

Centre universitaire
de santé McGill



McGill University
Health Centre



A Guide to Cardiac Surgery

*For patients, families, and friends,
this booklet will help you understand
and prepare for your surgery.*

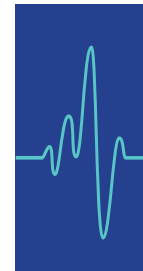


If you do not speak French or English, bring someone with you during your visits and hospital stay who can help you understand.

The health care team of the Cardiac Surgery Unit of the McGill University Health Centre (MUHC) encourages you to read this booklet so that you can actively participate in your care.

Bring this booklet with you on the day of surgery to use as a guide.

Ask us if you have any questions.



A Guide to Cardiac Surgery

This booklet will tell you about:

- Heart surgery
- Coronary artery bypass surgery
- Valve surgery
- Risk factors for coronary artery disease

as well as:

- Your hospital stay
- Lifestyle changes you might need to make
- Possible side effects of surgery
- What medications you will take
- What to do when you go back home to heal well



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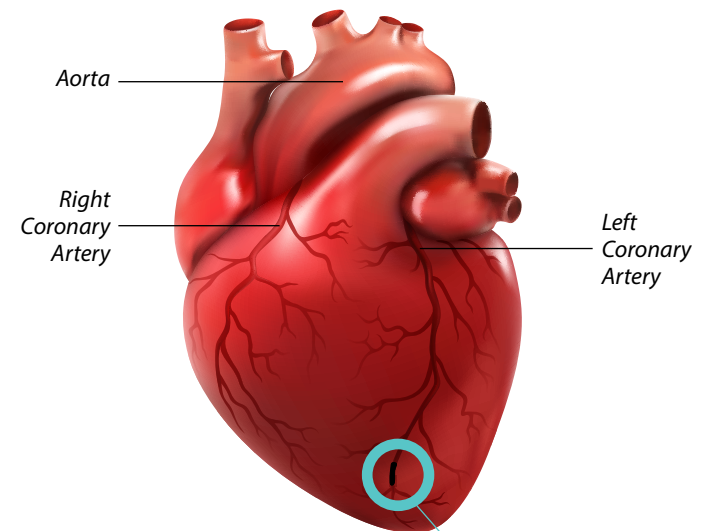


INTRODUCTION

Anatomy of the heart

- Your heart is a muscle. It pumps blood and oxygen (air) through your body.
- Your heart has big arteries coming out of it. This is where the blood and oxygen go through to other organs in your body.
- The first branches off the aorta (where all the blood goes to get to your organs) are the left and right coronary arteries, which supply blood to the heart. The left coronary artery splits into two major branches.

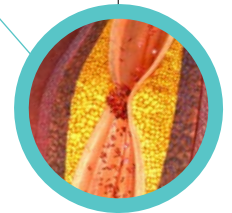
This is why the medical team says the heart has 3 branches, 1 on the right side and 2 on the left side.



Coronary artery disease

- When you have coronary artery disease, one or more arteries are blocked due to cholesterol and fat.

The aorta is the main place where all your blood goes to get to your organs.



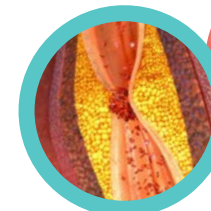
What is heart surgery?

Heart surgery is a way to fix blocked arteries or other problems with the flow of blood to the heart. There are mainly 2 types of heart surgeries done at the MUHC: **coronary artery bypass surgery** and **valve surgery**.

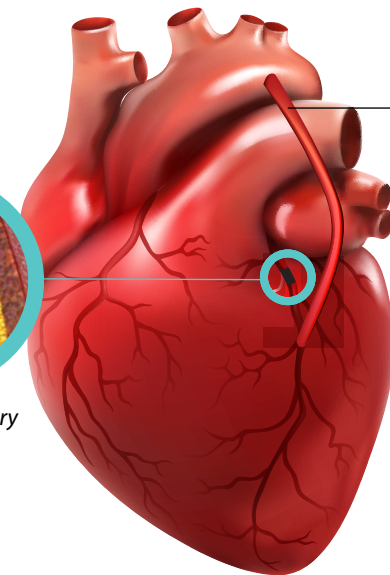
Coronary artery bypass surgery

- Coronary artery bypass surgery creates a bridge so the blood can by-pass (skip) a blocked artery.
 - To make this bridge, we use either:
 - A part of a vein from your leg (saphenous vein)
 - A part of an artery in your chest (internal mammary artery) or in your arm (radial artery)
- OR**
- both
- Depending on how many arteries are blocked, you may need more than 1 bypass (bridge).
- They will all happen during the same surgery.
- This surgery will restore the blood flow to the heart.

