

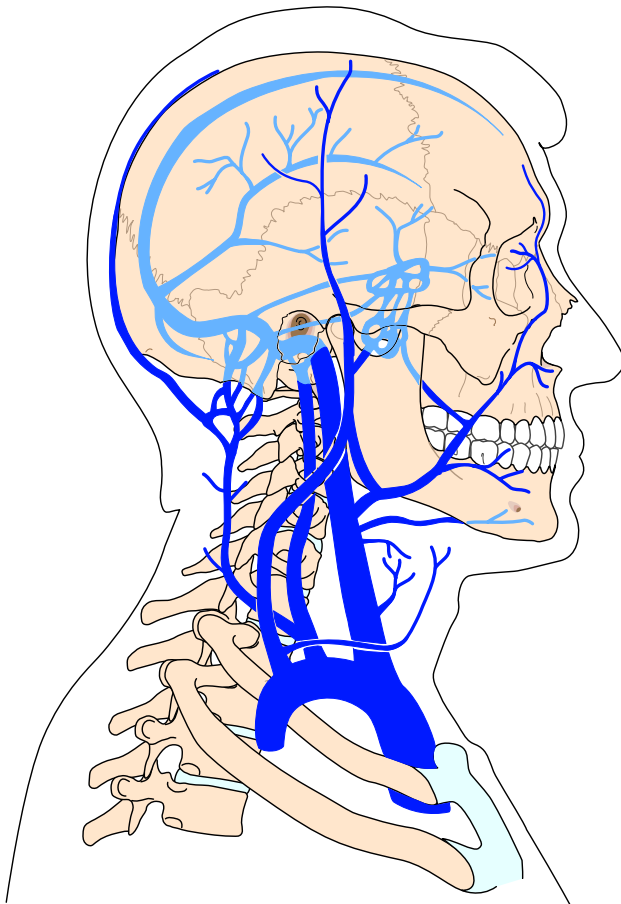
2014

First Rib Resection for Thoracic Outlet Syndrome

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What is thoracic outlet syndrome?

Thoracic Outlet Syndrome (TOS) is a condition caused by compression (squeezing) of nerves or blood vessels in the **thoracic outlet**. This is the area between the base of the neck and the armpit, including the front of the shoulders and chest.



What causes TOS?

TOS is caused by a change or an enlargement (they get bigger in size) of the tissues in or near the thoracic outlet. Causes of enlargement of the tissues may include:

- Trauma or injury
- Weight lifting
- Cervical rib (an extra rib extending from the neck, present at birth)
- Weight gain
- Growth of a tumour
- Neck and arm positions used at work and home
- Poor posture

Often, there is no direct cause found in patients suffering from TOS.

What are the symptoms of TOS?

TOS may include the following symptoms:

- Neck, shoulder, and arm pain
- Numbness in the arm, hand, or fingers
- Less blood flow to the arms and legs (causing a change in skin colour)
- Weakness in the shoulders, arm, and hands

The pain of TOS is sometimes confused with angina (chest pain), but these 2 conditions can be distinguished because the pain of TOS does not happen or get worse when walking, while angina

usually does. Additionally, the pain of TOS typically gets worse when raising the affected arm, driving, lifting, carrying things, and writing.

Signs and symptoms of TOS help health care staff figure out the type of disorder a patient has. TOS disorders differ depending on the part(s) of the body they affect. TOS most commonly affects the nerves, but the condition can also affect the veins and arteries, This is the least common type. In all types of TOS, the thoracic outlet space is narrowed, and scars form around the structures (affected body tissues).

How does my doctor know that I have TOS?

Because of the unique symptoms, it can be hard to diagnose. Your doctor will already have as much info as possible to eliminate other possible causes of your pain. Your doctor completed a full medical history along with a detailed physical examination (exam), and based on the results, relies on what you reported about your symptoms and medical history.

Other tests that your doctor may have ordered are as follows.

- X-ray
- Magnetic Resonance Imaging (MRI)
- Electromyography: used to find out if the nerves between the neck and hand are being pinched

Other than surgery, what treatment options are there for my TOS?

After diagnosis of TOS, your doctor would have started you on medication(s) to help with your pain. Nonsteroidal anti-inflammatory drugs (NSAIDS), such as aspirin and ibuprofen, can often relieve pain and inflammation (swelling), and muscle relaxants can help relieve muscle spasms.

Other options to help fight TOS include:

- Lessen the tension of your seatbelt's shoulder strap.
- Ask for help with weight loss if you are overweight.
- Avoid heavy lifting, pulling, or pushing.
- Do not carry a bag on your bad shoulder.
- Try physiotherapy to improve strength, flexibility, and posture.

In most cases the above treatment option(s) can really help. However, if it is not working, your doctor will recommend surgery.

What surgery can treat my TOS?

This is usually the last resort after all other treatment options have been tried. The surgery will try to take away the source of the compression (pressure) on the nerves. If you have an extra rib, it is usually taken out. Otherwise, the surgery will try to release any constricting factors and scar tissue around the nerves.

The surgery is often done with the doctor making a small incision (cut) under your arm and between your ribs. You will get medication to put you to sleep and you may need to spend at least 1 night in the hospital.

What can I expect after surgery?

One of the most important factors after surgery is good pain control. This is a major priority for both you and your health care team. While you should expect to have some pain after your surgery, your health care team will work to make sure you have as little pain as possible.

You will get info to help you understand your options for pain treatment, to describe how you can help your health care team control your pain, and to empower you to take an active role in making choices about pain treatment.

Be sure to tell your team about all medications (prescribed and over-the-counter), vitamins, and herbal supplements you are taking. This may affect which medication(s) are prescribed for your pain control.

Your pain control should allow you to breathe deeply, cough, and get up and walk around as soon as possible after surgery. This will help keep your lungs clear and prevent pneumonia and blood clots. Respiratory exercises (deep breathing and coughing) should be done every 1-2 hours when you are awake. You may find it more comfortable to hold a pillow to your side when you cough. This puts a little pressure on the incision area.

Why do I need to see a physiotherapist?

It is important to get your shoulder moving as soon as possible after surgery. Below are some early movement exercises to try as your pain allows. Please remember to start with smaller movements and increase bit by bit, as your physiotherapist recommends.

Stand sideways next to a counter or table and rest your good arm on the counter. Lean forward as far as it feels comfortable and let your operated arm hang down. Try and keep your shoulder as relaxed as possible and swing it in a circle **10 times**, swing it side to side **10 times**, and swing it forward and back **10 times**. Try to do these exercises 2-3 times a day. Don't push until it is painful!



Posture and strengthening exercises will also help prevent future TOS problems. When you are sitting, standing, or walking, try to keep good posture (move your shoulder blades down and back).

At your follow-up appointment with the surgeon, ask if you need more physiotherapy. You can get a referral if needed.

What should I avoid after surgery?

- Do not lift, push, or pull anything with either hand that is over 5 pounds for up to 4 weeks.
- Do not drive for 2-3 weeks after surgery.
- When your restrictions are lifted, gradually (over time) increase your activity and monitor (keep an eye on) your symptoms.
- Do not drink alcohol if you are taking pain pills.

Your health care team may ask about the kind of work you do and may have suggestions to help you avoid work postures and activities that could cause problems.

If you have any questions, please ask.

We are here to help you.

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