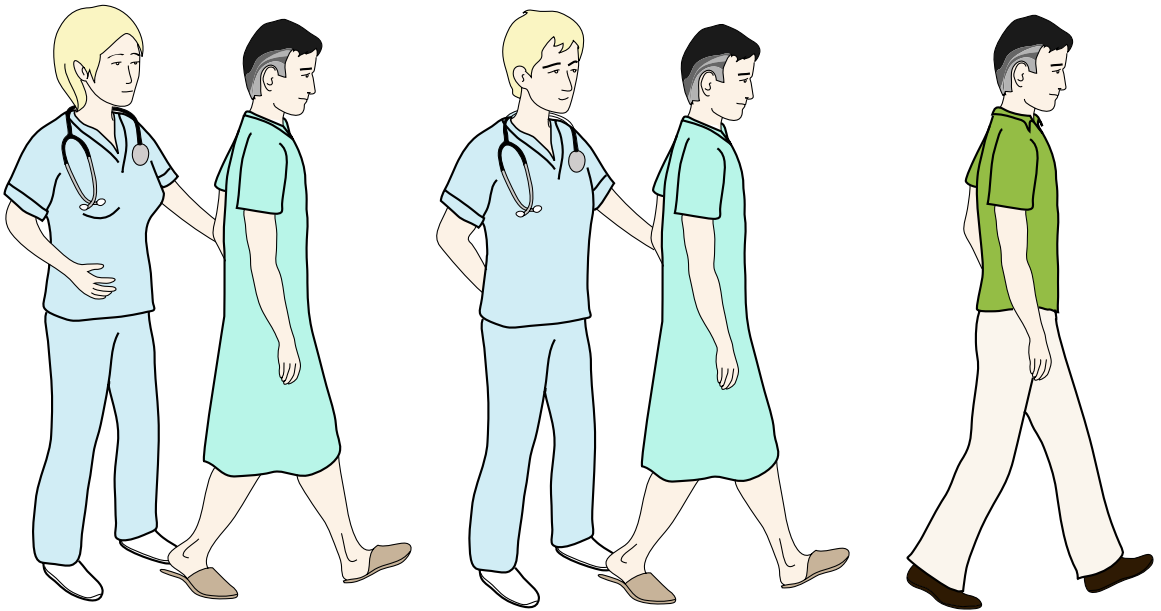


A Guide to Liver Surgery



This booklet was developed by **The Royal Victoria Hospital (RVH) Clinical Care Pathway Working Group**, and reviewed by the surgeons.

We would like to thank the **MUHC 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: 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.



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What is a care pathway?

When you are admitted to the hospital for liver surgery, you will be part of a fast recovery program called a Clinical Care Pathway. The goal of this program is to help you recover quickly and safely. Your health care team worked together to create this pathway.

This booklet will:

- Help you understand and prepare for your surgery
- Explain how you can play an active part in your recovery
- Give you daily goals to achieve

Research shows that you will recover faster if you do the things explained in this booklet. There are instructions about eating and drinking, physical activity, and controlling your pain. These things will help you to feel better faster and go home sooner.

Please bring this booklet with you on the day of surgery. Use it as a guide during your hospital stay. Hospital staff may refer to it as you recover, and review it with you when you go home.

Having surgery can be stressful for patients and their families. The good news is that you are not alone. We will support you each step of the way. Please ask us if you have questions about your care.

Your MUHC surgery team

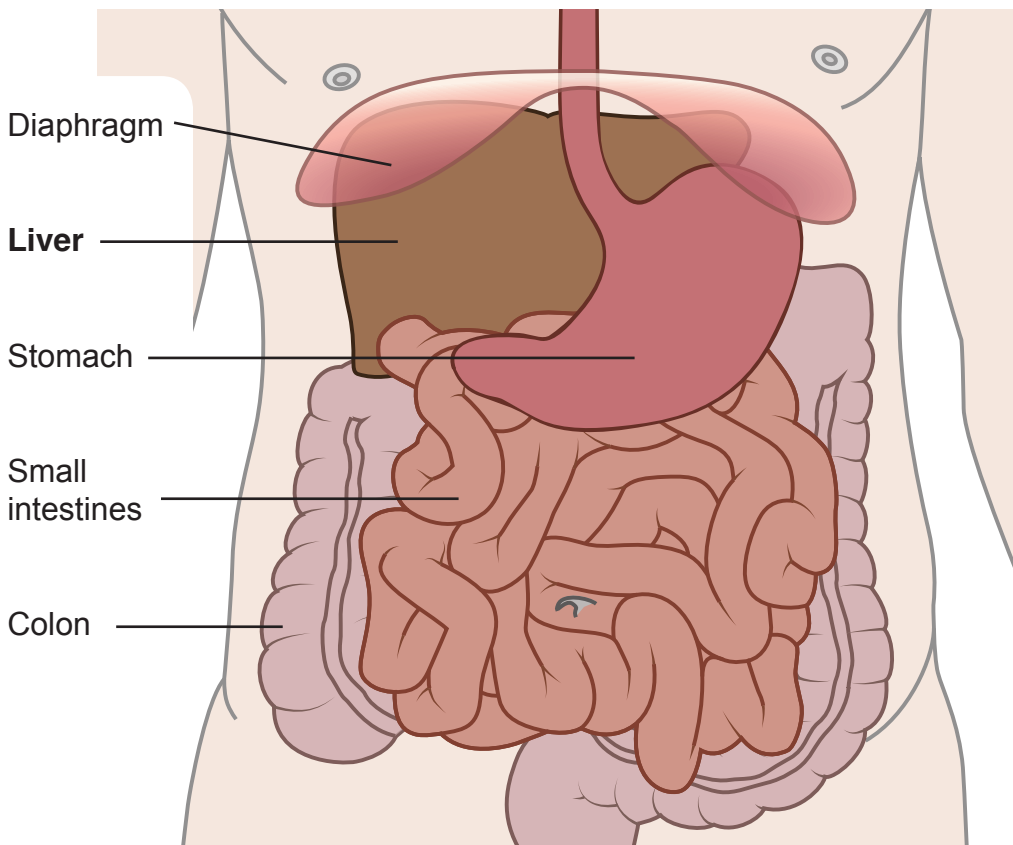
If you are not comfortable communicating in French or English, please bring someone to translate for you.