Mammary Artery Bypass



Blocked Coronary Artery

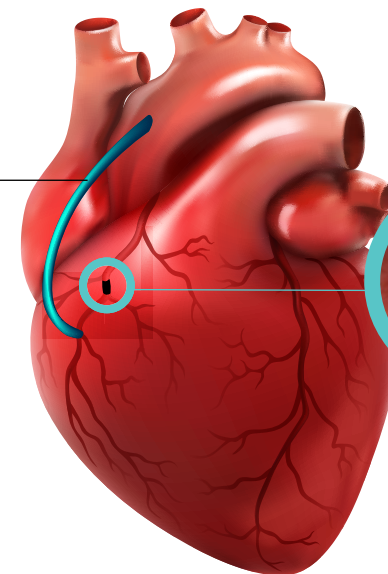


Internal Mammary Artery

Saphenous Vein Bypass

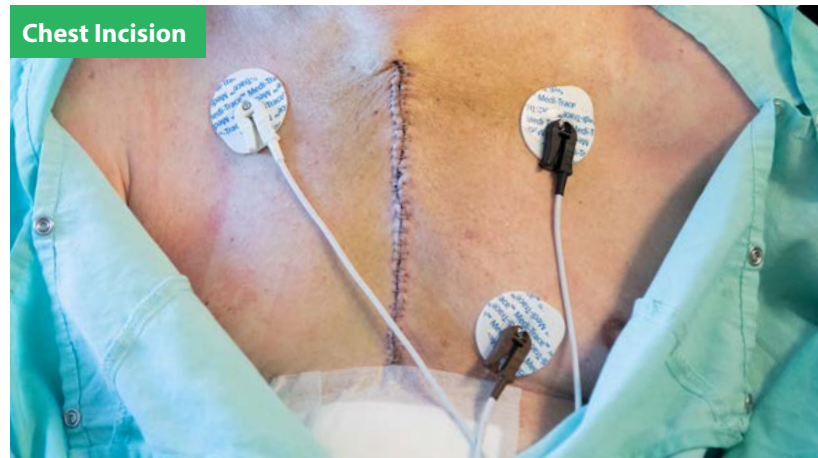


Blocked Coronary Artery



Saphenous Vein

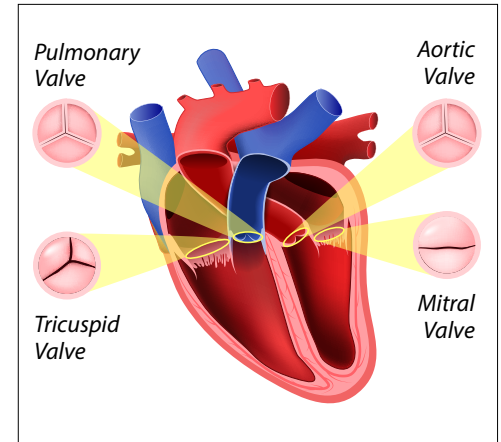
You will have at least one cut on the chest and perhaps on a leg, arm, or both.





Valve surgery

The heart has 4 valves: the aortic valve, the mitral valve, the pulmonary valve and the tricuspid valve.

- They are like doors that open and close with each heartbeat to let the blood pass.
- If the valves don't work well, they may need to be repaired or replaced by a surgeon.



What type of valve is used?

Mechanical Valve 	Biological/ Tissue Valve 
<p><i>Last longer than biological/tissue valve</i></p> <ul style="list-style-type: none"> - You will have to take the medicine Coumadin (see page 47) for the rest of your life. 	<p><i>Lasts around 15 to 20 years</i></p> <p>These valves are made from an animal valve or animal tissue.</p> <ul style="list-style-type: none"> - If your mitral valve was replaced, you must take Coumadin for 3 months. - If your aortic valve was replaced, you must take Aspirin for the rest of your life.



You and your surgeon will decide which type of valve is best for you.

If you need to have heart valve surgery

It is important to see your dentist to do any dental work before your valve surgery. An infection in your teeth could damage the newly implanted valve.

Possible complications of heart surgery

Complication	How often?
Arrhythmias (abnormal heart rate)	Quite often (33 of 100 patients)
Respiratory condition (fluid, infection)	Quite often (10 of 100 patients)
Major Infection	Less often (5-6 of 100 patients)
Major Delirium (being confused)	Less often (5 of 100 patients)
Major Bleeding	Rare (2-3 of 100 patients)
Stroke	Rare (1-2 of 100 patients)
Dying	Rare (2 of 100 patients)



Talk to your surgeon if you have any concerns about complications. Your surgeon has a better understanding of your actual risk.

**YOUR
MUHC TEAM**



You will receive care from many people who have different roles to make your health better. They will accompany and work with you and your family or friend through different phases of your hospitalization.

→ nurses	→ occupational therapists
→ residents	→ dietitians
→ surgeons	→ pharmacists
→ nurse practitioners	→ patient attendants
→ physiotherapists	→ other practitioners, if needed



Smoking and vaping



Stopping to smoke is the step that will have the biggest impact on making your health better.

Smoking is one of the main reasons a person can get coronary disease.

- Quitting is possible even if you are a long-time smoker and have tried to quit many times.
- You can get support from your doctor, nurse practitioner or pharmacist to help with quitting. They can also prescribe medication to help you stop smoking.
- It is never too late to stop! *(See page 51 to learn more.)*

Cannabis use



Let us know if you use cannabis (marijuana).

- For enjoyment or leisure reasons:
 - Stop using cannabis 4 weeks before your surgery.
- For medical reasons, authorized by a doctor:
 - We may ask you to take your usual morning dose if you need one, on the day of surgery. If you need another dose at the hospital, bring your cannabis and your prescription with you.
 - Let us know before surgery.

