

# Lung Volume Reduction Surgery

## Information for patients and families

Read this book to learn:

- How to prepare for your surgery
- What to expect while in hospital
- What to expect after you return home
- Who to call if you have any questions

**Your surgery has been scheduled for**

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

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

Please arrive at the hospital at: \_\_\_\_\_

You can expect to be at the hospital for: \_\_\_\_\_



Patient Education



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## Preparing for your surgery

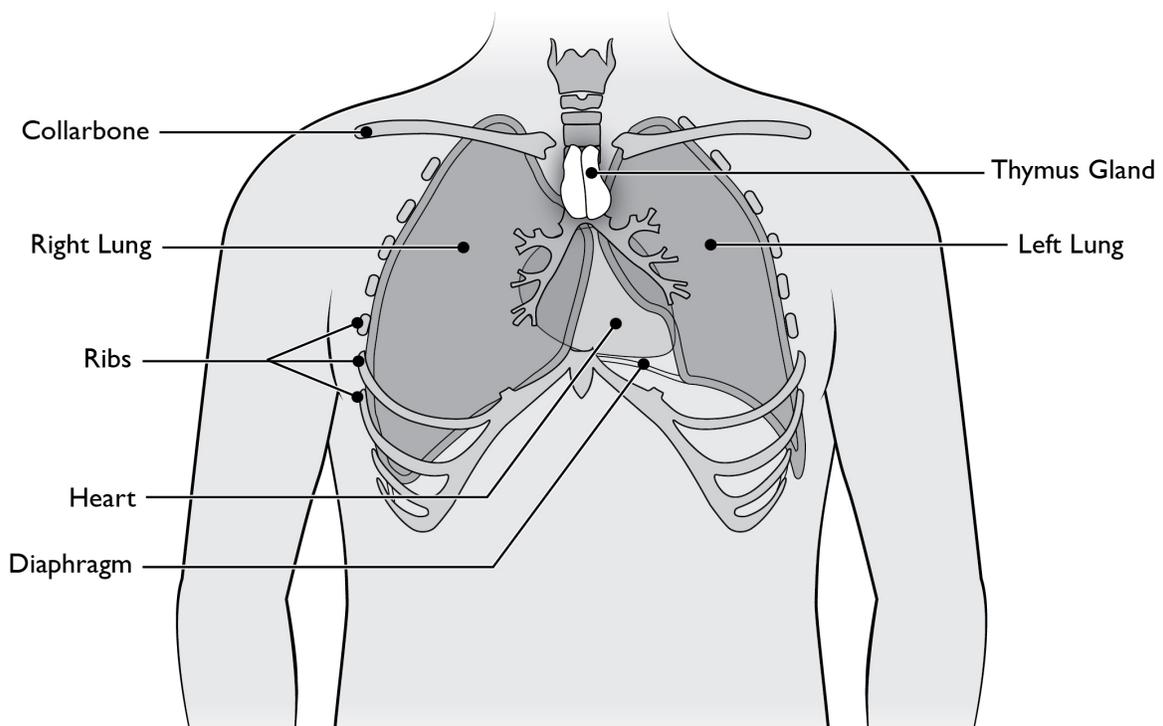
### What type of surgery am I having?

Your right lung has 3 parts. Your left lung has 2 parts. These parts are called lobes. There are tiny air sacs in your lungs. These air sacs bring oxygen into your body and send carbon dioxide out of your body.

Damage to the tiny air sacs in your lungs cause a disease called **emphysema**. Cigarette smoking is the most common cause of emphysema. The smoke damages your air sacs. As the damage continues, your lungs get unusually bigger. This affects your breathing.

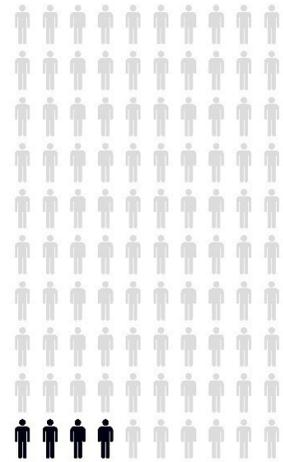
Your doctor has scheduled you for **lung volume reduction surgery (LVRS)**. LVRS is for patients who have emphysema.