What is the liver?

The liver is a football-sized organ located in the upper right part of your belly, under your diaphragm and above your stomach.

The liver does many things to keep you healthy:

- changes sugar into energy
- stores bile
- helps to digest fat
- helps to clean your blood
- helps blood to clot



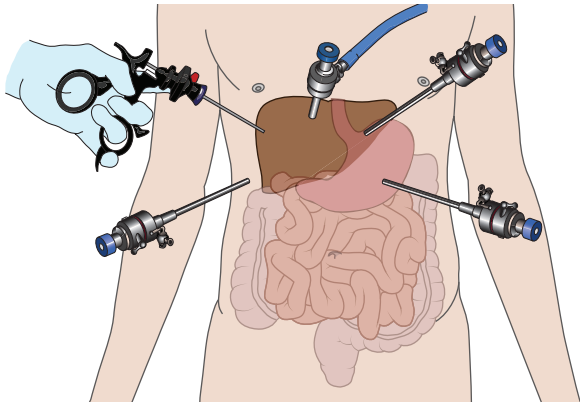
What is a liver resection?

A liver resection is surgery to remove a diseased part of the liver. The amount of liver removed depends on the size and location of the diseased part. Because the liver can grow back to its normal size, a large part of it may be removed. It takes about 3 weeks for the liver to return to normal. Most people return to their regular activities after having liver surgery.

The surgery may be done 2 ways. Your surgeon will talk with you about the kind of surgery you need.

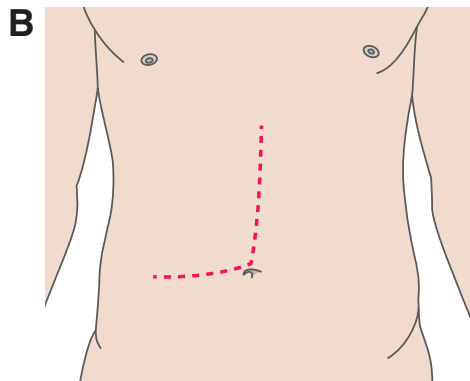
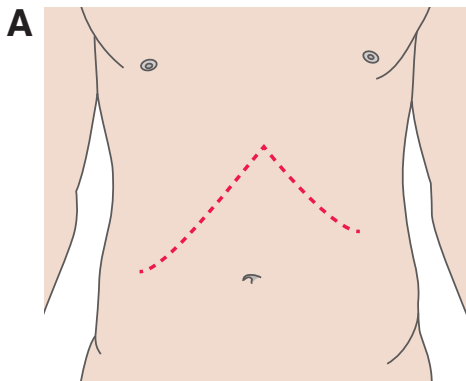
1. Laparoscopic

The surgeon works through 5 small cuts in your belly, using a camera and instruments. One of the cuts is 8-10 cm long, about the size of a Q-tip. This cut is used to remove part of the liver.



2. Open

The surgeon works through one long cut in your belly. The cut may follow the edge of your rib cage (picture A), or it may go from your chest to your belly button to your right side (picture B).



Preparing for surgery

Be active:

Exercise will help your body to be as fit as possible before your surgery. If you are already active, keep up the good work. If you are not, start adding activity into your day. Exercise does not need to be strenuous to make a difference. A 15-minute walk is better than no exercise at all.



Stop smoking:

If you smoke, try to stop before your surgery to reduce your risk for lung problems. Your doctor can help you stop smoking by prescribing medication. See page 33 to learn more.



Restrict alcohol:

Do not drink alcohol for 24 hours before your surgery. Alcohol can interact with the medications you will receive in the hospital. Please tell us if you need help decreasing your alcohol use before surgery.

Preparing for surgery

Plan ahead:

You may need help with meals, laundry, bathing or cleaning, when you go home from the hospital. Stock your fridge and freezer with food that is easy to reheat. Make plans with your family and friends so you will have the help you need.



Arrange transportation:

The day of surgery is called Day 0. You may go home from the hospital on Day 4 after your surgery. Tell your nurse if you have concerns about going home. Remember to arrange a ride.



Pre-operative visit

When you visit the Pre-op Clinic, you will:

- Have blood tests
- Have an ECG (electrocardiogram), if you are over the age of 50
- Meet with a nurse who will explain how to get ready for surgery and what to expect while you are in the hospital
- Meet with a doctor who will review your medication and ask you questions about your health. If you have medical problems, you may be referred to another doctor (a specialist) before surgery.

You may need to stop taking some medications and herbal products before surgery. The Pre-op Clinic doctor will explain which medications you should stop and which ones you should keep taking.



If you have any questions, you may contact the Pre-op Clinic nurses at (514) 934-1934, ext. 34916, Monday to Friday, from 7:30 a.m. to 3:00 p.m.

RVH Preop Clinic: Located near the cafeteria at D S1.2428 (Block D, level S1).

Phone call from Admitting

The day before your surgery, the Admitting Department will phone you, to tell you when to come to the hospital. They will ask you to arrive 2 hours before your planned surgery time.

Exception: If your surgery is planned for 7:30 a.m., they will ask you to arrive at 6:30 a.m. The time of surgery is not exact. It may happen earlier or later than planned.



