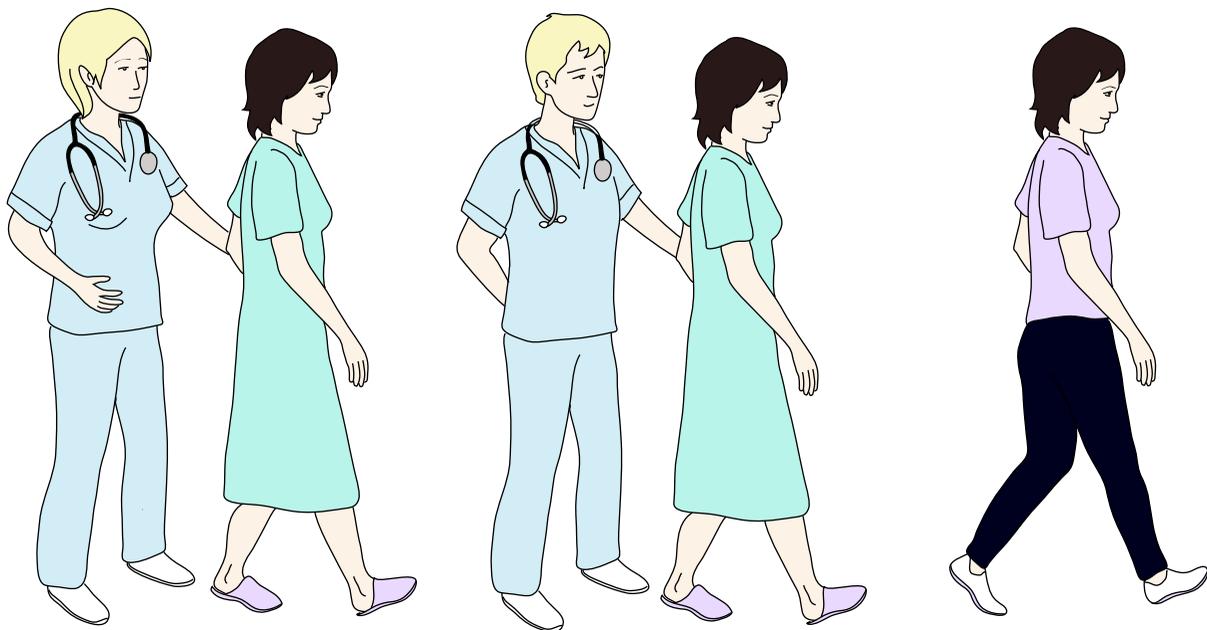


# A Guide to Lung Surgery



This booklet is to help you understand and prepare for your surgery.  
Please bring it with you to your Pre-Admission Clinic appointment  
and on the day of your surgery.



Eastern  
Health



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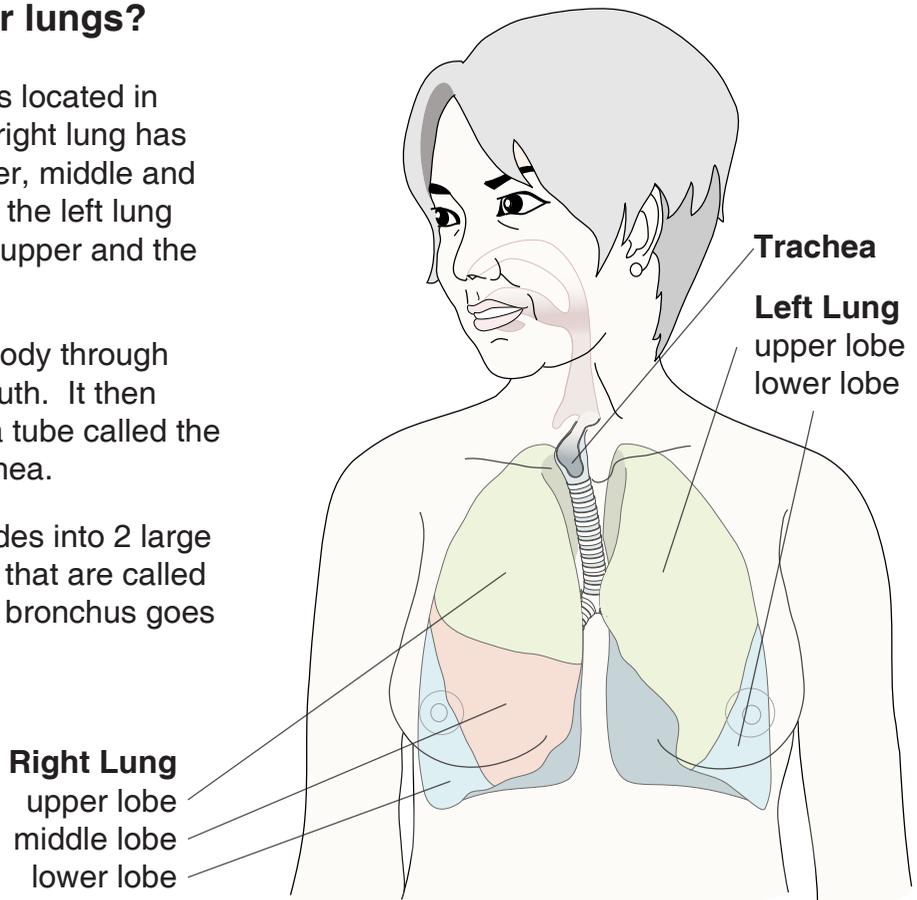
# Introduction

## What are your lungs?

You have 2 lungs located in your chest. The right lung has 3 lobes: the upper, middle and lower lobes, and the left lung has 2 lobes: the upper and the lower lobe.

