

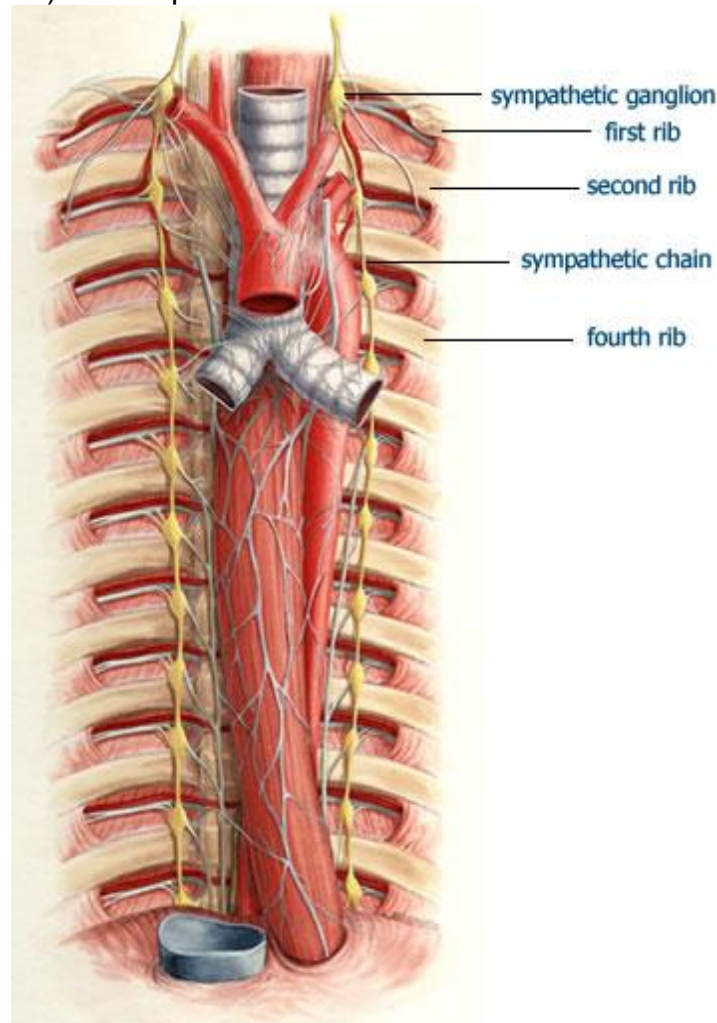
# **SYMPATHECTOMY**

**The Vascular Group, PLLC**



## Sympathectomy

Sympathectomy is a surgical procedure that is performed to destroy nerves in the sympathetic nervous system. The sympathetic nervous system is part of the two part autonomic nervous system which controls the involuntary body functions, such as breathing, sweating, and blood pressure. The sympathetic nervous system speeds the heart, narrows blood vessels, and raises blood pressure. This system is also known as the “fight or flight” system because it allows you to respond to danger by fighting or running away. When danger occurs this system increases heart and respiratory rate, increases blood flow to muscles, and decreases blood flow to other areas, such as skin, digestive tract, and veins in the limbs. The overall effect is an increase in blood pressure. This surgical procedure cuts or destroys the sympathetic ganglia (a collection of nerve cell bodies in clusters along the cervical (neck area), thoracic (chest area) or lumbar (back area) of the spinal cord).



A Sympathectomy may be performed for various conditions such as Raynaud’s phenomenon, Causalgia/Reflex Sympathetic Dystrophy (RSD), and Hyperhidrosis.

## **Raynaud's phenomenon**

This is a condition in which there is intermittent constriction (narrowing) of blood vessels when the fingers, toes, ears, or nose are exposed to cold. In Raynaud's phenomenon, the effected extremities turn white, then blue, and red as the blood supply is cut off. The color changes are accompanied by numbness, tingling, burning and pain. Normal color and feeling are returned when heat is applied. A Sympathectomy will increase blood flow in this condition.

## **Causalgia/Reflex Sympathetic Dystrophy or RSD**

This is a condition that sometimes develops after an injury. Causalgia is a severe burning sensation along with redness and inflammation of the skin. It is usually caused by an injury to peripheral nerves. In RSD the affected limb is painful (Causalgia) and swollen. The color, texture and temperature of the skin changes. These symptoms are related to prolonged and excessive sympathetic nervous system activity. A Sympathectomy will help to decrease long term pain in these conditions. A Sympathectomy is most effective if it is performed soon after the injury occurs.

## **Hyperhidrosis**

This is a condition in which there is excessive sweating in the hands armpits, face and scalp. It can be caused by heat, overactive thyroid glands, strong emotion, menopause, or infection. Sweating is controlled by the sympathetic nervous system so doing a Sympathectomy can be helpful in treating excessive sweating.

## **TREATMENT**

### **Conservative Treatment/Nonsurgical Treatment**

- Avoiding exposure to stress and cold for Raynaud's
- Physical therapy and medication for RSD
- Medication for Hyperhidrosis
- With RSD doing a chemical Sympathectomy first may indicate a better surgical result. This is a direct injection of a caustic agent into the region of the sympathetic chain.

