

Thoracic Sympathectomy (VATS Sympathectomy)

What is it?

Thoracic Sympathectomy is a minimally invasive (VATS) procedure in which the sympathetic nerves inside the chest are surgically clamped or divided.

What is it used for?

Thoracic Sympathectomy is used to treat hyperhidrosis and Complex Regional Pain Syndrome (known as causalgia and reflex sympathetic dystrophy) of the upper extremities. Hyperhidrosis is a condition characterized by excess sweating. The excess sweating may occur on the hands, armpits (axillae), face, head, chest wall, abdomen, groins, and/or feet. Complex Regional Pain Syndrome is severe pain that persists long after what would otherwise appear to be a healed injury.

Patients with palmar and axillary hyperhidrosis are good candidates for thoracic sympathectomy.

Patients with Complex Regional Pain Syndrome should have had at least two successful stellate ganglion blocks that result in pain relief lasting one or two days.

How is it done?

Thoracic Sympathectomy is a minimally invasive thoracic surgical procedure, done with the use of thoracoscopy, also known as VATS (Video Assisted Thoracic Surgery.) In our practice, the surgeons utilize a 5 mm diameter endoscope, and 3 mm diameter instruments. These instruments are smaller than a soda straw, and allow us to use very small incisions, usually less than $\frac{1}{4}$ inch each.

The patient is placed under general anesthesia, and positioned comfortably on their side. A quarter inch incision is made near the tip of the shoulder blade. Through this incision, a tiny endoscope, less than a quarter inch in diameter, is introduced into the chest between the ribs. The lung is retracted out of the way, and the sympathetic nerves are visualized with the endoscope. Through a second tiny incision, another small instrument, approximately one eighth inch in diameter, is introduced between the ribs. Using the endoscope to see, this instrument is used to divide the sympathetic nerves at the appropriate levels.

The instruments are then withdrawn from the chest. The lung is allowed to re-expand to its normal position. Usually, a drain is not required. The results of the sympathectomy are apparent within minutes after the surgery.

The patient is observed for several hours, and then is discharged home. If a drain is required, the patient will spend the night.

What are the risks?

Risks include the general risks of surgery, and the specific risks of sympathectomy. Risks include those of general anesthesia, the small risk of wound infection, a small risk of bleeding, and a small risk of air leak from the lung that would require a drain and overnight hospital stay.

The normal effects of thoracic sympathectomy are a dry hand and axilla (armpit). The hand will appear more flushed than prior to surgery.

A side effect of sympathectomy for palmar hyperhidrosis in some patients is the appearance of new hyperhidrosis on the chest wall or abdominal wall. This abdominal hyperhidrosis appears to be a compensatory form of sweating as a result of eliminating sweating of the hands and axillae. Although statistics vary, the incidence of compensatory abdominal hyperhidrosis ranges from 3% to 40%. A new variation on the location of division of the sympathetic nerves is under evaluation. This new variation in the surgery may reduce the amount of chest wall and abdominal sweating.

A risk of thoracic sympathectomy for Complex Regional Pain Syndrome is the failure to eliminate the pain. There is a spectrum of results that is seen as a result of this treatment for CRPS. Some patients get excellent long term relief, some get partial relief, some get no relief.

The most important risk, but least frequent risk, of thoracic sympathectomy is thermal injury to the Stellate Ganglion, a portion of the sympathetic nervous system that lies above the first rib. Injury to the Stellate Ganglion results in Horner's Syndrome. Horner's Syndrome includes dilation of the pupil and slight ptosis, or drooping of the eyelid, on the same side as the surgery.