

# First Rib Resection Surgery for Thoracic Outlet Syndrome

**For patients and families preparing for surgery and recovery at home**

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**Your surgery has been scheduled for:**

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Come to the hospital at: \_\_\_\_\_



# Preparing for Surgery

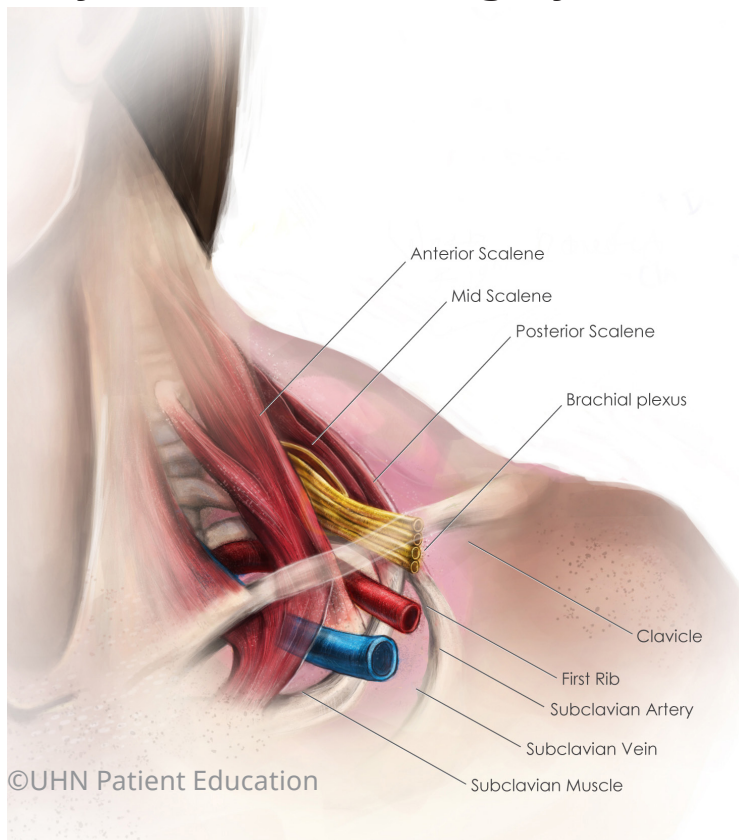
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## What type of surgery am I having?

You are having **decompression surgery** to help relieve the pain you are feeling in your arm and hand, or to reduce the risk of having a further upper arm venous clot.

Pressure on the blood vessels or nerves that supply blood to your arm and hand can cause blood flow issues or nerve damage. To relieve the pain, your surgeon will remove the first rib, certain muscles or surrounding tendons and fibrous bands that were pressing on the vessels and nerves.

## Why do I need this surgery?



**This drawing shows the area called thoracic outlet (the space between the collarbone and armpit).**

Blood vessels (arteries and veins) and nerves pass through the space between the collarbone and the armpit (called the **thoracic outlet**) on their way from the front of the shoulders and chest to the arm and hand.

You have Thoracic Outlet Syndrome (also called “TOS”), where there is compression causing injury or irritation to the nerves and blood vessels causing pain, swelling, weakness, numbness or tingling.

The decompression surgery will try to take away the pressure on the nerves and blood vessels so you can go back to your usual activities.

## **What causes TOS?**

There is often no direct cause for developing TOS, but it may be related to:

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

## **How does my doctor know that I have TOS?**

TOS can be difficult to diagnose.

- Your surgeon will do a full medical history and physical examination.
- Your surgeon will look for pain, numbness, tingling or weakness in your arm.
- Several tests will help your surgeon find the cause of your pain. These tests may include:
  - X-ray
  - Magnetic Resonance Imaging (MRI)
  - Electromyography (EMG) or nerve conduction studies: To find out if the nerves between the neck and hand are being pinched
  - Contrast venography: To check the vein which passes through the thoracic outlet

## **What else will I need before surgery?**

Before your surgery, we do a complete check of your health. This usually takes place at the Pre-admission Clinic.

## What will happen during my Pre-admission visit?

You need a Pre-admission Clinic visit to make sure it is safe for you to proceed with the surgery. During this visit you will meet:

- A nurse who does an in-depth health assessment and gives you instructions before your surgery.
- An anesthetist will talk to you about what medication (anesthetic) will be used to make you sleep during surgery.
- You may get have some tests such as a chest x-ray and electrocardiogram (ECG).
- You will also complete paperwork to be admitted to the hospital.

