A Guide to Lung Surgery

This booklet is to help you understand and prepare for your surgery.

Please review it with the nurse and your family. Please bring it with you on the day of your surgery.
This booklet was developed by The Montreal General Hospital (MGH) Clinical Care Pathway Patient Education Working Group, the 11th floor thoracic surgery nurses, the nutritionist and physiotherapist, and reviewed by the thoracic surgeons.

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2nd Edition

IMPORTANT: PLEASE READ

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

**Introduction**  
What are your lungs?  
What is lung surgery?  

**Before Your Surgery**  
Preparing for your surgery  
Pre-operative visit  
Instructions: Day before  
Cancelling  
Can I eat or drink?  
Things to bring to the hospital  

**Day of Surgery**  
At home  
At the hospital  
Waiting room  

**After the Surgery**  
Pain control  
Exercises  

**In your room**  
One day after  
Two days after  
Three days after  
Four days after - Going home  
Follow up appointment after surgery  

**At Home**  
Pain  
Your Incisions  
Your Bowels  
Exercise and Activities  
When to call your surgeon  

**Important Resources**  
Suggestions to Quit Smoking  
Pain diary  
Notes  
Reference Image  
Help Us Help Others  
Map of the Montreal General Hospital
Introduction

When you are admitted to hospital for your lung surgery you will be taking part in a **Clinical Care Pathway** (fast recovery program). The aim of this program is to help you recover quickly and safely.

**What are your lungs?**

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

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This booklet will give you information on how you can play an active part in your recovery and give you daily goals to achieve. Please review it with the nurse and your family. Please bring it with you on the day of your surgery.
What is lung surgery?

The surgery is done under general anesthesia which means you will not be awake. The surgeon will remove only the diseased or damaged portion of the lung. There are three 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**.
3. An entire lung is called a **pneumonectomy**.

This booklet will talk about your recovery after a **Wedge Resection** or a **Lobectomy**.

The surgery can be done in 2 ways:

1. **Video assisted thoracoscopic surgery (VATS):**

   During this type of surgery the surgeon uses telescope type 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.

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 strenuous to be helpful; in fact, a 15 minute walk is far better than not exercising at all.
- Refer to the Exercise section (pages 18 to 22 of this booklet) to learn what you will need to do after surgery. You can begin practicing these at home.

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

Decrease your alcohol use. 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. Please remember to organize transportation home.
Pre-operative 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-operative visit, you will:

• Have blood tests
• Have an ECG (electrocardiogram)
• 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.

Some medication or herbal products need to be stopped a week or two before surgery. Your pharmacist can give you a list of your medications. Have your list of medicines with you and the doctor will decide which ones to stop or to continue.

You will also meet with a doctor who will ask you questions about your health and health problems.

If there are any other medical problems that need attention, you may be asked to see another doctor before the surgery.

If you have any further questions, you can contact the nurses of the Pre-operative Clinic at (L-10-401) at (514) 934-1934, extension 43778, from Monday to Friday, 1:00 p.m. - 3:00 p.m.
Before Your Surgery

Instructions: Day before surgery

The Admitting Department will phone you to let you know what time to come to the hospital.

You are usually expected to arrive 2-3 hours before your surgery is planned to start.

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

If you do not receive a call before 2:00pm, you can contact the Admitting Department at (514) 934-1934 ext 42190

Date of surgery: .................................................................

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

Room: Surgical Admission Services (D10-124) on the 10th floor of the main building.

If you have any further questions, you can contact the nurses of the Pre-operative Clinic at (L-10-401) at (514) 934-1934, extension 43778, from Monday to Friday, 1:00 p.m. - 3:00 p.m.
Cancelling your surgery

If you get a cold, are not feeling well or become pregnant, please call your surgeon’s office as soon as possible. If it is not possible to reach your surgeon, call the Admitting department (514) 934-1934 ext. 42190.

Call to reschedule if:

- You are not well.
- You need to cancel.

Please keep in mind that the Montreal General Hospital is a Trauma Centre. This means that your surgery may need to be delayed or cancelled because of an emergency. Your surgeon will reschedule your surgery as soon as possible.
All patients need to stop eating at midnight the night before the surgery.

The preoperative clinic staff will let you know if you are allowed to have carbohydrate drinks up until two hours before coming to the hospital - no diet drinks.

If so, during the evening and in the morning of your surgery, choose only one of the drinks and drink the amount suggested. You do not need to choose the same drink for the evening and the morning. Remember to stop drinking starting at the expected time of arrival at the hospital.

You will notice an amount next to the drink you have chosen. This is the amount that you should drink.
Try to drink at least the amount shown:

- **apple juice**
  - evening before: 850ml
  - morning of: 425ml
- **orange juice (no pulp)**
  - evening before: 1000ml
  - morning of: 500ml
- **commercial iced tea**
  - evening before: 1100ml
  - morning of: 550ml
- **cranberry cocktail**
  - evening before: 650ml
  - morning of: 325ml
- **lemonade**
  - evening before: 1000ml
  - morning of: 500ml

Stop drinking any fluids starting from your expected time of arrival at the hospital. For example, if you have to arrive at the hospital at 11AM, do not drink fluids after 11AM. **EXCEPTION:** if your time of arrival is between 6 and 6:30 in the morning you should stop drinking at 5:30 in the morning.
Before Your Surgery

Before going to bed, take a shower or bath using one of the sponges given to you. Wash your body and wear freshly washed clothes to bed.