Air enters your body through your nose or mouth. It then moves through a tube called the windpipe or trachea.

The trachea divides into 2 large pipes or airways that are called bronchus. Each bronchus goes to the lungs.



This booklet will give you information on how you can play an active part in your recovery and give you daily goals to achieve. This will help you recover quickly and safely. Please review it with the nurse and your family and bring it with you to your Pre-Admission Clinic appointment and on the day of your surgery.

# What is Lung Surgery?

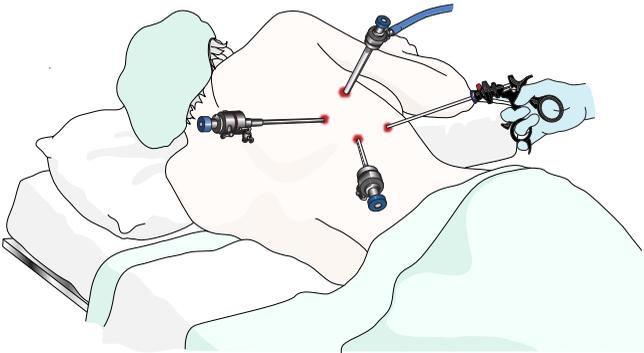
The anesthesiologist (the pain doctor) will put you to sleep for the surgery. The surgeon will remove only the diseased or damaged portion of the lung. There are 2 main types of lung surgery.

An operation to remove:

1. A small part of the lung is called a **wedge resection**.
2. A lobe of a lung is called a **lobectomy**.

The surgery can be done in 2 ways:

## 1. Video Assisted Thoracoscopic Surgery (VATS):

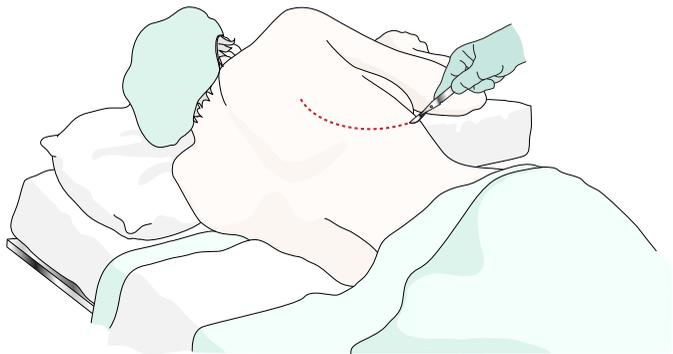


During this type of surgery the surgeon uses instruments and makes a few small cuts (incisions). A camera is used to see and instruments act as hands to help the surgeon remove the diseased part of your lung.

OR

## 2. Open

The surgeon will make one 10 to 20 cm cut (incision) at the side of your chest, through which he will remove the diseased portion of your lung.



# Before your Surgery

## Preparing for your surgery



**Plan ahead;** make sure everything is ready for you when you go home after your operation. You may need more help at first from friends or family, with meals, laundry, bathing, cleaning, etc.

**Exercise** will help make sure your body is as fit as possible before your surgery. If you are already exercising, keep up the good work. If you are not, start slowly adding exercise into your day.

- Exercise does not need to be really hard to be helpful; in fact, a 15 minute walk is far better than not exercising at all.
- Refer to the Exercise section (pages 16 to 18 of this booklet) to learn what you will need to do after surgery. Begin practicing these at home.

We **strongly suggest** you **stop smoking** completely before your surgery, as this will reduce the risk of lung problems afterwards. Doctors can help you stop smoking by prescribing certain medications. **Please discuss these options with your doctor.**

Decrease your alcohol use before surgery. Alcohol can interact with medications. **Do not drink alcohol 24 hours before surgery.** Please let us know if you need help decreasing your alcohol use before surgery.



Discharge from the hospital is usually on the 4th day after surgery. Tell the nurse as soon as possible if you have any worries about going home. **You cannot fly in a plane until 3 weeks after your surgery so remember to organize a place to stay or transportation home by car.**

# Pre-Admission Clinic Visit

This is the first visit where the surgery and what to expect are explained. The staff will perform a general checkup to get an idea of your health.

## During your Pre-Admission Clinic visit, you will:

- Have blood tests.
- Have an ECG (electrocardiogram), if you are over the age of 40 or you have a heart condition.
- Have a chest x-ray.
- Meet with a nurse who will tell you how to get ready for your surgery and what to expect during your stay in the hospital. Please discuss with the nurse any concerns you have about returning home.
- Meet a physiotherapist who will ask you about your breathing and show you exercises to practice at home before your surgery.
- Meet an anesthesiologist (the pain doctor) who will talk to you about the drugs that make you go to sleep so you will not feel pain during your operation. The anesthesiologist will ask you questions about your health history. If you have medical problems, you may see another doctor (a specialist) before surgery.