Date of surgery:



Time of arrival at the hospital:

Room: **Registration, Surgery and Intervention Centre,**

Block C, level 3 (C03.7055). Enter the building through the Royal Victoria Hospital main entrance. Take the C or D North set of elevators and go to the 3rd floor. These are the first set of elevators you will see.



If you do not receive a call from Admitting by 2:00 p.m., you may call them at 514-934-1934, ext. 31557.

Cancelling your surgery

If you get sick or become pregnant, please call your surgeon's office as soon as possible. If you cannot reach your surgeon, call the Admitting Department 514-934-1934 ext. 31557.

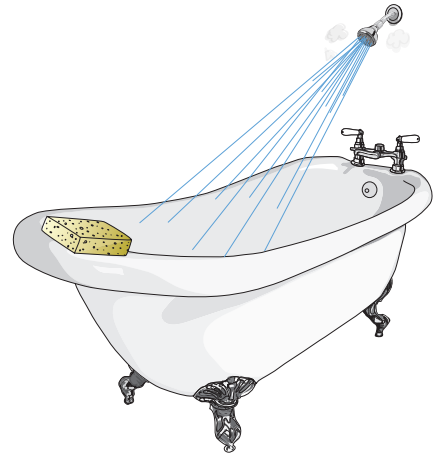


The Royal Victoria Hospital is a Transplant and Cardiac Centre. This means your surgery may be delayed or cancelled because of an emergency. If this happens, your surgeon will rebook your surgery as soon as possible.

Washing

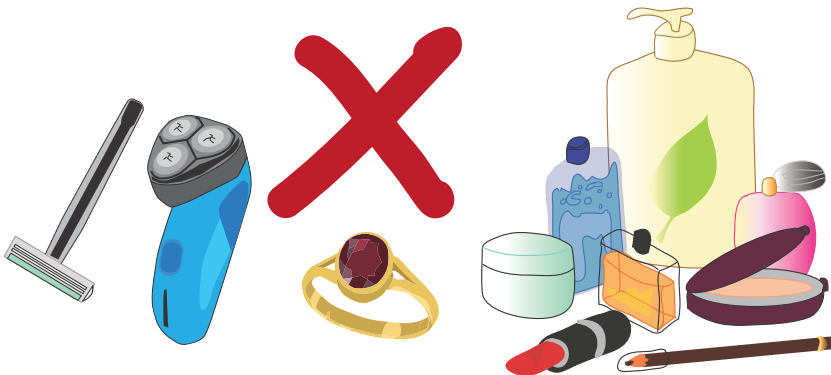
The night before surgery:

- Take a regular shower with soap, including your belly button and shampoo your hair
- Dry your body with a towel
- Use the body cleansing cloths that we gave you in the Pre-operative Clinic (follow the instructions that you were given)
- Do not apply lotion, perfume, makeup, nail polish, and do not wear jewelry or piercings
- Wear clean clothes (nightgown, pajamas) to bed



The morning of surgery:

- Use the 2nd pack of body cleansing cloths (follow the instructions that you were given)
- Do not shave the area where the operation will be done
- Put on clean clothes



Eating and drinking

The nurse in the Pre-op Clinic will explain what to eat and drink before your surgery.



The evening before your surgery:

- Eat and drink normally until midnight
- Choose a carbohydrate drink from this list. Drink it within 10 minutes.

After midnight, do not have any food, dairy products, diet drinks, or juice with pulp.

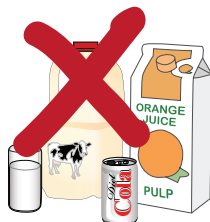












The morning before your surgery:











- Do not eat any food
- Choose a carbohydrate drink from this list. Again, Drink it within 10 minutes. Drink this 2 hours before surgery (this is usually the time you are asked to arrive at the hospital). Then, **stop drinking.**

Exception: if you are asked to arrive between 6:00 a.m. and 6:30 a.m., stop drinking at 5:30 a.m.

After midnight, do not have any food, dairy products, diet drinks, or juice with pulp.

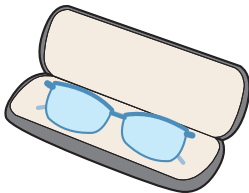
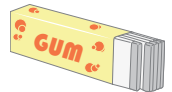
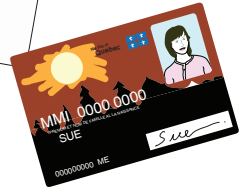
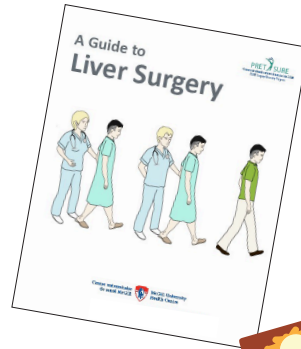


Carbohydrate drinks: Choose only 1	Amount in mL	Amount in cups (1 cup = 250 mL)
 Apple juice	850 mL	
 Commercial iced tea	1100 mL	
 Cranberry cocktail	650 mL	
 Lemonade without pulp	1000 mL	
 Orange juice without pulp	1000 mL	

Carbohydrate drinks: Choose only 1	Amount in mL	Amount in cups (1 cup = 250 mL)
 Apple juice	425 mL	
 Commercial iced tea	550 mL	
 Cranberry cocktail	325 mL	
 Lemonade without pulp	500 mL	
 Orange juice without pulp	500 mL	

What to bring to the hospital

- This booklet
- Medicare card
- List of medications that you take at home (ask your pharmacist to give you one)
- 2 packages of your favourite gum
- Slippers, loose comfortable clothing (for when you are leaving the hospital)
- Toothbrush, toothpaste, mouthwash, comb, deodorant, soap, and tissues
- If needed: glasses, contact lenses, hearing aids, dentures, and their storage containers labeled with your name
- If needed: cane, crutches, walker, labeled with your name



Please do not bring anything of value, including credit cards and jewelry. The hospital is not responsible for lost or stolen items.