Things to bring to the hospital

- This booklet.
- 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.
- 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.
- Your valid Medicare card.
- Someone to translate for you if you do not speak English or French.
- Please leave all jewelry, credit cards and objects of value at home. The hospital is not responsible for any lost or stolen articles.
Day of Surgery

At home

- Take a shower or bath using the second sponge given to you. Wash your body and wear freshly washed clothes.
- Do not put on any creams, lotions, perfumes or cologne.
- Do not shave the area to be operated.
- Remove all jewelry and leave it at home.
- Remove nail polish

Take the following medication (with a sip of water)

Do not take the following medication
Day of Surgery

At the hospital

Report directly to the Surgical Admission Services (D10-124) at the time given.

You will have another blood test.

The admitting clerk will ask you about the kind of room you would prefer. You will also have you sign a general consent and admission forms. Please keep in mind that it is not always possible to have a private or semi-private room.

The nurse will help you to get ready for the surgery. He/She will:

- Go through a checklist with you.
- Have you change into a hospital gown.
- Make sure your personal belongings are in a safe place.
- Put on special tight elastic stockings to help blood circulate better. They prevent blood clots from forming in your legs. You should wear them until the nurse says you can take them off.

When the operating room is ready, an orderly will bring you there.

You will meet your anesthesiologist and the other members of the surgical team. We will start the epidural in your back and then your anesthesiologist will give you a general anesthetic. You will be asleep and pain-free during your surgery.
Waiting room

Family and friends can wait for you in the **waiting room** located in the **D wing on the 10th floor** (D10-117).

Our space is small so we ask that you limit the number of people coming with you. There is a phone available in this room for your family to contact the **Post Anesthesia Care Unit** (PACU or recovery room) for updates.
After your surgery

You will be transferred to the Post Anesthesia Care Unit (PACU) before being transferred to your room. **There are no visitors allowed.**

**You will have:**

- A tube on the side of your chest (called a chest tube). This drains fluid and air resulting from the surgery and it is usually removed after 3 days.
- A catheter to drain urine out of your bladder. This tube is usually removed 1 or 2 days after surgery.
- An intravenous in your arm for fluid and medications. It is removed once you no longer need medications and once you are able to eat and drink.
- An epidural (small tube in your back) that gives you continuous pain medication. It is usually removed 3 days after the surgery. (See next page).

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

The epidural in your back will give you continuous pain medication.

Do not try to get out of bed on your own while you have the epidural in place.

Pain Intensity Scale

No pain | Pain as bad as you can imagine
---------|-----------------------------------
0        | 1 2 3 4 5 6 7 8 9 10

You will be asked to rate your pain on a scale from 0-10, and the nurse will adjust the epidural as needed. 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.
Exercises

Get up and move

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

1. Leg exercises
These will help blood circulation in your legs. Repeat these 4 to 5 times every half 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.
2. Deep breathing and coughing exercises
The inspirometer is a simple device that makes you breathe deeply, to prevent pneumonia.

- Put your lips tightly around the mouthpiece, breathe in deeply and try to hold the red ball up as long as you can.
- Remove the mouthpiece, breathe out and rest for a few seconds.
- Repeat this exercise at least 10 times every hour or more often if you can, while you are awake.
- Then take a deep breath and cough using a small blanket or pillow to support your incision.
- Deep breathing and coughing exercises will help prevent pneumonia.
3. Clapping

This is another way to help loosen the secretions in your lungs. Your nurse and/or physiotherapist will clap on your back with their hands while you take deep breaths.
4. Arm exercises

A
With your elbows straight, lift your arms out to the side until your hands meet above your head.

B
With your elbows straight, lift your arms in front of you and try to reach above your head.
After the Surgery

C

Place your hand behind your head and slowly slide your hand downwards as far as you can.

Tell your nurse if you are having pain greater than 4/10 on the pain scale. He/She will adjust your epidural as needed.

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 circulation problems. By avoiding all these problems, you are more likely to go home sooner and feel better faster.
In Your Room

With the nurses help, you will get up and sit in a chair.

Keep the head of your bed elevated at 45 degrees at all times.

Do your leg exercises as described on page 18

Start your breathing exercises to help prevent pneumonia and other infections of your lungs.

MY PAIN TODAY

Morning: ____ /10
Midday: ____ /10
Evening: ____ /10
Night: ____ /10
One day after surgery

Pain
Tell your nurse if you are having pain greater than 4/10 on the pain scale. He/She will adjust your epidural as needed.

Activities:
- Your nurse may remove your urinary catheter so you will start passing urine normally.
- The oxygen may be removed if your lungs are clear.
- With the staff’s help, sit in the chair twice during the day for 30 minutes each time.
- With the staff’s help, walk twice to the hallway.
- Use your inspirometer to do your breathing exercises 10 times every hour while awake.
- You will have blood tests and a chest x-ray.