Some medications need to be stopped a week or two before surgery. Have your list of medications with you and the doctor will decide which ones to stop or to continue. Be sure to discuss with your doctor if you take Aspirin, Pradax, Plavix, Warfarin or any vitamins or herbal medicines.

# Instructions: Day Before Surgery

Call the O.R. Bookings Office between 1 - 2 pm at 777-5522 or 777-5853. They will give you the surgery check-in time.

The time of surgery is not exact. It may be earlier or later than planned.



If you get sick and cannot attend your surgery, please call your surgeon's office or the O.R. Bookings Office.

Date of surgery: .....



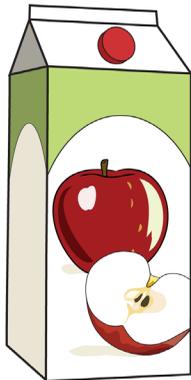
Time of arrival at the hospital: .....

# Can I Eat or Drink Before My Surgery?

The day before surgery:

- You must stop eating at midnight the night before the surgery.
- Before you go to bed, drink 800mL (3 cups) of apple juice OR cranberry cocktail.

Choose only 1:



Apple juice



Cranberry cocktail

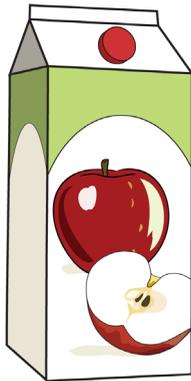
# Can I Eat or Drink Before My Surgery?

## The morning of surgery:

- Drink 400mL (1.5 cups) of apple juice OR cranberry cocktail 3 hours before surgery.
- **Do not eat or drink anything else.**

A small number of people should not drink at all on the day of surgery. Your anesthesiologist, pain doctor, will tell you if you need to stop drinking at midnight.

### Choose only 1:



Apple juice



Cranberry cocktail

# Things to Bring to the Hospital

Before going to bed or the morning of surgery, take a shower or bath. Do not shave the area of your operation. Please remove all makeup, jewelry, nail polish, false teeth, contact lenses, and eyeglasses.



## Things to bring to the hospital:

- This booklet;
- MCP and hospital cards;
- Any private insurance information you might have;
- Bathrobe, slippers, pajamas, loose comfortable clothing;
- Toothbrush, toothpaste, comb, deodorant, mouthwash, soap, Kleenex, shaving equipment, and perhaps earplugs;
- If you wear glasses, contact lenses, a hearing aid or dentures, please bring the appropriate containers with your name on them because you will be asked to remove these before surgery;
- If you use a cane, crutches or walker at home, please bring them to the hospital with your name on them;
- Your medication in their original containers, and any over the counter medications you take;
- Please leave all jewelry, credit cards and objects of value at home. The hospital is not responsible for any lost or stolen articles.



Do not bring any scented products.

# At the Hospital

## Admitting area:

Report to the Day Surgery department at the time you were given. The admitting clerk will ask you to sign an admission form and ask you what kind of room you prefer. It is not always possible to have a private or semi-private room.

## Preoperative area:

The nurse will complete a preoperative checklist then check your blood pressure and temperature. You will change into a hospital gown here and put on special tight elastic stockings to help your blood move around your body. You will also get a needle with medicine to help prevent blood clots.



## Operating room:

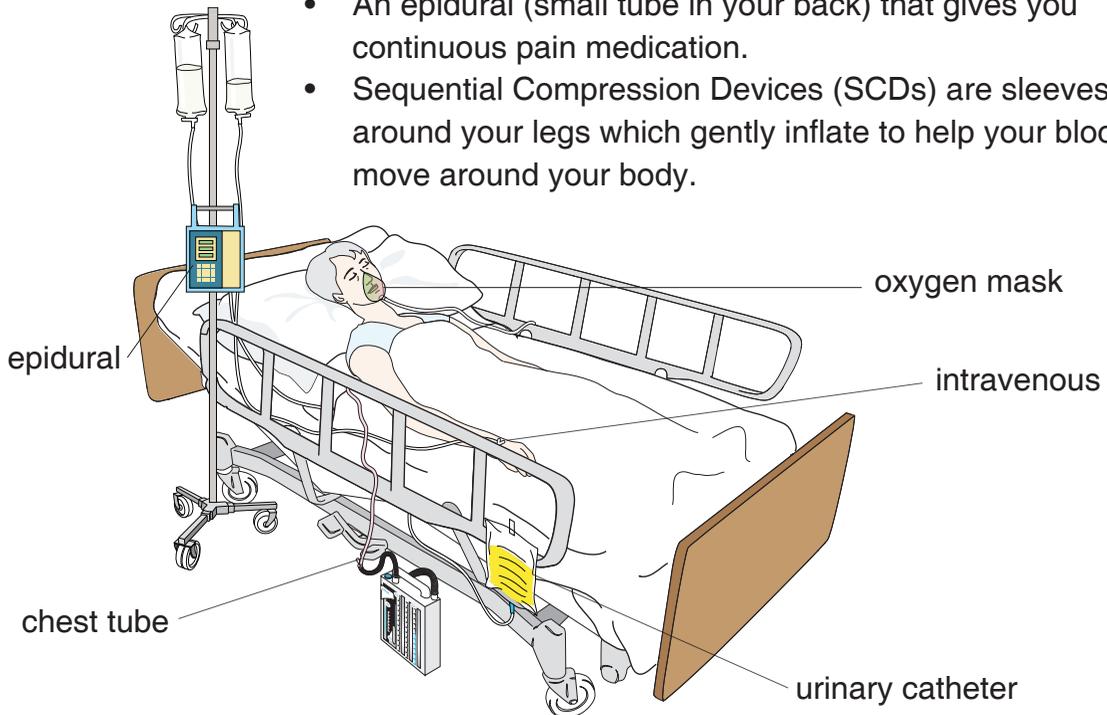
You will be brought to the operating room. You will meet your anesthesiologist (the pain doctor who will put you to sleep) and other members of your surgical team. You may have an epidural catheter (tube) placed in your back before your surgery to control your pain. You will be asleep and pain-free during your surgery.