At the hospital

Admitting area:

Report to Registration, Surgery and Intervention Centre, block C, level 3 (C03.7055), at the time you were given.

Enter the adult hospital through the Royal Victoria entrance, take the first elevator on your right or left (North) and go to the 3rd floor.

Pre-operative area:

The nurse will ask you to change into a hospital gown and will complete a preoperative checklist with you.



Operating room:

An orderly will take you to the operating room. You will meet your anesthetist (the doctor who will put you to sleep) and other members of your surgical team. You will be asleep and pain-free during your surgery.

At the hospital

Waiting room:

Family or friends may wait for you in the registration area in block C, level 3. It will be several hours before they will be able to visit you in your room. There are no visitors in the Post-Anesthesia Care Unit (PACU) unless you are staying there overnight.

Other resources:

- Cafeteria – Located off the Adult Atrium on the S1 level
- Vending machines – Block C, S1 level
- Stores – Galleria, RC (Ground floor) ; Atrium, S1 level
- Bank machines – Blocks C & D, RC (Ground floor) level
- Adult Resource Centre (library) – Block B, RC (Ground floor) level
- Prayer and meditation room – Block C, level 2, C02.0310.4
- Internet access

Network: CUSM-MUHC-PUBLIC

Username: public

Password: wifi



Post-Anesthesia Care Unit (PACU)

After your surgery, you will wake up in the Post-Anesthesia Care Unit (PACU), also called the Recovery Room. You will be there for several hours.

You will have:

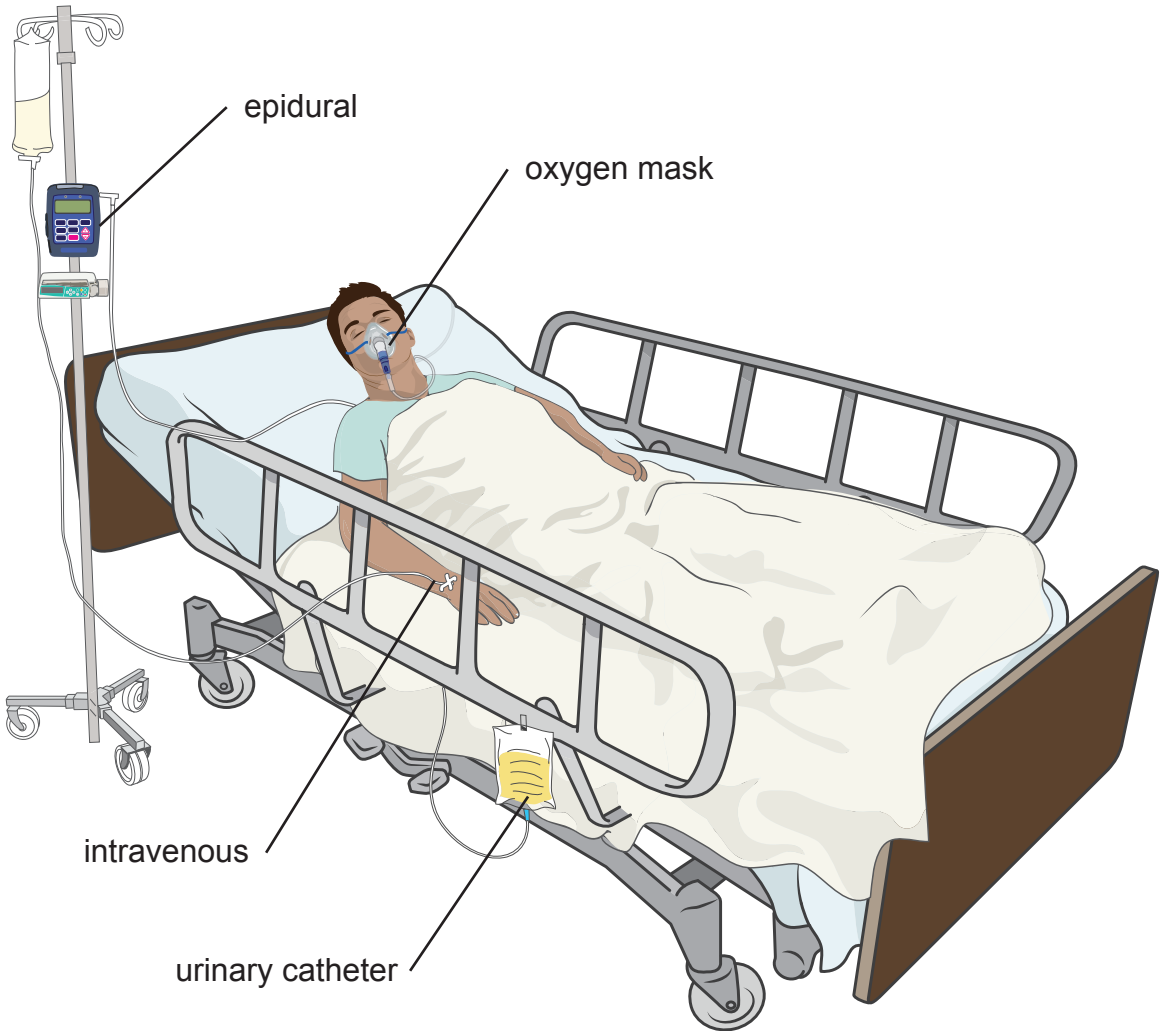
- A mask, giving you oxygen
- An intravenous (IV), giving you fluids
- An epidural (small tube in your back), giving you pain medication
- A urinary catheter (tube), draining urine out of your bladder

Your nurse will:

- Check your pulse and blood pressure often
- Check your bandage(s)
- Make sure you are comfortable

When you are ready, be taken to your room on the surgical unit. Your family may visit you once you are in your room.