### **The Pre-admission visit may last 3 hours to the entire day.**

Take your medicines and eat as usual on that day, unless you were given other instructions.

### **What to bring to your Pre-Admission Clinic visit:**

- ✓ Provincial health card (OHIP)
- ✓ Any medicines you are taking in their original bottles. This includes prescription medications, over-the-counter medicines, vitamins, supplements and herbal or 'natural' products.
- ✓ Extended health insurance information, if you have it.
- ✓ If possible, please bring someone with you to your visit to help you remember the information or help you ask any questions.
- ✓ A copy of your power of attorney for personal care and/or advanced directives.

You must attend your Pre-admission visit before your surgery.

**If you don't come to your Pre-admission visit, your surgery will be canceled** (unless you were given other instructions).

## What about smoking?



**Time to be  
smoke free!**

Smoking harms your body. Smokers often have more heart and breathing problems after surgery.

If you quit smoking before your surgery your chance of recovery from your surgery may be faster.

It is hard to quit smoking when you are anxious or under stress. **But it is important to stop.** Talk to your doctor about programs and products to help you quit. Search 'Smoking Cessation' at [UHN.ca](http://UHN.ca) for helpful information and resources.

## What special instructions do I follow before my surgery?

- Stop any medications as instructed by Pre-admission.

### On the night before your surgery:



- Follow the instructions about when to stop eating and drinking that you were given in Pre-admission.
- If you are a smoker, do not smoke after midnight.

### On the day of your surgery:

- If you were told to take a medication, take it with a small sip of water.

## How long will I need to stay in the hospital?

When you can go home will depend on how well you are recovering. Your health care team may tell you the day before you go home so you can to prepare for discharge the next day.

**You may need to spend at least 1 to 2 nights in the hospital.**

## What to expect while in hospital

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### Where will I go on the day of my surgery?


Please arrive **2 hours** before your surgery. Take the Eaton or Munk Elevators and go to the 2nd Floor.

Surgical Admission Unit  
Peter Munk Cardiac Centre – 2nd floor

### What happens before surgery?

When you arrive at the **Surgical Admission Unit**:

- A team of surgical nurses will help you get ready for your surgery.
- You will change into a hospital gown.
- You will have an intravenous (IV) will be started in your arm. The IV is used to give you fluids and medication during and after surgery.
- You wait in an area called the Holding Area.
- The surgeon will meet you, answer any questions and mark the site and side of surgery.
- When it is time for your surgery, you will go to the operating room.

 Please note!

**To provide safe care, we will ask the same questions many times, such as your name, what type of surgery you are having, and the name of your surgeon.**

### Can the time for my surgery change?

Yes. We do our best to do your surgery at the scheduled time. But, we may need to reschedule your surgery if other emergencies come up. If this happens we will tell you as soon as possible.

### Where can my family wait while I am in surgery?

Your family can wait in the **surgical waiting room**. Take the Munk elevators to the 3rd floor of the Peter Munk Building. The volunteer on duty can let your family know when your surgery is over.

Your surgeon will speak to your family when the surgery is done. If your family will not be in the waiting room, tell your surgeon's office how to reach them.

## What happens during surgery?

- The surgery is done under general anesthesia. This means you will be asleep and feel no pain during surgery. The doctor will put a tube in your throat to help you breathe.
- Your surgeon will usually make a small incision (cut) under your arm or above your collar bone. A part of your first rib and surrounding tissues are removed, relieving the pressure causing your symptoms. If indicated, the surgeon will also try to repair any damage to the blood vessels.
- The surgeon will close your incision with stitches, and cover them with a dressing. The stitches do not need to be removed.
- Some patients may need a chest tube to treat a collapsed lung. This is usually placed in the operating room at the time of the surgery, but may need to be put in soon after the surgery. If you need a chest tube, you will probably stay in hospital an extra 1 to 2 days and get chest x-rays every day to check that your lung has expanded well.

## What to expect after surgery

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You will go to the **Post Anesthetic Care Unit** (recovery room) where the nurses will care for you until you wake up.

You will then go to the **Vascular Ward** on the 4th floor for the rest of your hospital stay.



**Vascular Ward: 416 340 4208**

## **Your care on the Ward**

Your vascular team will see you early each morning. This team includes doctors, nurse practitioners, nurses and physiotherapists. Please talk to them about any concerns or questions you may have.