Drinking alcohol



Do not drink alcohol for 4 weeks before your surgery. Alcohol can affect how well you recover from surgery.

- Alcohol can change the way some medications work.
- Tell us if you need help to stop drinking alcohol.



Exercise



It reduces blood cholesterol and can lower blood pressure. It helps to control weight.

- Walk as tolerated.



Eating healthy



It is important to eat well before and after surgery. Protein intake is especially important for a good recovery. Adequate protein helps you heal, avoid infection, supports your immune system and allows you to recover more quickly.

- If possible, prepare meals ahead of your surgery and freeze them.
- Take advantage of meal offers from friends and relatives.
- Find out about your local “meals-on-wheels” program.
- Foods that are good sources of protein include: nuts and seeds; soups made with milk, cheese, and yogurt; eggs, peanut butter, cottage cheese, legumes (chickpeas, lentils, beans), soy beverages, cheese, milk, poultry, fish, beef and pork.



Coping with stress



Cardiac surgery is an important life event that will likely have an emotional impact on you and your loved ones. A certain amount of fear, anxiety, and other challenging emotions before surgery is normal.

You might feel as though your life has been put ‘on hold’ or that you have entered a period of uncertainty. This might also be true for your family.

- **Anger & frustration:** It is common for people to feel angry at finding out that they have heart disease and need cardiac surgery. They question why this is happening to them.
- **Anxiety & fear:** You might find yourself thinking about how the surgery will go. You may experience anxiety and fear about what this will mean for your future and the future of your loved ones. It is normal to have these thoughts and feelings.



→ What can help?

Though you may feel physically and emotionally drained after your surgery, good self-care can help improve your mood and reduce anxiety.

- Maintain basic daily self-care.
- Get dressed every day.
- Walk daily within your limits.
- Get lots of rest.
- Reintroduce hobbies and social activities you like.
- Visit with others.



What can I do to reduce stress before surgery



- There are several ways to manage intense anxiety. If you are feeling very frightened, know that this is common side-effect. Some strategies to handle intense anxiety in the moment include:
 - Deep breathing, try to take slow, deep breaths, in through your nose, out through your mouth
 - Focus on the here-and-now. Try to engage your senses naming 5 things you can see, 4 things you can feel, 3 things you can hear, 2 things you can smell and 1 thing you can taste.
- It's also important to have a support system in place that can help with your emotional needs as well as your physical demands. Discussing fears, frustrations, pain, concerns and successes with someone is a critical part of the healing process.
- If you're unable to manage your anxiety or low mood, please speak with your health care team about other resources for support.

Length of stay

Where will your surgery be?

You will have your surgery and appointments at the Royal Victoria Hospital — Glen site.

How long will you be in the hospital?

After surgery, you will go to the Intensive Care Unit (ICU) to be closely monitored and observed. Usually, a patient stays about 24-hours in the ICU, before going to the cardiac surgery unit. The stay in the ICU might be longer for some patients, depending upon their condition.

- After coronary artery by-pass surgery, you will usually be in hospital 4 to 5 days.
- After valve surgery, you will usually be in hospital usually 4 to 7 days.

How to plan your return home?

- Usually, you find out on the morning of discharge if you will be going home that day.
- The time expected for you to leave your room is around 11 a.m.
- It is important to plan your return home in advance, as you may need help with meals, groceries and household chores, among other things.
- You will need a driver since you will not be allowed to drive your car for 4 to 6 weeks after surgery.
- If you don't have family or friends to help at home, let your nurse know upon admission to D7 so we can make arrangements for discharge.

Insurance Forms: CNESTT, SAAQ and Salary Insurance

If you have insurance forms to be filled out, bring them with you on the day of your surgery. Your surgeon or their assistants will take these and complete them.

Note: There might be fees to have these forms filled out.

Pre-operative Clinic

The reason for this visit is to check your health, plan your care and make sure you are ready for surgery.

- When you visit the Pre-Op Clinic, you will meet with:
 - A nurse, who will explain how to get ready for surgery and what to expect while you are in the hospital.
 - A doctor, who will review your medication and ask you questions about your health. If you have other health problems, you may be referred to another doctor (a specialist) before surgery.
 - An anesthesiologist (a specialist doctor), who controls what you will feel during surgery with anesthesia.
- You will also:
 - Have blood tests
 - Have an ECG (electrocardiogram)

→ If you take blood thinners or a medication to prevent clots (anticoagulation medication) you must stop taking it five days before your surgery date. This will be discussed with your surgeon.



If you have any questions, contact the Royal Victoria Hospital Pre-Op Clinic nurses:

514-934-1934, ext. 34916
(Monday to Friday, 7 a.m. to 3 p.m.)

Pre-Op Clinic is located near the cafeteria on D S1.2428 (Block D, Level S1).

Phone call from admitting

The day before your surgery, the Admitting Department will call you to tell you when to come to the hospital.

If you do not receive a call by 2 p.m., call 514-934-1934, ext. 31557.