Post-Anesthesia Care Unit (PACU)

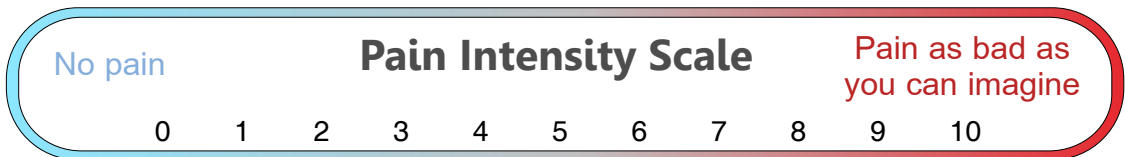


Pain control

It is important to control your pain because it will help you to:

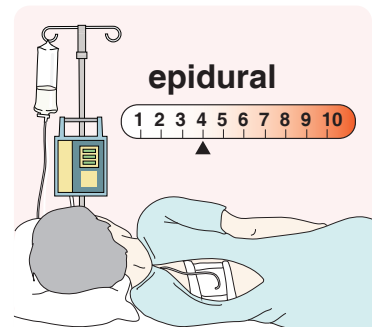
- Take deep breaths
- Sleep well
- Move more easily
- Recover faster
- Eat better

Your nurse may ask you to describe your pain using a number between 0 and 10. 0 means no pain and 10 is the worst pain you can imagine. We want to keep your pain below 4/10. Please tell your nurse if you have pain. We will help you.



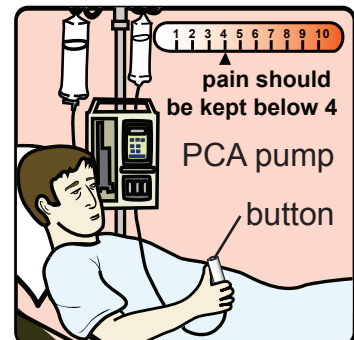
Epidural infusion:

Your anesthetist may place a small catheter (tube) in your back to give you continuous pain medication. This is called an epidural infusion. It is usually started in the operating room before you go to sleep. It is removed on Day 3 after surgery.



Patient-Controlled Analgesia (PCA):

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

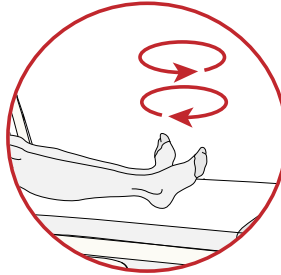


Exercises

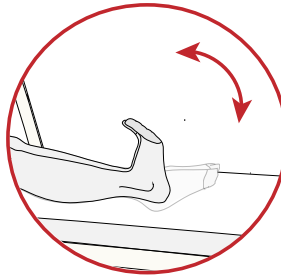
It is important to move around in bed to prevent pneumonia, blood clots, and muscle weakness. Start these exercises when you wake up and continue them while you are in the hospital.

Leg exercises:

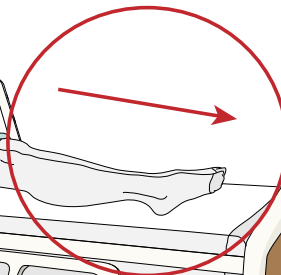
These exercises help your blood to circulate in your legs. Repeat each exercise 4 to 5 times every half hour while you are awake.



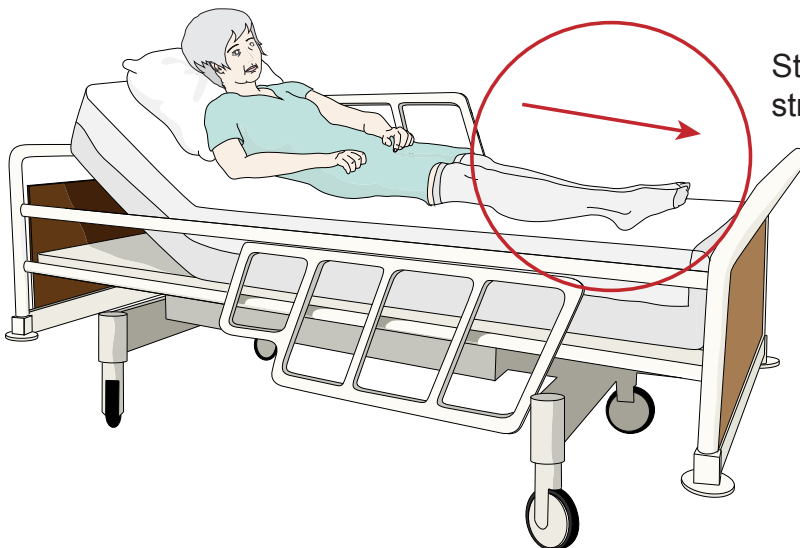
Rotate your feet to the right and left.



Wiggle your toes and bend your feet up and down.



