







What is Thoracic Outlet Syndrome?

Thoracic outlet syndrome (TOS) is a rare condition when nerves and blood vessels get squeezed in the space between your neck and shoulder. This squeezing happens between your collarbone and top rib, or the thoracic outlet triangle, damaging nerves or blood vessels in your arms.

What to Look For

Neurogenic TOS is the most common type of TOS and happens when nerves get pinched in the thoracic outlet triangle. You may feel:

-  Tingling in your arms and hands
-  Pain in your arms and hands
-  Numbness (like your hand or arm is “asleep”)
-  Weakness in your hands or arms

Venous TOS happens when a blood vessel called the subclavian vein gets pinched. Blood clots can form, and your arm can swell up.

Arterial TOS is very rare and happens when a blood vessel called the subclavian artery gets pinched. It can be painful and a bulge in the blood vessel (called an aneurysm) can form. Your fingers can also change color.

Causes and Risks

TOS can happen for different reasons:

- **Hereditary:** Some people are born with bones or body parts shaped in a way that causes TOS
- **Accident or injury:** You can get TOS from being hurt in an accident
- **Activities:** TOS can develop from your job or from playing sports



Recognizing Thoracic Outlet Syndrome

Your doctor may do a physical exam and order imaging tests to be done at the hospital or imaging lab, such as an X-ray or ultrasound. Doctors also need to make sure there isn't another problem causing issues like arthritis, a pulled muscle or pinched nerves in your neck.

Role of a Vascular Surgeon



Vascular surgeons are the only specialists trained to diagnose and treat the full spectrum of vascular diseases. It's important to see a vascular surgeon early if TOS is suspected, because waiting too long can make the condition worse.

Treatment

Physical therapy is usually the first treatment for TOS. Sometimes, a doctor can give anti-inflammatory medicines, pain medicines or muscle relaxants or inject a local anesthetic, onabotulinumtoxinA or a steroid medicine to treat neurogenic TOS.

If those treatment options don't help, you might need surgery. A vascular surgeon will remove your top rib and a nearby muscle to open up space in the thoracic triangle, so nothing gets squeezed anymore. If your artery or vein is damaged, the surgeon may need to fix those blood vessels during the same operation. Most patients with TOS improve with treatment, especially if it's started early.