We will ask you to come to the hospital either:

The evening before your surgery. You will spend the night in a hospital room

- Where to go: You will go to the Admitting Office CRC.0046 (Block C, level RC) to register your admission to the hospital.
- Then you will go to the cardiac surgical unit on D7 (Block D, level 7). You will need to take the Block D (South) elevator and go to the 7th floor. If you need help, ask a security person or hospital volunteer for assistance.

or

The morning of your surgery. We will ask you to come 2 to 3 hours before your planned surgery time

- Where to go: Surgery Registration, C03.7055 (Block C, level 3). Enter the building through the Royal Victoria Hospital main entrance.
Take the first set of elevators you see on your right or left (North elevators) and go to the 3rd floor.



Note that the time of surgery is not exact. It can happen earlier or later than planned.

The night before surgery

Washing

- ✔ Take a shower or bath.
 - ✔ Wash your body from the neck down, including your belly button and your genital area.
 - ✔ Use regular soap and shampoo for your face and hair.
 - ✔ If you are in the hospital, the patient care aide will give you wipes to clean your body.
- At home, you will also use the wipes.

The wipes contain a special product called chlorhexidine, which kills the germs that cause infections.

- ✔ Wear clean clothes (pyjamas) or a hospital gown to bed.
- ✔ Apply a small amount of Bactroban (antibiotic cream) in both nostrils the night before surgery
- ✔ Take prescribed medications as usual the day before surgery unless you were told to stop certain medications.
- ✘ Do not shave the area where the surgery will be done for 2 days prior.

Eating and drinking

- ✔ Eat and drink normally until midnight.



The morning of surgery

Washing

- ✘ Do not take a shower or bath.
- ✘ Do not put on lotion, perfume, makeup, or nail polish.
- ✘ Do not wear jewelry or piercings.
- ✘ Do not shave the area where the surgery will be done.
- ✘ If you wear contact lenses, wear your glasses instead.
- ✔ Put on clean and comfortable clothes.
- ✔ If you are at the hospital, the nurse will wake you up at 5 a.m. for you to use wipes to clean your body before surgery.
- ✔ If you have your period, use a pad. Do not use a tampon or menstrual cup.



Eating and drinking

- ✘ Do not take any solid food
- ✔ 2 hours before surgery, you will be given a clear fluid. This drink will give you energy to prepare for your surgery.



What to bring to the hospital



- This booklet
- Medicare and hospital card
- List of medications that you take at home—your pharmacist can give you one—and any puffers, insulin, eye drops that you use
- Non-slip slippers or shoes, loose comfortable clothing (for when you go home)
- Toothbrush, toothpaste, mouthwash, comb, deodorant, soap, body lotion and tissues
- Your glasses, contact lenses, hearing aids, and/or dentures with their storage containers, labelled with your name
- Your cane, crutches, or walker, labelled with your name
- CPAP machine, if you have sleep apnea
- For women, a brassiere (no sport bra)
- Any insurance forms that need to be filled out



Bring these items in a small bag with your name on it. There is very little storage space.

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



DAY OF SURGERY

Operating Room

If you are the first person of the day to have surgery, a member of the care team will bring you to the operating room around 6:30 a.m.

- Note that on Thursdays, the surgery will begin at 9 a.m.
- Visitors will not be able to see you before the surgery.
- If you are the second person to have surgery, we cannot predict the time when your surgery will begin.
- Your surgery will last approximately 4 to 6 hours which includes: transportation, preparation in the operating room and surgery.
- During the surgery, we suggest that your family wait in the waiting room of the recovery room of the ICU D 03.7043 (Block D, level 3).
- Once the surgery is finished, the surgeon will contact a member of the family (by telephone or in the waiting room) to give them information about the surgery.

Intensive Care Unit (ICU)

After your surgery, you will wake up in the Intensive Care Unit (ICU) for close monitoring and observation. Patients usually stay in the ICU for 24 hours and other patients might stay a bit longer before moving to the Cardiac Surgical Unit.

- The ICU can be stressful because there can be a lot of noise from the machines being used. It's important to remain calm. The health care team will do their best to help you to relax and get some sleep.

Tubes and drains

After your surgery, you will have:

- A tube in your throat to help you breath. Once this tube is removed you will have oxygen (air) given through a mask or in your nostrils.
- While you have the tube in your throat, you will not be able to speak. Once this tube is removed, you will be able to speak.
- A tiny tube in your vein (intravenous or IV), giving you fluids and medications.
- A tube in your neck giving you fluids, medications and check your vital signs
- Drains (chest tube) in the middle of your chest. These tubes drain away fluid and old blood that may have built up during the surgery.
- Wires called “pacer wires” coming out of your chest. They help to correct your heart rate if you develop an abnormal heart rate after surgery.
- A urinary catheter (tube), draining urine out of your bladder.



Eating and drinking

Once the breathing tube is removed, you will receive ice chips. Slowly you will progress to foods that you are used to eating and that are healthy for you.

Exercise

You will be prepared to do some exercises as soon as the tube in your mouth is removed. The physiotherapist (PT) will help you.

Transfer to the Cardiac Surgery Unit (D7)

After your stay in the ICU, you will be transferred to the Cardiac Surgery Unit on D7. You will be followed by your cardiac surgeon, nurse practitioners and residents, along with the other members of the health care team.



AFTER SURGERY

Cardiac Surgery Unit (D7)

Visiting Hours

Cardiac Surgery Unit – D7 (Block D, level 7), 8 a.m. - 9 p.m.