Meals:
- You should sit in the chair for all your meals.
- You might start having liquids and if this goes well you will receive solid foods.

You should keep the head of your bed elevated at 45° at all times.
Two days after surgery

Pain
You should tell your nurse if your pain is greater than 4 on the pain scale. He/She will adjust your epidural as needed.

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
- Use your inspirometer to do your breathing 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 to avoid constipation.
Three days after surgery

Pain
- You should tell your nurse if your pain is greater than 4 on the pain scale.
- Your nurse will remove the epidural in your back.
- You will start taking pills to control the pain.

Activities:
- You should sit in the chair 3 times today for at least 30-60 minutes each time
- You will 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.
- If you have stairs at home, the physiotherapist will see how well you can go up and down
- Continue to use the inspirometer and continue to do your deep breathing 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 grain in your diet to avoid constipation.
Four days after surgery: Going Home

Pain

- Tell your nurse if your pain is greater than 4 on the pain scale.
- You will continue to receive pills against pain 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 should continue to use the inspirometer and continue to do your deep breathing exercises, 10 times every hour that you are awake.

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

Review the discharge instructions with the nurse before leaving.

If you are unable to leave the hospital at this time, you can wait in the patient’s sitting room located on each unit. We need to prepare your room for the next patient.
Follow-up appointment after surgery

You will be given an appointment with your surgeon for a follow-up before leaving the hospital.

Surgeon’s name: _____________________________________
Appointment Date and Time: ____________________________

If you have any questions, please contact us.

Dr. Ferri       (514) 934-1934 ext. 44327
Dr. Mulder     (514) 934-1934 ext. 43050
Dr. Sirois     (514) 934-1934 ext. 44326

Nurse          (514) 934-1934 ext 44339
               (7:30am – 4:00pm)

11 east nurses (514) 934-1934 ext. 46100
At Home

Expect a phone call from the nurse about 3 days after your discharge from the hospital. He/she will ask you how you are doing and if you have any concerns.

Pain
It is not unusual to have some pain during the first weeks, sometimes months, following surgery.

Please track your pain levels at home using the Pain Diary found on page 34.

Continue to take the pain medication as prescribed for as long as you experience pain.

If you have severe pain that is not relieved with the pain medicine or have a fever and feel generally unwell, you should contact the nurse specialist, the nurses on 11-east or your surgeon.

Your Incision(s)
It is not unusual for the incisions (cuts) to 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 sensation to return.

Expect a phone call from your CLSC nurse (we will notify them after your surgery). This nurse will be phoning you to make an appointment to change your bandages and remove your clips.

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.
At Home

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 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

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.
Walk every day - it is good exercise (shopping malls are good places to walk in the winter and summer). Avoid strenuous physical activity for 12 weeks (Again, follow your surgeon’s advice).

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...

Call your surgeon or nurse if any of these happen:
  • You cannot drink fluids or keep them down
  • Pain no longer relieved with the prescribed medications,
  • Fever greater then 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**
http://www.ontario.cancer.ca

**Health Canada**
http://www.hc-sc.gc.ca

**The Merck Manual**
http://www.merck.com/

**Mayo Clinic**
http://www.mayohealth.org/home
Suggestions to help you stop smoking

There are four phases of quitting

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

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.

Get 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.

Get more information from:

Montreal Chest Hospital
(514) 934-1934 extension 32503
www.muhc.ca

Quebec Lung Association
(514) 287-7400 or 1-800-295-8111
www.pq.lung.ca
# Pain Diary

Using the Pain Intensity Scale and table below, enter the level of pain you feel during the day.

For example:

<table>
<thead>
<tr>
<th>Days After Surgery</th>
<th>Morning</th>
<th>Noon</th>
<th>Evening</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4/10</td>
<td>4/10</td>
<td>3/10</td>
<td>3/10</td>
</tr>
</tbody>
</table>

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**Pain Intensity Scale**

- **No pain**
- **Pain as bad as you can imagine**

<table>
<thead>
<tr>
<th>Days After Surgery</th>
<th>Morning</th>
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<td>5</td>
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</tbody>
</table>
Reference Image
Help Us Help Others

Help support the MUHC Patient Education Office! Donations make a huge difference. They help us create health information materials and programs to deliver better quality care for life.

All patient materials are freely available on the internet to MUHC patients, and to patients and families across the world at large.

Call the Cedar’s Cancer Institute to donate to the Patient Education Fund:

514-934-1934, ext. 71619.

MUHC Health Education Collection (http://infotheque.muhc.ca)
MUHC Patient Education Office (www.muhcpatienteducation.ca)
N protective mask
P protective gloves

Stationnement/
Parking

Entrées / Entrances

L10-401
Clinique Préopératoire
Preoperative Clinique

D-10-124
Service d’admission chirurgie
The surgical admission services.

Hôpital Montreal General Hospital
1650 Ave. des Cedars / Cedar Ave. Montreal, H3G 1A4.