## **Movement and exercises**

To take deep breaths, cough, and get up and walk around as soon as possible after surgery, you will need good pain control. This helps to keep your lungs clear, prevent pneumonia and blood clots.

Deep breathing and coughing exercises should be done every 1 to 2 hours when you are awake. You may find it more comfortable to hold a pillow on your operated side when you cough.

## **Managing pain**

**Everyone feels pain and discomfort differently after surgery.  
We will work with you to manage your pain.**

Good pain control is an step in your recovery. You will have some pain and discomfort after surgery. This is normal.

Describe your pain to your health care team using a scale between 0 to 10. "0" means no pain "10" means the worst pain you can imagine. This helps us understand how much pain you are having and how well the pain medication is working.



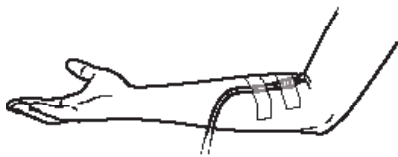
## How to use the pain scale:

Pick a number that tells how much pain you are having.

0	1	2	3	4	5	6	7	8	9	10
No pain			Moderate pain					Severe pain		

You will have medication to control your pain. Pain medication can be given in different ways:

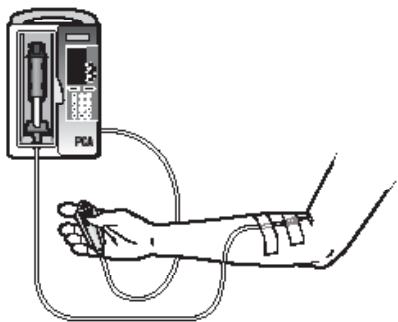
### Intravenous (IV) medication



Intravenous means inside the vein. Pain medicine can be given into the vein through a small needle or a plastic tube called a catheter.

Tell your nurse when you have pain. Do not wait for the pain to get worse.

### Intravenous (IV) Patient Controlled Analgesic or PCA



This is an intravenous medicine that you give yourself by pressing a button when you have pain.

### Medication by mouth



When you are drinking well, you may be given pain medicine tablets (pills) to swallow.

Pain medicine works best when you take it regularly. Do not wait until your pain is severe before you tell your nurse.

## **Eating and drinking**

You can expect to drink the evening after your surgery and eat your usual meals the next day. It is normal to not feel hungry. Try to eat a little at each meal. Your body needs healthy food to heal and recover after surgery.

## **Constipation**

Your bowel habits may be affected by the pain medications. Tell your team if you are not having regular bowel movements.

## **Taking blood thinners (anticoagulant medicine)**

For some types of thoracic outlet syndrome you may need to take blood thinning medicines (also called anticoagulants), as well as having surgery. You may have started taking blood thinners before surgery to prevent blood clots in your arm (also known as deep vein thrombus or "DVT").

If you were taking blood thinners before the surgery, you will need to start taking them again before you leave hospital. At first you will take a reduced dose and then a regular dose for 3 months after the surgery.

## **What will happen before I leave the hospital?**

During your hospital stay, the health care team will teach you how to care for yourself. Before you go home, you should know:

- how to take care of your incisions
- what exercises to do
- how to manage your pain
- when you can drive, return to work and resume your usual activities,
- such as housework, gardening, exercise and sex
- what warning signs to watch for and when to call the doctor.

Your nurse, nurse practitioner or pharmacist will review your medications. Some may have changed during your hospital stay. You will get a prescription for medications that are new or changed.

# What to expect when you return home

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## When can I shower?

- You can have a shower 2 or 3 days after surgery.
- Gently wash your incision with soap and water. Rinse well and pat dry with a clean towel.

## How do I care for my incision?

- Usually the incision will be in your underarm — in your armpit. However, some people will have the incision near the collar bone. The stitches are under the skin, so they will not need to be removed.
- Check your incisions each day. You may notice some bruising at first and they may be tender to touch.
- Keep your incisions clean and dry. Do not put deodorant, cream, ointment, powder or lotions on your incisions.

## What activities are not 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 to 3 weeks after surgery, or while you are taking strong (opioid) pain medicine. It can make you drowsy.
- 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.
- If you needed a chest tube after surgery, do not fly for 4 weeks.

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

# Who to call if you have questions

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If you have questions before or after your surgery or need to book your follow up appointment, please call your surgeon's office or the Vascular Clinic:

Dr. G. Oreopoulos 416 340 3275

Dr. G. Roche-Nagle 416 340 5332

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