Step-Down Area

- When you leave the ICU, you will be transferred to a step-down bed in the cardiac surgery unit.
- The step-down area is where patients coming from ICU are closely monitored with a cardiac monitor. The nurses will often take your vital signs (blood pressure, heart rate, respirations and level of oxygen in the tissues) and look at how much fluid is coming from your urine output and drains.
- Depending on your condition, the team will decide to transfer you to another care bed on the same unit the next day after your arrival. The level of monitoring (vital signs) and observation will be less often than in the step-down area because you are getting better.

Tubes and Drains

- The tubes coming out from your neck and chest, as well as the drain that helps collect urine (foley) will likely be removed the second morning of your surgery.
- The pacer wires will likely stay longer in case you develop an abnormal heart rate. They will be removed before you go home.

Chest Drainage System



Exercise

It is normal to feel short of breath after your surgery especially when you are walking or going up the stairs. This should get better with time.

What can help?

Breathing Exercise

- After surgery, you will be shown breathing and coughing exercises to help loosen the secretions in your lungs.
- To help expand your lungs, you will be shown how to use an inspirometer. These exercises should be done 10 times every hour.



- The PT and the nurses will help guide you during the exercises with the inspirometer.
- The secretions may continue to be challenging to bring up after you leave the hospital but it is important to try to clear your lungs. You should cough up these secretions.
- You will be given a cushion or folded towels to squeeze over your chest to help decrease the pain when you cough.



Sit in the chair

- There is a higher risk for falls after surgery because you may feel weak. It is normal. You will be accompanied the first time you get out of bed. The PT will help you.
- You will be encouraged to sit in a chair with the help of the PT for the first time. Depending on your condition, you will be encouraged to walk or sit in the chair as much as possible. Lying in bed should only be reserved to nighttime.



Walking

- Some patients start walking the day after surgery. You must walk as much as possible as directed by your PT while in hospital.
- Gradually increase the distance and the frequency of your walks as tolerated.
- The PT will show you simple exercises that will promote healing after surgery.
- Before you leave the hospital, the PT will make sure you can walk safely and climb stairs.



Proper foot wear
(e.g., anti-skid socks or shoes)

Normal side effects after surgery

Swollen legs

Your legs may become swollen after surgery. If a vein was removed from your leg, the swelling may continue for a few weeks. It is temporary. Compressive stockings could be prescribed for you to help decrease the swelling.



- Continue your exercises and walk every day.
- When sitting in a chair, rest your legs on a stool or coffee table.
- Avoid crossing your legs.

Fatigue and difficulty sleeping

It is normal to feel tired and weak, or to have difficulty sleeping after your surgery. This is only temporary, and it may take several weeks for you to feel like yourself again.

- If you are tired, you are encouraged to rest in the chair.
- Try to walk as much as you can tolerate after your cardiac surgery.
- Stay active but allow yourself time to rest.

Sleeping position

It can be difficult to find a comfortable sleeping position after surgery due to the surgical incisions.

Sleeping on your back



- This can be **the best position for the chest** scar but can often be a problem for the leg and/or breathing.
- If you have pain in your leg: put a pillow underneath your leg to raise it up which often helps with pain. Make sure the pillow is not underneath your knee as this can cause your knee to stiffen in a bent position.
- If you have difficulty breathing, you can put an extra pillow or two under your head/back which may help. If this becomes a persistent problem (more than 2 to 3 days) you should let your doctor know.

Sleeping on your side



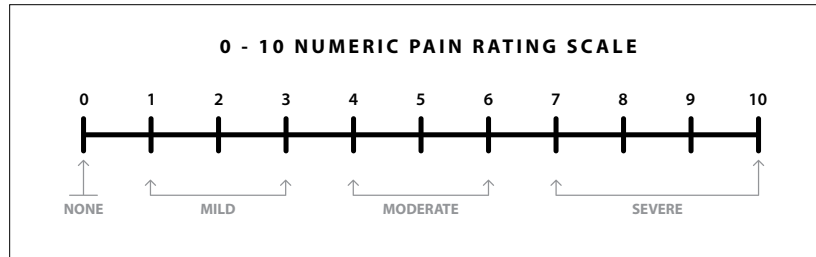
- **This position is difficult as you should not be directly on your side** as this can be bad for healing.
- You can however position pillows behind your back and lean back on them so that you are not completely on your side. You can also position pillows in front of your chest and lean forward onto them. This position is sometimes not comfortable for everyone.
- It is suggested that you spend less time in this half side-lying position – a full 8-hour sleep may be uncomfortable and cause pain despite the pillows.

Sleeping on your stomach

- **This position is not suggested at all.** You should try to sleep on your side with pillows stacked up in front of your chest and lean forward onto them. This may be comfortable for you.
- Discuss your sleep posture with your PT if you are worried about this.