LVRS reduces the size of your lung or lungs, which should improve your breathing. This surgery removes the upper lobe of either 1 lung or the upper lobes of both your lungs. Your surgeon will let you know how much lung needs to be removed.



Other ways to treat emphysema include continuing to manage it with medicines and other therapies or lung transplant surgery. Your surgeon will talk to you about all of your options.

All surgeries have some risk. Out of 100 people who have LVRS, 4 people will die from problems that happen during the surgery.



## What happens during the surgery?

Your surgeon will do your LVRS in 1 of 2 ways:

### 1. thoracotomy

Your surgeon removes a lobe or lobes by making a large incision (cut) on the side of your chest.

### 2. video assisted surgery (VATS)

Your surgeon removes a lobe or lobes using special tools and the help of a video camera. You will have 3 to 5 small incisions on your side or sides.

They will talk to you about which way is best for you.

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

You will stay in the hospital for about 10 to 14 days. When you can go home will depend on how you are recovering. Your health care team will tell you during their morning rounds (check-ins) that you can go home that day.

Before coming to the hospital, plan to have someone pick you up when you are ready to go home after surgery.

You may need to go to West Park Hospital for respiratory rehabilitation before you go home. Your health care team will tell you if you need to go and will plan for you to get there.

## What tests will I need before surgery?

Before your surgery, we do a complete check of your health. This may include many tests. These tests help your surgeon plan your surgery. They also help find other health problems. The risks of surgery can be decreased by managing these health problems before your surgery.

These tests **may** include 1 or more of the following:

- pulmonary function test (PFT)
- CT scan
- 2D echo
- persantine thallium scan
- exercise oximetry

We will let you know the tests you need and give you more information about them.

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

You must come for your pre-admission appointment before your surgery. **If you don't come for your pre-admission visit, your surgery will be canceled** (unless you were given other instructions).

During your pre-admission visit, you will meet members of the health care team who will do a complete check of your health and talk to you about the surgery. This visit will be about 4 hours long. You can find more details about your pre-admission visit in the [My Surgery Guide](#) you received.

## Can the time for my surgery change?

Yes. We will do our best to do your surgery at the scheduled time. But, we may need to reschedule your surgery if other emergencies come up.

## Your hospital stay

### Where will I go after surgery?

You will stay in the Post Anesthetic Care Unit (PACU) for 1 to 2 hours.

Once you are awake and stable, we will take you up to 10 Eaton South (10ES).

You will go to the Step Down Unit (SDU).

There are 4 beds in an SDU room. Both male and female patients are cared for in this room. A thoracic nurse will be in the room with you at all times. You will stay in the SDU for 2 days.

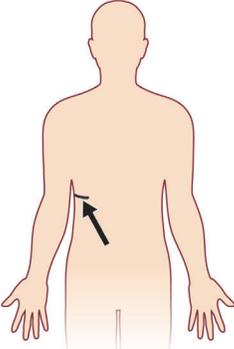
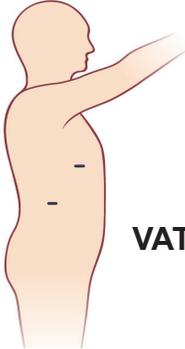
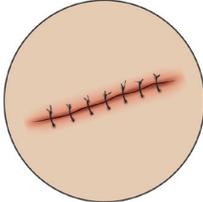
As your health improves you will be moved to a regular ward room on 10ES until you are discharged home.

### What can I expect?

- A physiotherapist will treat you once a day. The physiotherapist helps you improve your movement. They help you do deep breathing and coughing exercises to help clear mucous from your lungs.
- How often you see the physiotherapist depends on your condition during the day. Your nurse can help you with these exercises at anytime.
- You should be able to eat and drink the afternoon or evening after your surgery.