# After Your Surgery

You will be transferred to the Recovery Room before being transferred to your room. **There are no visitors allowed.**

## You may have:

- A tube on the side of your chest (called a chest tube). This drains fluid and air resulting from the surgery.
- A catheter to drain urine out of your bladder.
- An intravenous in your arm for fluid and medications.
- An epidural (small tube in your back) that gives you continuous pain medication.
- Sequential Compression Devices (SCDs) are sleeves around your legs which gently inflate to help your blood move around your body.



Your vital signs (pulse, blood pressure) will be checked very often. Your nurse will also check on the bandage (dressing) and ask you about your pain. When the nurses and doctors are sure that your pain is well controlled, they will transfer you to your room.

Your family and friends will only be able to see you once you are in your room.

# Pain Control

## Pain relief is important because it helps you:

- Breathe more easily
- Move more easily
- Sleep better
- Recover faster
- Eat better
- Do things that are important to you



You will be asked to rate your pain on a scale from 0-10. Our goal is to keep your pain score below 4/10.

### Do not wait until the pain gets too bad before telling us.

Please be specific about where your pain is. You may have temporary neck and shoulder pain after your surgery. If so, let your nurse know. You may also be given other pain medications (pills or injections) to help your epidural work better, and for pain that the epidural does not control.

### You will not become addicted to pain medication given to you for surgical pain.

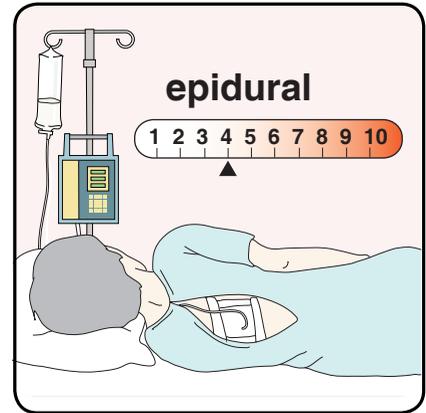


Always tell the nurse if your pain is more than 4 on the pain scale (where 0 is no pain and 10 is pain as bad as you can imagine). This will help the nurse decide how the best manage your pain.

# Pain Control

## Epidural infusion:

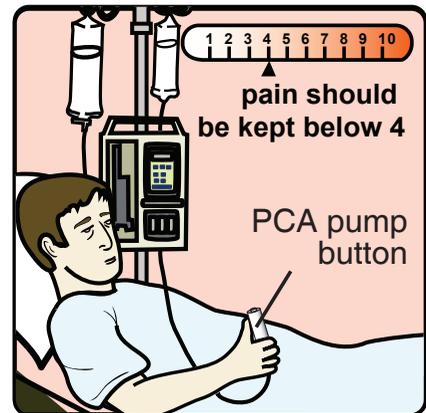
You may have a small tube in your back to give you pain medicine. This is called an epidural. It is started in the operating room before you go to sleep. It is usually removed on Day 2 after surgery when your pain is controlled.



OR

## Patient-Controlled Analgesia (PCA):

Instead of an epidural, some patients have a medicine pump attached to their IV. When you push a hand-held button, the pump gives you a safe dose of pain medicine.



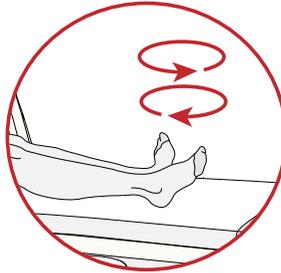
# Exercises

## Get up and move

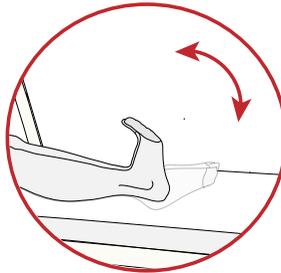
Lying in bed without moving may cause many problems like pneumonia, blood clots and muscle weakness. Start the following exercises as soon as you wake up, and continue them during your stay in hospital.

