

# **Segmentectomy\***

## **Lobectomy\***

### **Pneumonectomy**

**\*May be open or minimally invasive (ie. VATS or Robotic)**

#### **What Is My Procedure and Why Am I Having It?**

The right lung is made up of 3 parts called lobes (the right upper, middle and lower lobes). The left lung is made up of 2 lobes (the left upper and lower lobes). Each lobe is made up of smaller parts called segments. A pneumonectomy is removal of the entire right or left lung. A lobectomy is the removal of a lobe. A segmentectomy is the removal of a segment (a smaller anatomic portion of a lobe). The size, location and type of lung lesion/nodule/mass determines what amount and portion of lung needs to be removed.

#### **What Should I Do Before Surgery?**

To prepare for your surgery, in addition to your usual routine, it is recommended that you participate in light exercise daily, such as walking. If you smoke, it is advisable but not mandatory to quit smoking before your surgery. When you quit smoking, during the first 2 weeks after you quit, your airways produce more secretions or phlegm, and this can make your recovery more difficult. However, if your surgery is more than 2 weeks away, it is best that you quit. Speak with your family physician about smoking cessation strategies and to get information on support groups. Daily walks and a positive attitude, along with support from friends and family will increase your chances for a prompt and successful recovery.

The night before your procedure, you will not eat or drink anything after midnight. The morning of the procedure, you may take your morning medications with a sip of water, but nothing to eat or drink for breakfast. You must stop your blood thinners such as Coumadin/Warfarin or Plavix/Clopidogrel at least 5 days before your procedure. You may continue taking your aspirin or other anti-inflammatories such as Ibuprofen/Advil/Motrin, even the morning of surgery. If you are taking medication for diabetes, take half of your normal dose

#### **What Should I Expect On the Day of My Surgery?**

Arrive at Moffitt Cancer Center at the time given to you by your surgeon's team (usually 2 hours before the time of your scheduled surgery). Feel free to use the complementary valet parking service. Check-in at the Surgical Admissions desk and they will provide you with further assistance. Family and friends may accompany you until the time of your surgery. Once you enter the operating room, they will be asked to wait for you in the

Surgical Waiting Area until your surgeon comes out to speak to them. Delays or changes in the operating room schedule are not infrequent and should not alarm or worry them.

Before going to sleep, your anesthesiologist may place a thoracic epidural to help with pain management after surgery. This is a small catheter inserted into the spine to anesthetize or decrease feeling around the area being operated on.

In the operating room, you will receive general anesthesia, meaning you will be completely asleep. You will feel nothing and you will remember nothing of your procedure.

There are two methods used to perform a lobectomy, segmentectomy, or pneumonectomy. The first is an open or more traditional technique, with a single 5 to 7-inch cut along your side and underneath your shoulder blade. The other is by a minimally-invasive technique which involves 4 small cuts and the use of a camera and special instruments. This minimally invasive technique can be achieved using video-assisted technology (VATS) or robotically-assisted technology (Robotic). Together with your surgeon, the most appropriate and safest method will be chosen. Sometimes, the VATS or Robotic method will be used to start, but your surgeon may need to switch to the open technique for technical or safety reasons.

During the surgery, your operated lung is temporarily collapsed and special staplers are used to cut and seal the blood vessels and branches of windpipe (bronchus) supplying that lung tissue. Once the lung or portion of lung is removed, a flexible tube the size of your pinky finger called a chest tube is inserted to drain any fluid or air after surgery. The chest cavity is inspected, and any remaining lung is re-inflated. Then, the wounds are closed with dissolving stitches and a liquid-plastic dressing. The surgery takes between 2 to 4 hours.

### **What Should I Expect After Surgery?**

You will wake up in the Intensive Care Unit specially designed for the care of thoracic surgery patients. There you will have a specially-trained team of nurses, respiratory therapists, and physical therapists. Pain control will be managed with the epidural as well as with medicine through IV's in your arm or hand. If you feel nauseous, anti-nausea medications will be given. It may seem like there is a lot of tubing and wires coming from your body. These may be heart monitor wires, a continuous blood pressure monitor (arterial line) in your wrist, a chest tube which is connected to a suction box, and a Foley catheter to empty your bladder. During the first couple of days after surgery, these are removed.

While in the hospital, and once you go home, **it is very important to walk and perform breathing exercises help prevent pneumonia and blood clots.** Walking and breathing exercises are important to start the very day of your surgery, as the possible consequences are potentially life-threatening and taken very seriously. A specialized team of nurses,

respiratory and physical therapists will help you with these breathing exercises using something called an incentive spirometer. These exercises start within a few hours after your surgery. You are usually out of bed to a chair on the same day as surgery and walking the next morning.