# What can I expect to have on my body?

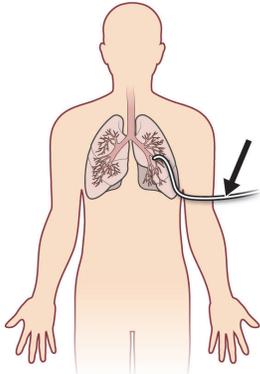
After your surgery, you will have:

<b>Incisions, tubes or drains</b>	<b>What to expect</b>
<p data-bbox="305 506 456 537"><b>incisions</b></p>  <p data-bbox="293 926 472 957"><b>thoracotomy</b></p>  <p data-bbox="412 1220 493 1251"><b>VATS</b></p>	<ul data-bbox="618 506 1370 806" style="list-style-type: none"><li>• If you had a thoracotomy, your incision will be on your side. It may be from 8 to 25 centimeters (about 3 to 10 inches) long.</li><li>• If you had VATS, you will have 3 to 5 small incisions on your side(s). Each incision will be about 3 centimeters (about 1 inch) long.</li></ul> <p data-bbox="581 863 1370 947">Bandages cover your incisions. We remove these bandages 2 days after your surgery.</p>
<p data-bbox="318 1400 444 1432"><b>stitches</b></p> 	<p data-bbox="581 1400 1390 1629">Your surgeon usually uses dissolvable stitches to close your incisions. This means they go away on their own. If they are not dissolvable, your nurse removes the stitches 7 to 10 days after your surgery.</p>

**Incisions,  
tubes or drains**

**What to expect**

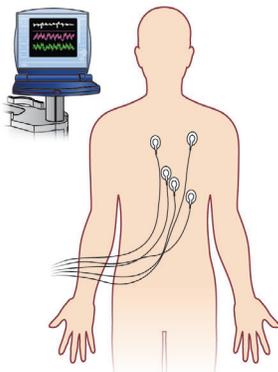
**chest tubes**



You will have 2 to 4 chest tubes coming out of your side or sides. These tubes remove air and fluid from the inside of your chest area. The tubes are attached to a machine that helps suck the air and fluid out.

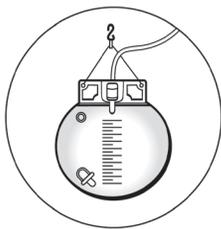
We use stitches to keep the chest tubes in place. These are not dissolvable. We remove your chest tubes once it is safe. We remove the stitches 10 to 14 days after we take the tubes out.

**heart monitor**

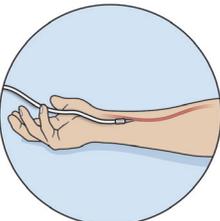


You will be on a heart monitor while you are in the Step Down Unit. This doesn't mean there is a problem with your heart. We do this for all patients who have your type of surgery.

**urinary catheter**

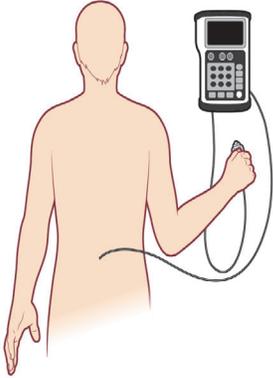
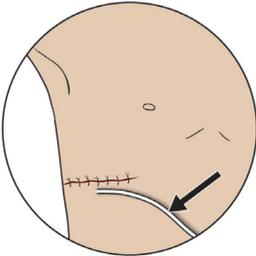


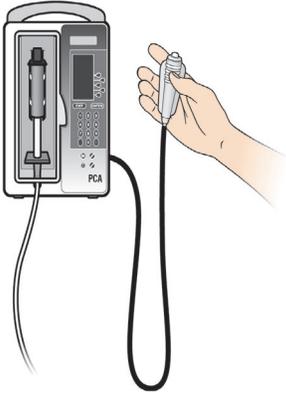
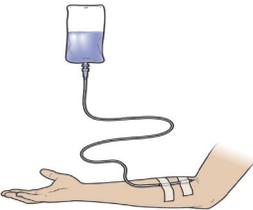
You may have a tube draining your bladder. You have this tube for 1 to 2 days. While you are in the hospital, the nurse measures how much you urinate.