### Leg exercises

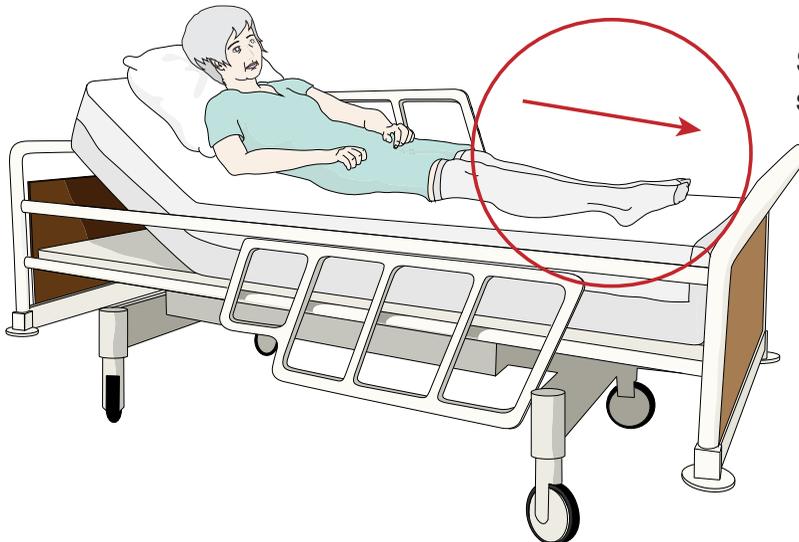
These will help blood circulation in your legs. Repeat these 10 times every hour while you are awake.



Rotate your feet to the right and left.



Wiggle your toes and bend your feet up and down.



Stretch your legs out straight.

# Exercises

## Deep breathing and coughing exercises

The physiotherapist will see you the first day after surgery to review your breathing and movement exercises. After surgery, your breathing may be more shallow. Do the following exercises to help your lungs expand and prevent lung problems:

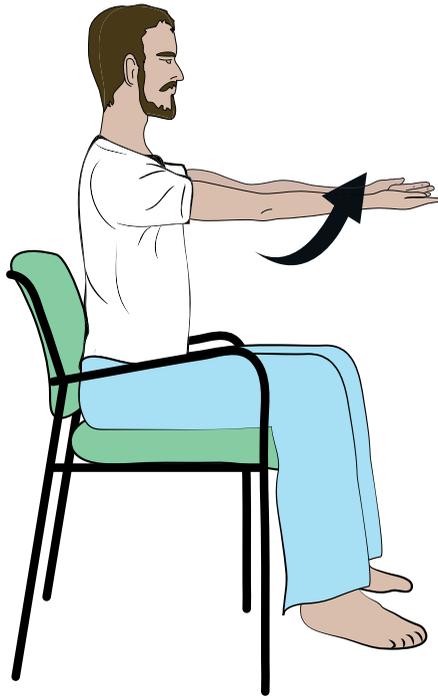


1. Change your resting position regularly; change from lying on your back to sitting up or lying on your side.
2. Place a hand on the lower part of your chest on the operated side. Take a slow long breath. As you breathe in, try to expand your chest against your hand. Repeat 5-10 times every hour.
3. Breathe slowly and deeply, exhale quickly through your mouth. Have your mouth wide open. This is called huffing. It helps clear any mucus that may build up in your throat and airways. To ease the discomfort, support your surgery cut (incision) with a pillow or blanket. **Huffing and coughing do not harm the incision.**

# Exercises

**Do this exercise to prevent shoulder stiffness after surgery and help you breathe better:**

Join your hands together. With your elbows straight, slowly raise your arms to shoulder height. Lift as high as possible without causing too much pain. Your physiotherapist will tell you when to lift your arms higher than your shoulder.

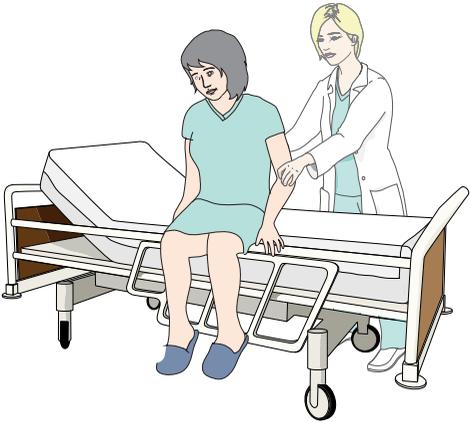


## Summary

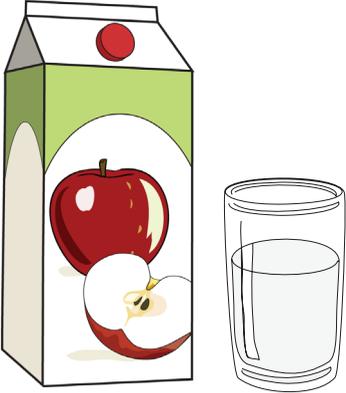
By doing your deep breathing exercises, eating well, being out of bed and walking regularly, research has shown that you will recover quicker. You are less likely to develop any lung infections or blood clots. By avoiding all these problems, you are more likely to go home sooner and feel better faster.