Your chest tube is removed once your lung tissue has healed and stops leaking air. This usually occurs within 24-48hours after surgery, if not sooner. You will have a small stitch left where the tube was removed. You may remove your dressing over the stitch and shower the next morning. The stitch will be removed at your follow-up appointment.

Rarely, the lung tissue may take longer to heal and air may leak out of the chest tube longer than just 1-2 days. In these cases, the chest tube must remain in place a little longer as the lung tissue heals. This may take another few days and sometimes even up to two weeks. You do not need to remain in the hospital during this period. You may choose to go home with the tube attached to a valve called a Pneumostat. If you choose this option, a nurse will be visiting you at home daily to inspect the tube and change the dressing. At your first follow-up visit, once the air leak has healed, the surgeon will remove the chest tube in the office

Typical hospital stay after your surgery is 3-5 days. Before you are discharged, you have to be able to walk comfortably with the use of a small amount of oxygen or without oxygen at all, and be using pills for pain control instead of IV.

### **What Should I Expect When I Leave The Hospital?**

Options for discharge are to go home with or without nursing services, or to a rehab facility. It is sometimes safest to go to rehab if you need more time or physical therapy to get stronger before going home. Rehab is NOT a nursing home. Rehab is only temporary, and should be considered an important part of your recovery, if necessary.

When you are discharged home or to a rehab, it is important to continue walking, at least 3 times per day, as well as use the incentive spirometer (breathing exercises). You may resume your regular diet. You will have a prescription for Vicodin or Percocet for pain control, but it is useful to take an anti-inflammatory such as Motrin/Ibuprofen as well. If you feel nauseous, you may need to cut down on the Vicodin or Percocet. As well, you may need to take laxatives or stool softeners as constipation is a side effect of pain medications. If you are discharged home with a dressing you may remove it the next day. You should shower daily, but avoid tub baths or swimming until you follow-up with your surgeon. If you are on blood thinners such as Coumadin/Warfarin or Plavix/clopidogrel, you may resume these as instructed by your surgeon's team.

### **What Are Some Things I Should Look Out For?**

Pain is normal after surgery, and can get worse as you resume activities. Everyone has different levels of pain tolerance, and will be able to wean themselves from pain

medication differently. Continue taking pain medication as long as necessary. If you feel nauseous, you may need to cut down on the Vicodin or Percocet. Pain medication can lead to constipation, and over the counter stool softeners are helpful. Coughing up phlegm and small amounts of blood is also normal, and will stop on its own within a few days.

Contact your surgeon's team at \_\_\_\_\_ if you have a temperature over 101F, or 38C, significant redness or thick discharge from your wounds, increasing shortness of breath, increasing swelling or puffiness around your wounds, breast, or neck.

### **When Can I Resume Activities?**

Returning to your usual activities must be done slowly, and with particular attention to how you feel and what your pain levels are. There are no set rules. Listen to your own body and be logical. Some activities can be resumed immediately after surgery, while others you may not be able to do for many weeks.

With each activity you resume, go slowly and carefully at first, and always stop if you have pain, are short of breath, or are exhausted afterwards. With patients who undergo open surgery (traditional cut technique), it may take more time to be able to do these activities due to having more pain.

For returning to work, it depends on the type of work you do. In most cases, 4 weeks out of work is average, sometimes more if you have open surgery or if your job requires physical exertion.

<u>Activities</u>	<u>When Able To Resume</u>	<u>Comments</u>
Walking Climbing stairs Showering Walking around the block Car ride (as passenger) Having visitors	Immediately	MUST WALK DAILY!
Lift more than 10 pounds, Grocery shopping Air travel (flying)	2 weeks	
Driving Gardening, Mowing the lawn Doing laundry / vacuum Going to dinner/movie Sexual activity	2-4 weeks	Ride-on mower (wait 4-6 weeks for push mower)  With each activity, go slowly at first, and always stop if you feel pain, are short of breath, or are exhausted afterwards
Lift more than 20 pounds Golfing / Swimming Return to work	4-6 weeks	

**When Do I Return For Follow-up?**

You will follow-up with your surgeon in 7-10 days after discharge, during which the chest tube stitch will be removed, and the surgical team will discuss the next step in your care. Your surgeon will likely obtain a chest Xray on the day of your first appointment after your surgery. This is also a good time to ask any questions about activity restriction or returning to work.