



OSF HealthCare expands access to TOS surgery

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(November 10, 2025 | Peoria, Illinois) – Patients in Central Illinois no longer need to travel for hours out of state for specialized thoracic outlet syndrome (TOS) surgery. OSF HealthCare now offers robotic-assisted procedures to treat the rare condition in Peoria.

Thoracic outlet syndrome is a group of disorders that occur when blood vessels or nerves between the neck and shoulder become compressed. The condition can cause pain in the shoulders and neck, as well as numbness in the fingers. While rare, affecting roughly 10 in every 100,000 people, the condition can have a significant impact on daily life and, in severe cases, cause serious complications.

Bringing advanced treatment to Central Illinois

[Burhan Hassan, MD](#), a [thoracic surgeon](#) with [OSF HealthCare](#), leads the new effort. Dr. Hassan has been with OSF for five years and performs more than 100 robotic-assisted lung procedures annually.

“We felt that this was an area where services weren’t offered in the Central Illinois region,” Dr. Hassan says. “Our patients have had to travel far, sometimes as far as three or more hours, to go to nearby states and get it taken care of.”

Offering this complex procedure locally gives patients the option of receiving the same advanced level of care found in major metropolitan centers.

How surgery works

When surgery is recommended, rib resection (removing the first rib) is the first standard of care. The minimally invasive procedure removes abnormal bones or tissue causing compression in the thoracic outlet.

“Surgery involves removing the first rib, removing the scalene muscle and doing neurolysis. Which is removing the scar tissue along the brachial plexus,” Dr. Hassan says.

Dr. Hassan adds the surgery is safe, effective, and usually has quick recovery time.

“We do it robotically and it takes about an hour and 15 minutes,” he says. “It’s an overnight stay for the time being, but we’re planning to offer same-day discharges soon.”

Who is at risk?

Thoracic outlet syndrome affects a range of patients but is most common in people between the ages of 30 and 50. It can be either congenital (present at birth, often due to an extra rib) or occurs later in life.

“Weightlifters and baseball pitchers are at risk. Pitchers because you have to have strength in that arm. If you have an extra rib, you are prone to it. You will get TOS regardless. But for people who do a lot of exercises, you are at risk for it as well,” Dr. Hassan says. “One category, which is also big, is trauma. When patients get in accidents and their ribs are moved a bit north, it can cause compression, too.”

Common causes include repetitive motions from sports or jobs, trauma from car accidents, pregnancy, or anatomical differences like an extra rib. Sometimes, the cause is unknown.

Recognizing the symptoms

The symptoms of TOS depend on which structure is compressed (a nerve, vein, or artery). The three types of cases are:

- **Neurogenic (about 95% of cases):** Tingling or sharp pain, loss of sensation in the inner arm, or hypersensitivity.
- **Venous (around 4% of cases):** Swelling or engorged veins in the shoulder or arm.
- **Arterial (about 1% of cases):** Loss of pulse or a cold hand when turning the head or raising the arm.

Other signs include difficulty turning the neck, issues after shrugging shoulders, or passing out when looking to one side due to arterial compression. The last sign was the case for the first patient – a woman in her 70s – seen at OSF.

Physical therapy is typically the first line of treatment for thoracic outlet syndrome. If symptoms persist, Botox injections may be tried before surgery is considered.

For neurogenic patients, surgery is effective about half the time. For venous patients, surgery tends to be highly successful. Arterial cases may require a collaborative approach, combining rib resection with bypass surgery performed alongside vascular surgeons.

TOS care is multidisciplinary, often involving vascular surgery, neurology, physiatry, physical therapy, orthopedic surgery and pain management.

Designing care for the most complex cases

Currently, OSF HealthCare has seen its first TOS patient, with 10-12 additional cases planned in the future. Dr. Hassan anticipates performing 20-25 cases annually once the program is fully established.

While TOS is rare, first rib resection surgery is considered a growing technique, and procedures are expected to increase over time.

By expanding access to advanced robotic-assisted thoracic surgery, OSF HealthCare continues to position itself as a leader in innovation and patient-centered care, ensuring people in the region can receive expert treatment for the most complex cases right here in Peoria, and in surrounding areas.