# Goals for the Evening of Surgery

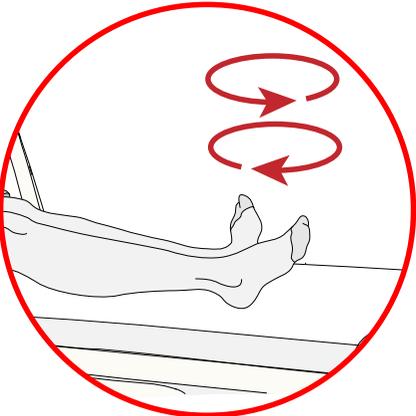
Your vital signs (pulse, blood pressure, etc.) will be checked very often the first night after your surgery.



Sit on the side of the bed with help from a nurse.



It is important to drink liquids the day of surgery.



Do your leg exercises (see page 16).



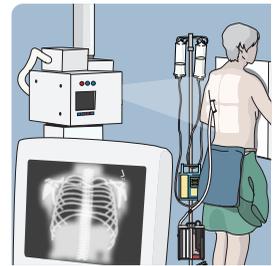
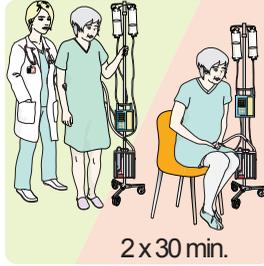
Start your breathing exercises to help prevent pneumonia (see page 17).

# One Day After Surgery

## Pain

Tell your nurse if you are having pain greater than 4/10 on the pain scale. He/ She can give you medications to help relieve your pain.

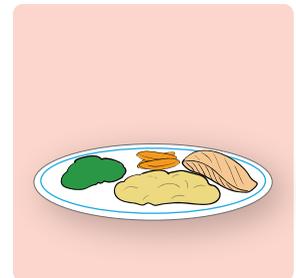
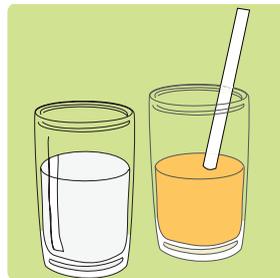
### Activities:



- Your nurse may remove your urinary catheter so you will start passing urine normally.
- The oxygen may be removed if you are breathing well.
- With the staff's help, sit in the chair at least twice during the day for 30 minutes each time.
- With the staff's help, walk in the hallway.
- Do your breathing and leg exercises 10 times every hour while awake.
- You will have a blood test and a chest x-ray.

### Meals:

- It is important to drink liquids.
- You will start having solid food today.

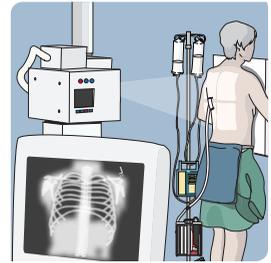
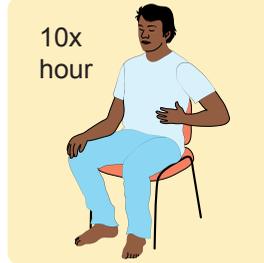
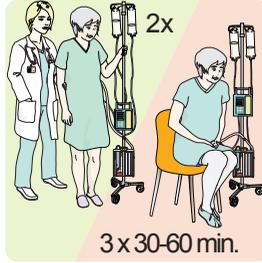


# Two Day After Surgery

## Pain

Tell your nurse if you are having pain greater than 4/10 on the pain scale. He/ She can give you medications to help relieve your pain.

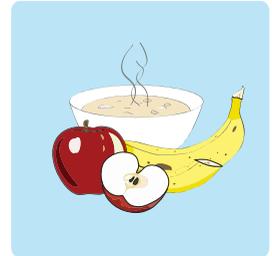
### Activities:



- The urinary tube in your bladder will be removed if this was not done yesterday.
- With the staff's help, sit in the chair 3 times during the day for 30 - 60 minutes each time.
- With the staff's help, walk the length of the hallway 2 times during the day.
- Do your breathing and leg exercises 10 times every hour while awake.
- You will have a blood test and a chest x-ray.

### Meals:

- You should sit in the chair for all your meals.
- Include fruits, vegetables and whole grains in your diet and drink liquids to avoid constipation.

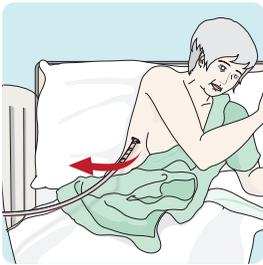


# Three Day After Surgery

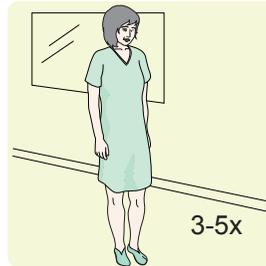
## Pain

- Tell your nurse if your pain is greater than 4 on the pain scale.
- The epidural in your back may be removed today.
- You will start taking pills to control the pain.