Pain (chest and leg incision, shoulders and back)

- After your surgery, you may feel pain along your incision(s), your shoulders and your back.
- Your pain level will be measured on a scale from "0" (no pain) to "10" (pain as bad as you can imagine)



- Never wait for the pain to be so intense that it prevents you from doing your activities.
- Tylenol (acetaminophen) is the best option. Use opioids (e.g., Morphine, Dilaudid) only if the pain is not relieved with Tylenol.
- You can use heat (e.g., hot pack) to treat back pain caused by tension from the forward pulling nature of the chest incision.
- Women should start wearing a cotton bra (no wire) two days after surgery to decrease the tension on the incision. To prevent discomfort, place a gauze pad where the bra touches the incision.

Decrease in appetite

A decrease in appetite is normal. You may experience some nausea. You will gradually regain your appetite.

Follow the advice on page 39.

Constipation

Constipation is a common problem during the days following surgery.

- Eat foods rich in fiber (e.g., bran, cereal, prunes, fruits and vegetables with the skin on) on a daily basis.
- Walk as much as possible. Physical activity promotes regularity of bowel movements (stools).



Irritated throat and weak voice

You may feel that your voice is weaker or that you have difficulty swallowing. This is due to the breathing tube you had in your throat. This will improve within 2 to 3 days. If not, notify your nurse.

- To decrease the discomfort, gargle with salt water and take some ice chips.

Difficulty concentrating

Do not worry if you notice that you are having difficulty concentrating. It should return to normal within a few weeks.

Emotions

You may feel sad or more anxious. Remember to focus on the progress you are making.

→ What can help?

While you are in hospital, several resources are there to support you and your loved ones:

- Spiritual Care — This non-denominational service provides emotional and spiritual support to patients and family members.
- Social Worker or Social work services.
- Nurses and Nurse Practitioners.
- Talk about your feelings with your family and friends.

Home, convalescence or rehabilitation centre

The cardiac surgery team will plan your discharge, along with you and your family and friends, by considering three possibilities. These options are the following:

Home

- Every effort should be made by you to make arrangements for assistance at home from family and friends after surgery.
- Some patients who live alone can go home after hospitalization with minimal family/friends support required for meals and assistance with activities of daily living.

Convalescence

- Other patients who don't have the resources at home will convalesce at a health care facility. If you need such a facility, we will organize it for you with assistance from your CLSC.
- The activities and exercises will be planned according to your progress.
- Ministerial guidelines will dictate where a patient goes for continued care; therefore, requests cannot be made by patients or family.

Rehabilitation Centre

- Some patients will require rehabilitation at a centre before going home. This will be decided by our PT and occupational therapy team.
- The activities and exercises will be planned according to your progress.
- Ministerial guidelines will dictate where a patient goes for continued care; therefore, requests cannot be made by patients or family. If a centre cannot accommodate you, guidelines will dictate where we send you for rehabilitation.



Getting back to usual activities

- There is a progression for getting back into your routine. It is essential for your healing to start with small tasks and take necessary breaks.
- Do not overdo it but at the same time, you should not be doing absolutely nothing. Find the balance.
- No one should be in bed for more than an hour per day for rest.

In general, you may feel:

In the first 3 weeks	Tired, short of breath, deconditioned, have ups and downs, fatigue, difficulty sleeping and a poor appetite
3 to 6 weeks	The symptoms in the first 3 weeks are less intense now, some of them could be resolved
6 to 8 weeks	Regain weight, have more energy
8 to 12 weeks	Regain the ability to do activities of daily living

More specifically, here are the activities that you can do:

In the first 3 weeks



Remember to space all activities out throughout the entire day and pace yourself.

Please wait 45 minutes to one hour after a meal before you do an activity.

Continue to use your inspirimeter for at least 1 week after you leave the hospital.

Activities that are considered safe unless a health care professional has said otherwise are:

- Attempting to re-establish your normal routine (e.g., getting dressed and grooming daily)
- Walking (continue with the same exercise level you have been doing in hospital) and slowly progress as advised by your PT
- Stationary cycling without resistance for short duration
- Washing a few dishes
- Preparing a small meal
- Light cleaning but avoiding excessive bending or repetitive movement
- Climbing stairs once or twice per day (slowly)
- You can be a passenger in a car (short rides are recommended)
- Quiet, relaxing interests (e.g., reading, listening to music, watching tv, etc.)

3 to 6 weeks



Make sure activities are shorter than usual in duration so that you avoid using up all your energy on one activity.

- Household activities (e.g., light ironing, making beds, light sweeping, mopping floors, etc.)
- Light activities in the garden (*There is a 5 pound weight restriction explained on page 37*)
- Visit with friends
- Shopping (avoid busy times and do not carry bags or push carriages)
- For avid golfers: putting would be allowed at this point but ensure that you are keeping your activity light and are resting regularly
- Walking up small hills slowly and while concentrating on breathing
- Taking public transport

6 to 8 weeks



- Vacuuming
- Laundry
- Light yard work (e.g., watering plants, light weeding or pruning) if the temperature allows; it can be neither too hot nor too cold
- Changing bed sheets
- Hanging clothes on a clothesline
- Walking a dog on a leash (beware of excessive pulling)
- Using treadmill if your cardiologist agrees
- Swimming (just gentle strokes) if cleared by your doctor

8 to 12 weeks



You can resume most housework (even picking up leaves and mowing the lawn).

Resume activities that are more strenuous (e.g., jogging, tennis, golf etc.).

After 12 weeks, there is no issue with activity as long as you have progressed slowly to the desired intensity required by that activity.