Incisions, tubes or drains	What to expect
<p data-bbox="240 310 521 352"><b>intravenous (IV)</b></p> 	<p data-bbox="581 327 1373 506">You have an IV so we can give you fluids and medicines. It may be disconnected from fluids if you are drinking well but will stay in until you are discharged home.</p>
<p data-bbox="280 695 483 737"><b>arterial line</b></p> 	<p data-bbox="581 709 1373 930">This tube looks like an IV, and we use it to take blood samples without having to poke you with a needle. It also closely monitors your blood pressure. We remove it when you are moved to a ward bed.</p>
<p data-bbox="318 1087 443 1129"><b>oxygen</b></p> 	<p data-bbox="581 1098 1382 1276">You may need oxygen after your surgery. You get the oxygen either by facemask or through your nostrils (nasal prongs). We remove the oxygen once your lungs are working well enough.</p>

## How can I manage my pain?

We will work with you to manage your pain. We can give you pain medicine in different ways. These include:

Pain method	How it works
<p data-bbox="310 478 456 520"><b>epidural</b></p>  An illustration of a person's back from behind. A small tube is inserted into the lower back. A pump with a digital display and buttons is connected to the tube by a white cable. The person is holding the pump.	<p data-bbox="581 493 1333 579">A doctor puts a small tube in your back. This is usually done right before your surgery.</p> <p data-bbox="581 636 1409 865">The tube is left in place to give you pain medicine after your surgery. It's attached to a pump, which gives you the medicines. They include a pain killer and medicine that numbs the area where you had surgery. It may make your legs feel numb or heavy.</p>
<p data-bbox="274 993 488 1073"><b>extrapleural catheter</b></p>  A circular inset illustration showing a close-up of a person's chest. A surgical incision is visible, with a small tube inserted into the chest wall. An arrow points to the tube. The tube is connected to a pump.	<p data-bbox="581 993 1393 1264">You may get pain medicine through a small tube placed under your skin near your incision. It's usually placed near your chest tube. The tube is attached to a pump which gives you the medicine. The tube stays in place until your chest tube is removed.</p>

Pain method	How it works
<p data-bbox="228 268 537 401"><b>Intravenous (IV) Patient Controlled Analgesic or PCA</b></p> 	<p data-bbox="581 268 1406 401">A PCA pump is connected to your IV. The pump gives you pain medicine through your IV when you push the button. You should press the button:</p> <ul data-bbox="618 426 1377 688" style="list-style-type: none"> <li>• when you start to feel pain</li> <li>• before you do something that brings on pain</li> <li>• before you do deep breathing and coughing exercises</li> <li>• before you start to move or turn</li> </ul> <p data-bbox="581 722 1382 854">You should feel the effects of the medicine within 2 to 3 minutes. If you don't feel any pain relief, let your nurse know.</p> <p data-bbox="581 911 1422 1190">You are only allowed to have a certain amount of pain medicine every 4 hours. To control how much medicine you get, the PCA pump has a safety timer called a <b>lock out</b>. If you press the button during the lockout time, you won't get more medicine. <b>Only you should press the button.</b></p>
<p data-bbox="240 1241 521 1325"><b>intravenous (IV) medicine</b></p> 	<p data-bbox="581 1255 1414 1484">You get your pain medicine through an IV. It's important to let your nurse know when you have pain so they can give you the pain medicine. If you don't feel any pain relief after getting the medicine, let your nurse know.</p>
<p data-bbox="217 1625 548 1667"><b>medicine by mouth</b></p> 	<p data-bbox="581 1640 1419 1820">You may get your pain medicine in pill form that you swallow. This will happen once you are drinking fluids. Let your nurse know when you have pain, so they can give you the pain medicine.</p>

You can expect to need pain medicine every 3 to 4 hours for the first few days after surgery. As you heal, you will feel less pain and will not need the medicine as often.

**During your hospital stay, we will help you prepare for going home.**

## Going home

### **What happens the day I leave the hospital?**

If you are going to West Park Hospital, we will plan and pay for you to get there. A medical transportation service will take you directly there.

### **How can I expect to feel as I recover?**

It takes time to heal and recover. Each person recovers at their own pace. How long it takes for you to recover depends on your age, health and attitude. Your family doctor can help you to manage any symptoms you may have.

### **Food and appetite**

Your appetite should return to normal within a few weeks. Your appetite will improve as you start to feel better and your activities increase.

If your appetite is low:

- Try eating smaller meals more often in the day instead of 3 large meals. Soups, plain foods and light meals are easier to digest.
- Make sure you drink enough fluids (at least 6 cups a day unless your doctor or dietitian gave you different instructions).
- Try to eat foods that have higher protein and calories.