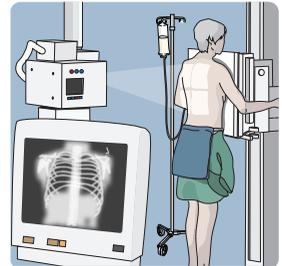
### Activities:



10x  
hour



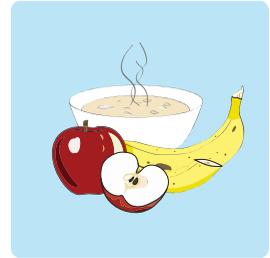
3-5x



- You should sit in the chair 3 times today for at least 30-60 minutes each time.
- You may have the chest tubes removed and another chest x-ray will be taken.
- Walk the length of the hall 3 to 5 times during the day.
- continue to do your deep breathing and leg exercises, 10 times every hour that you are awake.
- You will have a blood test.
- **You should plan to go home tomorrow. Arrange for someone to pick you up by 11:00 a.m.**

### Meals:

- You should sit in the chair for all your meals.
- Include fruits, vegetables and whole grains in your diet and drink liquids to avoid constipation.



# Four Day After Surgery: Going Home

## Pain

- Tell your nurse if your pain is greater than 4 on the pain scale.
- You will have your epidural removed today if this was not done yesterday.
- You will continue to receive pills as needed to control your pain.

### Activities:

- Sit in the chair 3 times today for at least 30-60 minutes each time.
- Walk the length of the hall 5 times during the day.
- You will have your chest tube removed today if this was not done yesterday.
- Continue to do your deep breathing and leg exercises, 10 times every hour that you are awake.
- The physiotherapist will review your exercises for home.



### Plan to go home today before 11:00 a.m

Review the discharge instructions with the nurse before leaving. We will give you information about your follow-up appointment with your surgeon before you leave the hospital. The nurse will review your medications to take at home.

If you have clips or stitches to be removed, we will make arrangements for the community health nurse to remove them when you go home.

# At Home

## Pain

You may have pain for a few weeks after surgery. Take the pain medication prescribed by the surgeon when you left the hospital.

If you have severe pain that is not relieved with the pain medication, go to the emergency room.

## Your Incision(s)

Your surgery cuts (incisions) may be slightly red and uncomfortable during the first weeks. It is normal to have numbness around your incisions. It usually takes 6-9 months for normal feeling to return.



**Once you have no more bandages, you may shower with the clips in.**

- Use unscented soap.
- Do not rub the incision.
- Gently pat the incision dry with your towel.
- Do not take a tub bath for two weeks.



Visit your family doctor or call your surgeon's office if your incision becomes warm, red, and hard, or if you see drainage coming from it.

# Your Bowels

## Your bowels



Constipation is common when taking pain medication. Stool softeners and laxatives will be given to prevent this problem.

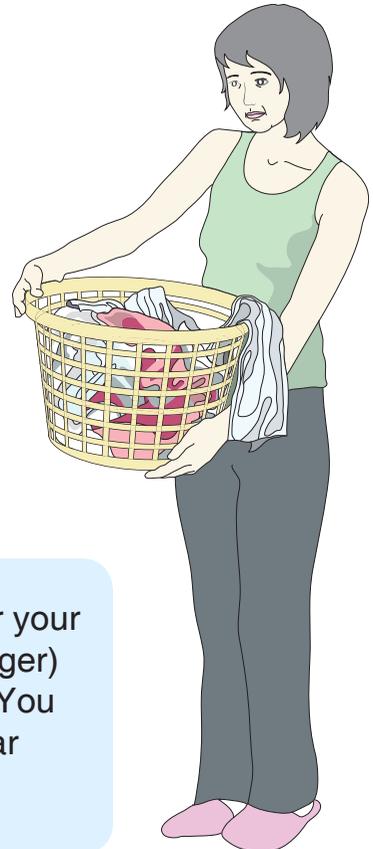
You should add fiber, such as fruits and vegetables, and whole grains to your diet and drink liquids to avoid constipation from the pain medication.

## Exercise and Activities

**Continue to increase your activities each day.**

Most patients can return home with little difficulty. Family and friends can usually give help with:

- Taking you home
- Meal preparation
- Grocery shopping
- Cleaning house
- Laundry



You cannot fly in a plane until 3 weeks after your surgery. Do not drive (you can be a passenger) until you have your follow-up appointment. You should also check with your surgeon and car insurance provider before you start driving.

# Exercise and Activities

Walk every day - it is good exercise (shopping malls are good places to walk in the winter and summer). Increase your walking distance as you are able. Avoid very hard physical activity for 12 weeks (again, follow your surgeon's advice). Do not lift more than 5 pounds for 6 weeks after your surgery.

As a general rule, once you are pain free you can go back to other activities, including sexual intercourse.

Your surgeon will decide when you are able to return to work, depending on your recovery and your type of work.

**It is normal to feel tired and weak after your surgery, so remember to take time to rest between activities.**



## When to call your surgeon...

**Visit your family doctor or call your surgeon's office if:**



- You cannot drink fluids or keep them down,
- Pain no longer relieved with the prescribed medications,
- Fever greater than 38°C (100.4°F),
- Excessive weakness,
- Difficulty breathing,
- Pain or swelling of the legs,
- Your incisions become warm, red or you see any drainage coming from the incision.