If you are worried about your limitations, you can ask your cardiologist or family doctor for a PT consult and/or to get into a cardiac rehabilitation program.

→ Shovel snow

→ Swimming (breaststroke, freestyle)

→ Skiing

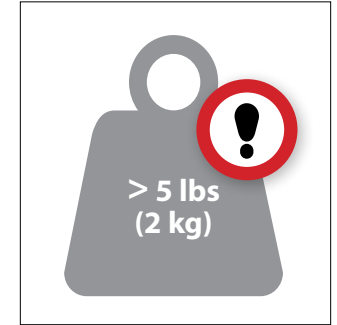
Lifting and reaching

- In general, the breastbone takes 3-6 months to fully heal.
- Avoid positions that can cause pain or pulling across the breastbone. You will need to help yourself with your arms when changing positions.

- Do not push, pull, or lift anything more than 5 pounds (2 kg) for 4 weeks after your surgery.

For example, do not push heavy doors, lift children/animals, lift grocery bags, walk the dog or shovel snow.

- Try not to do sustained overhead activities like hanging clothes or putting dishes into a high cupboard because this increases the work of your heart.



Stairs

- Use the handrail for support and avoid pulling yourself up with your arms, instead use your legs.
- Stairs should not be done as an exercise in the first week because you are expected to keep the activity to a light intensity.

Sexual activity

As a guideline, you should wait 6 to 8 weeks after the day of your surgery before having sexual intercourse.

Driving

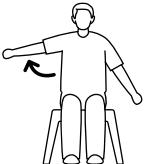
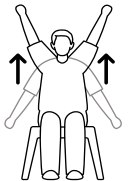


Do not drive your car until 4 weeks after surgery if you had a coronary artery bypass surgery or 6 weeks if you had a valve surgery. If you drive a commercial car, do not drive this type of car until 3 months after surgery.

Travel with plane

Do not take the plane until 4 weeks after surgery.



Home exercises

- The following exercises should be done every day while you are sitting in a chair. Try not to hold your breath while doing the exercises.
- It is normal to feel stretching of the muscles of your upper body and neck, and along your incision. Stop the exercise if you begin to have pain or feel dizzy.

	<p>Shoulder abduction</p> <p>Lift one arm sideways as high as tolerated while keeping elbow straight and palm facing down.</p>
	<p>Shoulder flexion</p> <p>Lift each arm up as high as tolerated while keeping elbow straight.</p>
	<p>Knee extension</p> <p>Sitting on a chair, straighten one leg slowly and hold.</p> <p>Slowly lower. Repeat with the other leg.</p>
	<p>Marching in place</p> <p>Sitting on a chair, lift your knee up off the chair as high as you can.</p> <p>Slowly lower. Repeat with the other leg.</p>

Eating and drinking

- To promote healing, eat foods rich in protein like eggs, chicken, fish, lean red meat, lentils, dried beans and milk products.
- To improve your appetite, eat 3 small meals and 3 snacks per day.
- Avoid or limit coffee, tea and soft drinks. Instead choose milk, milkshakes and juice, which offer more energy and nutrition.
- If you are losing weight without wanting to, ask for a dietitian at your CLSC or in the hospital.
- Do not try to lose weight while recovering from surgery (wait for at least 3 months).

<p>Meal Guidelines</p>	
<p>Have plenty of vegetables and fruits (7 to 10 servings per day)</p> <ul style="list-style-type: none"> • 1 medium size vegetable or fruit • ½ cup (125 ml) of fresh or frozen vegetables or fruit • 1 cup (250 ml) of dark green lettuce salad • ½ cup (125 ml) of vegetable or fruit juice 	
<p>Choose whole grain foods (6 to 8 servings per day)</p> <ul style="list-style-type: none"> • ¾ cup (200 ml) hot cereal • 1 slice of whole grain bread • ½ cup (125 ml) of pasta or rice • ½ bagel 	

**Eat protein foods
(4-7 servings per day)**

- 1 cup (250 ml) of low fat milk
- 2 slices of low fat processed cheese or 2 oz (50 g) of cheese
- ¾ cup (175 g) of low fat yogurt
- 2-3 oz (50-100 g) of lean meat, poultry or fish
- 1 to 2 eggs
- ½-1 cup (125-250 ml) of kidney beans, split peas or lentils
- ⅓ cup (100 g) of tofu



Vitamins

If you are unable to get an adequate intake of the four food groups, speak to your dietitian about taking a multivitamin supplement.

Alcohol

Canada's Guidance on Alcohol and Health states that all alcohol use comes with risk.

→ Low risk:

- Drink only 1 to 2 standard drinks per week.
- One standard drink is a glass (5 oz or 142 ml) of wine, (12 oz or 341 ml) of beer or 1 ½ ounces (43 ml) of spirits (40% alcohol).

→ Moderate Risk:

- You can drink 3 to 6 standard drinks per week.

Caffeine

Moderate intakes of caffeine are not linked to any serious health problems. Moderation means 2 cups (500 ml) per day.