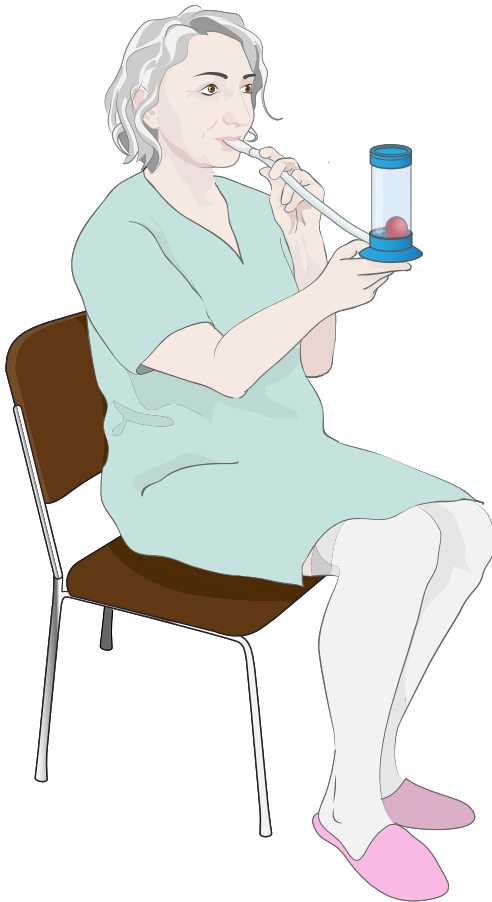
Stretch your legs out straight.



Exercises

Deep breathing and coughing exercises:

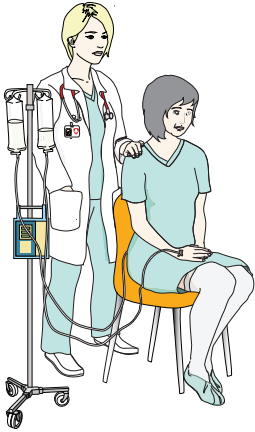
An inspiriometer is a device that helps you breathe deeply to prevent lung problems.



To use your inspiriometer:

- Put your lips 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 10 times every hour while you are awake
- Take a deep breath and cough using a small blanket or pillow to support your incision

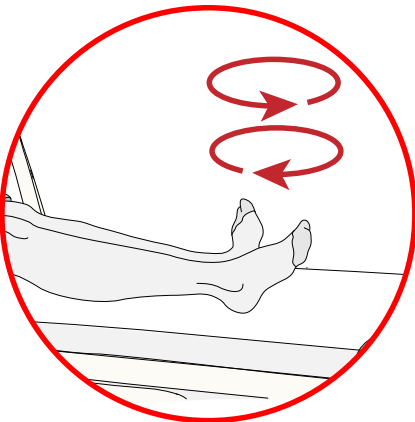
To do the evening of your surgery : Day 0



Get up and sit in a chair with your nurse's help.



Drink clear liquids, as tolerated.
Chew gum for 30 minutes to help your bowels start to work.



Do your leg exercises
(see page 20).



Do your breathing exercises
(see page 21).

Goals for Day 1

Breathing

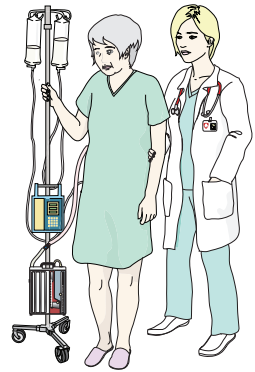
Do your breathing exercises

Activities

Sit in a chair for meals

Walk in the hallway 3 times, with help

Be out of bed, off and on, for a total of 6 hours, as tolerated



Pain control

Tell your nurse if your pain reaches 4/10 on the pain scale



Eating and drinking

Drink liquids, including protein drinks like Ensure or Boost

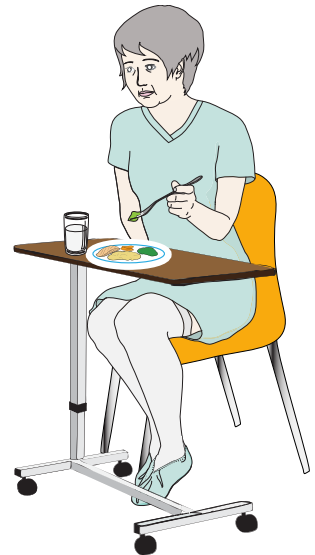
Eat regular food later in the day, as tolerated

Chew gum for 30 minutes 3 times/day

Tubes and lines

Your urinary catheter will be removed today

Your IV will be removed when you are drinking well



Goals for Day 2

Breathing

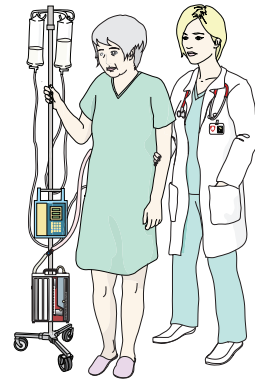
Do your breathing exercises

Activities

Sit in a chair for meals

Walk in the hallway 3 times

Be out of bed, off and on, for a total of 6 hours



Pain control

Tell your nurse if your pain reaches 4/10 on the pain scale

Eating and drinking

Drink liquids, including protein drinks like Ensure or Boost

Eat regular food as tolerated

Chew gum for 30 minutes 3 times/day



Tubes and lines

Your IV will be removed when you are drinking well

If you have a PCA pump, it may be removed today and you will take pills to control your pain



You may go home from the hospital on the Day 4 after your surgery. Please tell your nurse if you have any concerns about going home. Remember to arrange your ride.

Goals for Day 3

Breathing

Do your breathing exercises

Activities

Sit in a chair for meals

Walk in the hallway 3 times

Be out of bed, off and on, for a total of 6 hours

Pain control

Tell your nurse if your pain reaches 4/10 on the pain scale

Eating and drinking

Drink liquids, including protein drinks like Ensure or Boost

Eat regular food as tolerated

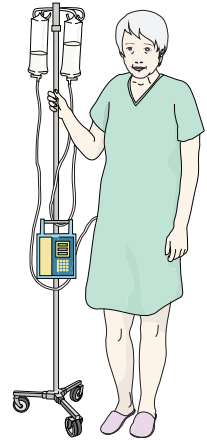
Chew gum for 30 minutes 3 times/day

Tubes and lines

If you have an epidural, you will have a “stop test” today, to see if your pain can be controlled with pills.