If you continue to have problems with your appetite, call your family doctor.

## **Bowel upset**

Constipation is a common problem when taking pain medicine.

- Drink plenty of fluids (at least 6 cups a day unless your doctor or dietitian gave you different instructions).
- Add bran, high fibre breads and cereals, berries, dried fruit or prune juice to your diet (unless your doctor or dietitian gave you different instructions).
- Your doctor will prescribe you a stool softener while you are taking the pain medicine. You may also use a mild laxative if you need one.

Your bowel movements should return to normal once you stop taking the pain medicine. If you still have problems, see your family doctor.

## **What instructions do I follow once I am home?**

### **Incisions**

- Don't cover your incisions unless your clothes are rubbing on them.
- Don't put lotions or creams on your incisions until they are completely healed.

There may be a "bump" along the incisions. It will decrease over 4 to 6 weeks. Most of your pain should be gone by 6 to 8 weeks after your surgery.

The area around your incisions may feel numb. This is normal. It may last for many months or may not go away at all. But, it usually improves with time. The numbness may be worse on cold, damp days.

## **Showering or bathing**

You can shower once you get home. Use a mild soap, and let the water run over your incisions. Pat the incisions dry with a towel. Don't rub.

## **Returning to work**

You should expect to be off work for at least 4 to 6 weeks. Depending on your job, you may need to be off for 8 to 12 weeks. Ask your surgeon when it's safe for you to return to work.

## **Driving**

Don't drive until you are off all pain medicine. The pain medicine you are taking may make you drowsy.

You must be able to fully move your body before you can safely steer a car. This can take at least 2 to 3 weeks after surgery.

## **Lifting**

No heavy lifting, carrying, pushing or pulling for 4 to 6 weeks. For example, this includes no vacuuming, carrying heavy groceries, or shoveling snow.

You can lift up to 10 pounds (about 5 kilograms). Lifting more than this may stress your incisions.

## **Sex**

You can start having sex whenever you feel more comfortable (have less pain and more energy). Choose positions that won't put stress on your incisions.

## **Sports**

- Wait 4 to 6 weeks before you swim, golf, jog, do aerobics, or play sports like tennis or Racquetball, unless your surgeon says otherwise.

Talk to your surgeon before you do any sky diving or scuba diving.

**We don't recommend scuba diving after some lung surgeries.**

## **Travel**

Please check with your surgeon about traveling. We usually recommend you not travel by air for 2 to 3 weeks.

## **Follow-up care**

Your surgeon will send a letter to your family doctor about your surgery. Your family doctor will provide on-going medical care once you leave the hospital.

See your family doctor for any problems or questions about your medicines, prescriptions, managing your pain, sleeping, appetite or constipation.

## **Follow-up appointment**

We will let you know when to see your surgeon. Your follow-up visit is usually about 4 weeks after your surgery. If you are going to West Park Hospital, your follow-up appointment is made once you have completed the respiratory rehabilitation program.

If you don't have an appointment for a follow-up before you leave the hospital or West Park Hospital, call your surgeon's office the first week you are home.

On the day of your follow-up appointment, go to the x-ray department first to have a chest x-ray.

**Remember to bring your health card (OHIP) to your follow-up visit.**

## When should I call my surgeon?



### Call your surgeon if you:

- have new redness or swelling around one or more of your incisions
- have pus (yellowish or white liquid) or a bad smell coming from an incision
- feel increasing pain at your incisions, despite taking pain medicine
- have a temperature **higher** than 38.5 °C or 101 °F
- have diarrhea
- have nausea or vomiting
- continue to lose weight or your appetite doesn't improve
- have shortness of breath
- cough out mucous that is yellow or green or has a bad smell
- cough out fresh red blood

## Who can I call if I have any questions?

If you need information about the time of your surgery, tests or appointments please call your surgeon's office:

Dr. M. Cypel	416 340 5156
Dr. G. Darling	416 340 3121
Dr. M. De Perrot	416 340 5549
Dr L Donahoe	416 340 6529
Dr. S. Keshavjee	416 340 4010
Dr. A. Pierre	416 340 5354
Dr. T. Waddell	416 340 3432
Dr. K. Yasufuku	416 340 4290
Dr J. Yeung	416 340 6529

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