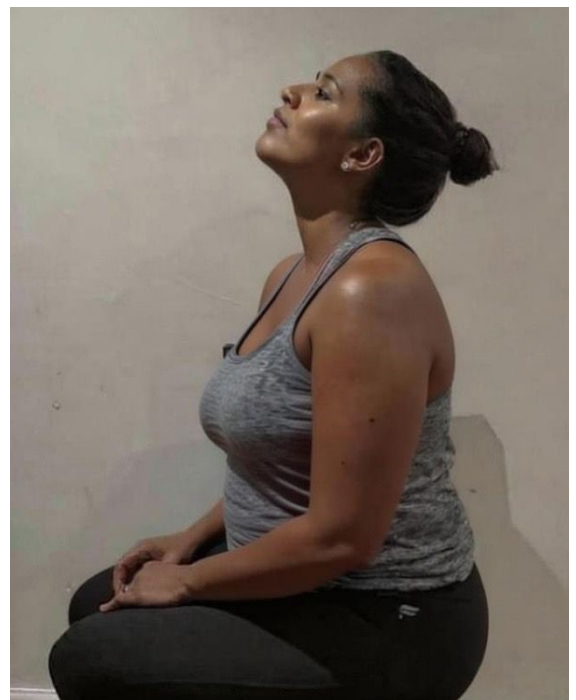
Flexion

1. Sit in a chair.
2. Bend your head forward until you feel a stretch behind your neck.
3. Hold for 5 seconds then relax.
4. Repeat 10 times.



Extension

1. Sit in a chair.
2. Bend your head backwards as far as is comfortable.
3. Hold for 5 seconds then relax.
4. Repeat 10 times.



Over pressure into side flexion

1. Sit in a chair.
2. Tilt your head toward one shoulder until you feel the stretch on the opposite side.
3. Using your hand gently pull your head further to the side. Hold for 5 seconds.
4. Repeat 10 times.



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Posture

Try to sit in a comfortable position and make sure you are changing your posture regularly. If you have a desk based job make sure you are getting out of your seat and moving regularly.

Walking

After your surgery it is important to maintain your exercise levels and to keep walking. Start with short walks then build up slowly during your recovery period. When walking, try supporting your arm. Keep your hand in your pocket while your tissues are healing.

For more information

- **NHS website:**

www.nhs.uk/conditions/cervical-rib

- **Vascular Society:**

www.vascularsociety.org.uk/vascular-services/patient-information-sheets

Contact details

If you have any questions or concerns you can contact your GP or self refer to physiotherapy. If you have been discharge from hospital check your discharge letter for any advice or contact the ward.

Download the app below using the link or scan the QR code below for more information and help:

<https://digitalstudio.leics-his.nhs.uk/projects/musculoskeletal-msk-self-care-app/>



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