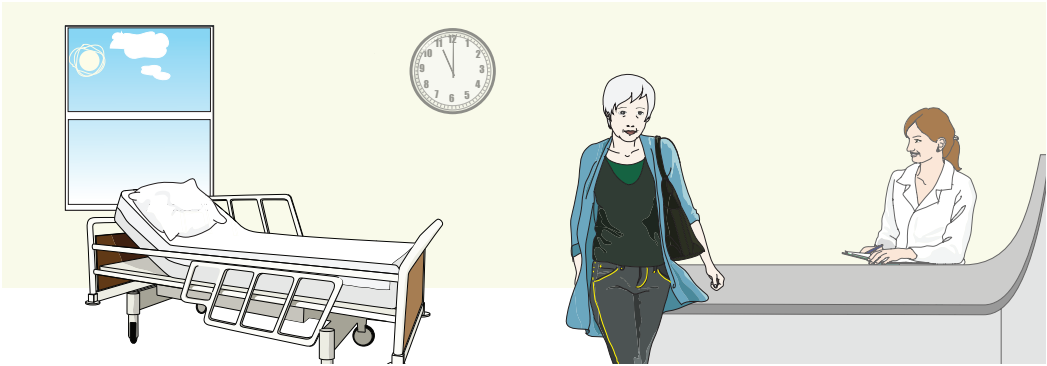
This is how a stop test is done:

- We will turn off your epidural pump and leave the catheter in place
- You will take the first dose of pain pills
- If the pills control your pain, your epidural catheter will be removed
- Please tell your nurse if your pain is higher than 4/10



Goals for Day 4 : Going home

Plan to go home today before 11a.m.



We will call you within 1 week with information about your follow up appointment with your surgeon.

If you have clips or stitches to be removed, we will arrange for the CLSC to remove them in 10-14 days.



Pain

You may have pain for a few weeks after surgery. Take acetaminophen (Tylenol ®) and your anti-inflammatory to relieve your pain.

If your pain is not controlled by acetaminophen (Tylenol ®) and the anti-inflammatory, add the narcotic that your doctor ordered.

If the anti-inflammatory or other pain medication cause burning or pain in your stomach, stop taking them and call your surgeon.

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

Pain medication may cause constipation.

To help your bowels stay regular:

- Drink more liquids
- Eat more whole grains, fruits and vegetables
- Get regular exercise (a 15-minute walk is a good start)
- Take stool softeners if your doctor tells you to



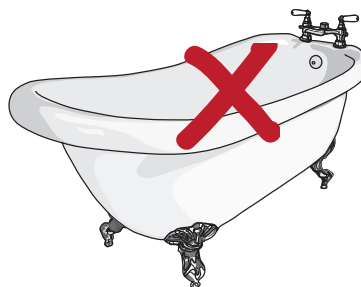
Incisions

Your incision(s) may be slightly red and uncomfortable for 1-2 weeks after surgery.

You may take a shower:

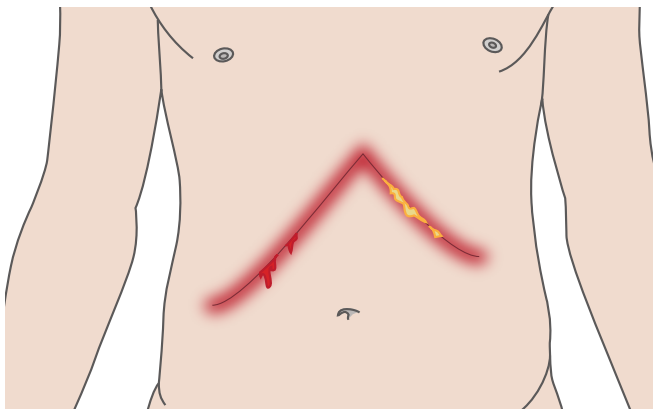
- 3 days after laparoscopic surgery
- 5 days after open surgery

Let the water run softly over your incision(s) and wash the area gently. Do not scrub. Do not take a tub bath for 2 weeks.



Your nurse will arrange for the CLSC to remove your clips or stitches about 10-14 days after your surgery. The CLSC will contact you at home.

Tell your surgeon if your incision becomes warm, red, and hard, or if you see pus or drainage coming from it.



Diet

You may eat anything you want, unless your doctor, nurse, or nutritionist, tell you not to.

Include foods that contain protein to help your body heal. Meat, fish, poultry and dairy products are good sources of protein.

If you find it hard to eat enough calories, try eating smaller amounts at each meal. Add nutritious snacks between meals. Try high protein, high calorie shakes, or commercial supplements like Ensure or Boost.



If you cannot drink fluids or keep them down, call your surgeon.

Activities

After you go home:

- Continue to walk several times each day. Gradually increase the distance until you reach your usual level of activity.
- Do not lift more than 5 pounds for 4-6 weeks after your surgery.
- Do not drive while you are taking narcotic pain medication.
- Ask your surgeon when you may return to work. It will depend on your recovery and your type of work.
- When you are pain free, you may resume most activities, including sexual activities.