### **Surgical Treatment**

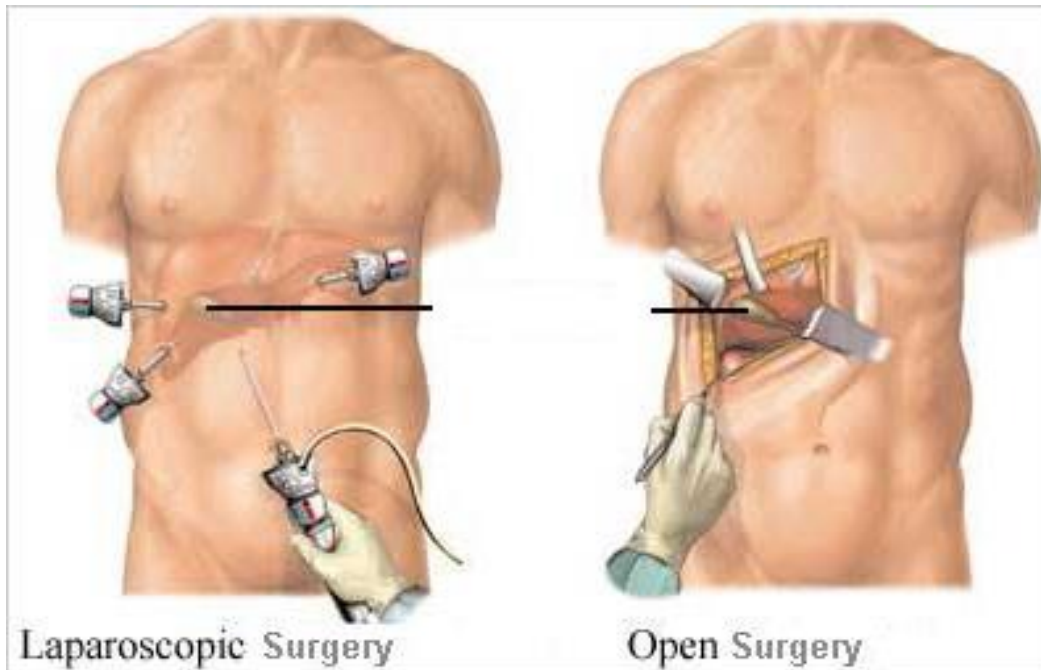
#### **What can I expect before Surgery?**

The surgery is done using general anesthesia. This means that you will be asleep for the surgery. You will be given an appointment to meet with the anesthesia department. They will speak to you before surgery and will discuss this with you before you sign a permission form. You will not be able to eat or drink 8 hours before your surgery. Someone will review your medications with you and you will be told which, if any, medications you need to take the morning of your surgery. Please make sure you have an updated list of your medications and bring this with you. You will have intravenous lines inserted so that you can receive fluids before, during and after your surgery.

### **Surgical Procedures**

**Endoscopically** - This is considered minimally invasive surgery. Surgery is performed through small incisions using tubes or scopes. When the surgery is performed in the chest area it is called Thorascopic and in the abdomen or pelvis it is Laparoscopic. In Thorascopic surgery the lung is usually deflated for better visualization. In laparoscopic surgery air is usually placed in abdominal cavity for better visualization. After the surgery the lung is re-inflated and air is released from the abdomen.

**Open** - This is traditional surgery where surgery is performed through larger incisions



### **What can I expect during surgery?**

The location of incisions depends on the reason the surgery is being performed and the location of the problem. If the upper extremities are involved the procedure is usually a cervical or thoracic procedure (axillary and chest area). If the lower extremities are involved the procedure is usually a lumbar or abdominal procedure (lower flank and belly area).

If the procedure is done endoscopically you will have a number of small incisions where the instruments or tubes need to be placed. These small incisions may be closed with sutures or surgical glue. If it is an open procedure the incisions will be closed with sutures or staples and covered with a dry dressing.

With the cervical Sympathectomy in order to expose the area to remove the sympathetic chain the lung must be deflated. After the surgery is complete a small chest tube is placed to re-inflate the lung. A chest x-ray is then performed to make sure all the air is out of the chest cavity. The chest tube is usually removed in the operating room. In rare instances it may stay longer.



### **What can I expect after surgery?**

Surgery is scheduled for 2 hours. After the surgery you will go to the Post Anesthesia Care Unit (PACU) or the recovery room. You will spend a couple of hours there. You will then be released to a regular surgical floor. You will be discharged 2-5 days after surgery. You will need to make a 2 week follow-up appointment.

### **Complications of Surgery:**

- Increased sweating in the chest - Hyperhidrosis
- Increase
- Decreased blood flow when standing, which may cause fainting
- In men, semen may be ejaculated into the bladder, possibly impairing fertility
- Chest pain with deep breathing if procedure was done endoscopically
- Pneumothorax (air in the chest cavity)

### **What must I do after surgery?**

- Operative sight must be kept clean and dry
- You may shower and pat incisions dry
- No heavy lifting

### **What to Report?**

- Redness that extends away from your incision
- Drainage, note the color and amounts
- Temperature greater than 101F for 24 hours