# Important Resources

If you would like to know more about this surgery, the following links might be useful:

**Canadian Cancer Society**

[www.ontario.cancer.ca](http://www.ontario.cancer.ca)

**Health Canada**

[www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)

**The Merck Manual**

[www.merck.com](http://www.merck.com)

**Mayo Clinic**

[www.mayohealth.org/home](http://www.mayohealth.org/home)

# Suggestions to Help You Stop Smoking

## Phases of quitting:

1. Preparing to quit
2. Choosing a quit date
3. Coping with withdrawal
4. Fighting relapses



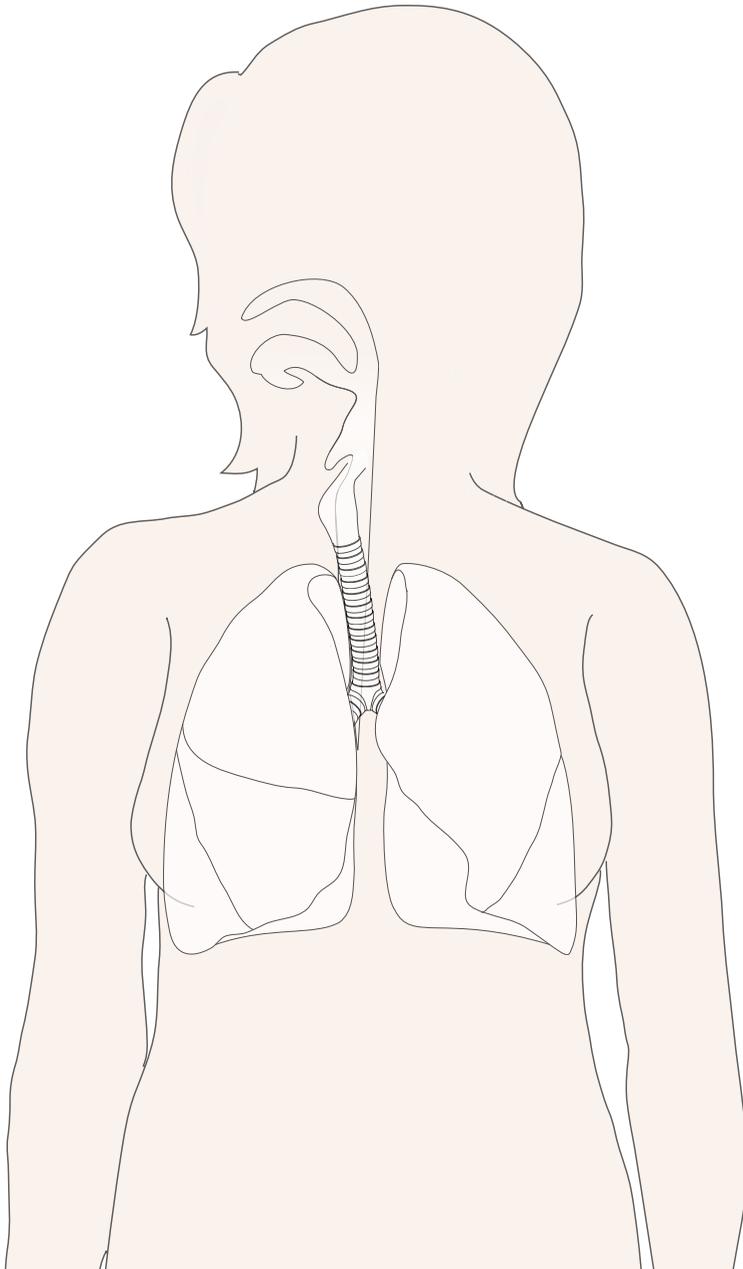
## Strategies to help you quit:

- Stop smoking now and you will already be on your way to quitting.
- Take it one day at a time. Think of yourself as a non-smoker. Be proud of what you have already done.
- Ask your family and friends not to smoke around you.
- Ask a family member, or a friend, to stop smoking at the same time.
- Join a stop-smoking group and kick the habit with other people.
- Speak with your doctor about aids to help you quit, such as the nicotine patch.

If you are looking for help, please phone the Newfoundland and Labrador Smokers' Helpline: 1-800-363-5864.



# Reference Image



We would like to thank the McGill University Health Center Surgery Recovery Program for permission to adapt their model and content for this booklet.

We would also like to thank the McGill University Health Center Patient Education Office for their support throughout the development of this document, including the design, layout and creation of all the images.

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## Important

Information provided by this booklet is for educational purposes. It is not intended to replace the advice or instruction of a professional health-care practitioner, or to substitute medical care. Contact a qualified health-care practitioner if you have any questions concerning your care.



This material is also available through the  
**MUHC Patient Education Office** website:  
[www.muhcpatienteducation.ca](http://www.muhcpatienteducation.ca)

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Office d'éducation des patients  
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Enhanced Recovery Society of Canada  
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