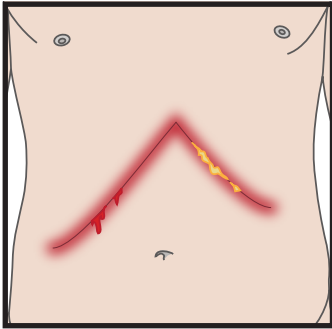
Ask your family and friends for help with:

- Transportation
- Meal preparation
- Laundry
- Grocery shopping
- House cleaning

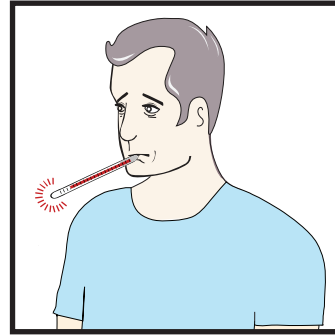


When to call your doctor

Call your surgeon if:



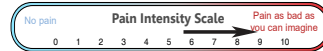
Your incision(s) becomes warm, red, or you see drainage coming from the incision



You have a fever (greater than 38°C/100.4°F)



You cannot drink fluids or keep them down



You have pain that your pain medicine does not help

If you cannot reach your doctor, go to the nearest Emergency Department.

Contact information

Dr. Prosanto Chaudhury: ... 514-934-1934 ext. 31951

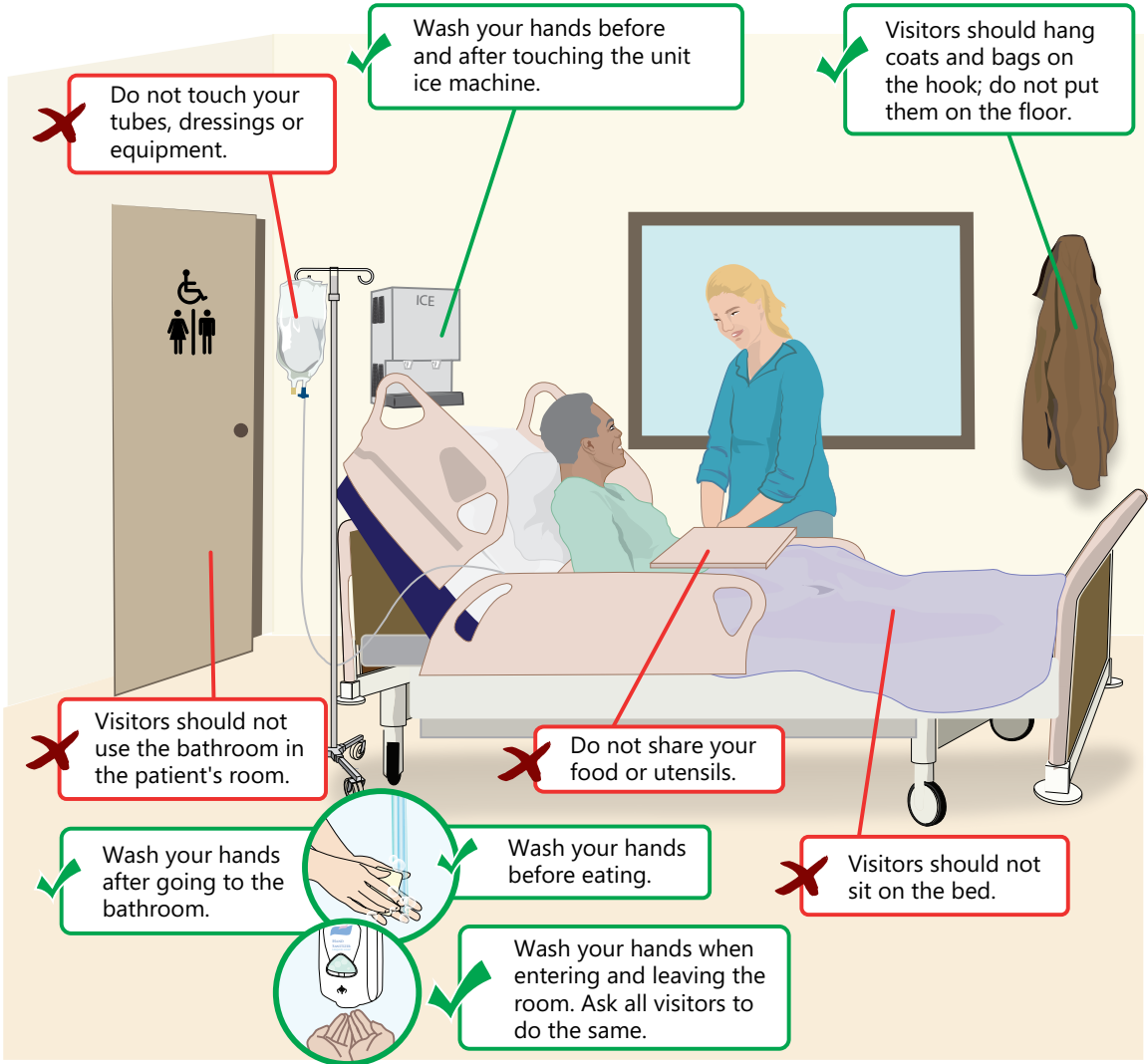
Dr. Jeffrey Barkun: 514-934-1934 ext. 35964

Dr. Peter Metrakos: 514-934-1934 ext. 31600

Dr. George Zogopoulos: ... 514-934-1934 ext. 35964

Dr. Goffredo Arena: 514-570-8210

Tips for preventing infection in your hospital room



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.

Get more information from:

Montreal Chest Hospital

514-934-1934 ext. 32503

www.muhc.ca

Quebec Lung Association

514-287-7400 or 1-800-295-8111

www.pq.lung.ca



Hôpital Royal Victoria Hospital at the Glen site

Centre universitaire
de santé McGill



McGill University
Health Centre

1001 Decarie Blvd. Montreal, QC H4A 3J1

**Registration, Surgery
and Intervention Centre:**
C03.7055

Cafeteria:
Located off the Adult
Atrium on the S1 level

Pre-op Clinic:
D S1.2428