Salt intake

- Reduce your salt intake to lower blood pressure.
- Avoid the saltshaker at the table.
- Use only a small amount of salt ½ tsp (2.5 ml) in your cooking per day.
- Avoid ready-to-eat and canned foods; they may contain too much salt.
- Read labels. The higher salt (sodium) is listed on the ingredients list, the more salt the food contains.
- Antacids such as baking soda, Bromo Seltzer™ and ENO™ are high in salt (sodium).
- Check with your doctor or dietitian before using salt substitutes.
- Avoid drinks with high salt content such as mineral water.

Specifications for diabetic patients

Nutrition is the key to managing your diabetes and reducing your risk of heart disease. Each individual with diabetes is different and your diet should suit your needs.

Your diet should help you:

- Control your blood glucose and reduce your risk of complications
- Maintain a healthy body weight
- Control your blood pressure
- Control your blood lipid (fat) levels

The following tips may help:

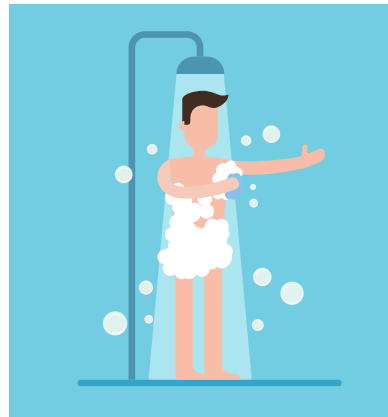
- Manage your portions using Canada's Food Guide or your individualized Diabetic meal plan from your dietitian, nurse or family doctor.
- Choose healthy carbohydrates like whole grains, fruits, vegetables and legumes.
- Limit highly processed foods (e.g., sugary drinks, candies, cakes). Choose whole foods and try to eat and prepare meals at home.
- Choose vegetables and fruits as healthy options. Limit fruit juice.
- Eat regular meals and snack. This helps with blood sugar control. Be consistent with your carbohydrate intake.



MEDICATION

Hygiene and Incision Care

- Always wash your hands well before and after touching your incisions.
- You can take a shower 4 days after your surgery.
- Take a shower rather than a bath, for the first 2 weeks after you leave the hospital.
- Clean your incisions with mild soap (non-perfumed) and rinse.
- Do not use alcohol or peroxide to clean your incisions.
- Do not put any creams or oils on your incisions.
- You may have a lump at the top of your chest incision site. It is normal. It will disappear with time.
- Pat your incisions dry with a clean towel.
- If you have clips along your incisions, they will be removed by a nurse from the hospital or the CLSC 10 to 14 days after your surgery.
- Small pieces of tape will be applied once the clips are removed. You may remove the tape 7 days later if they do not come off on their own.



If there is discharge (leaking) from your incisions:

- Continue taking a shower every day.
- Use dry gauze to absorb the discharge. Change the gauze twice a day and whenever needed.
- When there is no longer any discharge, leave your incision open to air (without gauze).

Warning signs of infection at the incision site(s):

- Redness
- Warmth
- Yellow or green, foul-smelling discharge
- An increased amount of discharge
- Fever (oral temperature greater than 38°C or 101°F)
- Increasing pain

Note: Itchiness and dryness at the incision sites are normal signs of healing.

- When you go home a new medication prescription will be given to you.
- Get this prescription filled right away by a pharmacist., and take only the medications from this prescription. Always bring your list of medications when you go see a health care professional.
- Your medication will be reviewed by your cardiologist (heart doctor) 4 to 6 weeks after surgery.
- Your nurse will give you information about your medication. Do not hesitate to ask questions. It is important for you to know why you are taking these medications.

For example: antacids, laxatives, medication for a cold or a cough, homeopathic or herbal supplements.

- Always consult your pharmacist if you have any questions or concerns about your medication.

Important rules

- Keep a list of the medications you are taking with you at all times. The list should include the name of the medication, the dosage, the time you take it and the reason for taking it.
- Take your medication as prescribed by the doctor. Never increase, decrease or stop taking your medication without speaking to your doctor.
- If you forget to take a medication, do not double a dose. Continue with your regular schedule.
- Check with your pharmacist before taking any other medication.

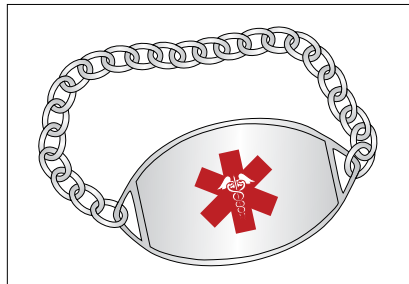
Specifications after valve surgery

- You must try to avoid most infections for the rest of your life as an infection can affect your valve and may mean you would need another valve replacement.
- Consult your family doctor if you suspect an infection (for example an abscess, cut(s), cough or persistent sore throat) or if you have fever (a temperature higher than 38°C or 101°F) that lasts more than 24 hours.
- You must tell any medical personnel (doctor, dentist, nurse, medical secretaries) that you have had a valve operation. It is important to do this when making appointments, as it is likely that you will need to take antibiotics before having medical procedures or surgery (e.g., teeth cleaning, colonoscopy, cystoscopy, etc.). If you are taking a “blood thinner” such as Coumadin®, you may need to stop taking it for a certain period of time. The doctor should give you these instructions.
- After valve surgery you may have to take Coumadin® which increases the risk of bleeding. (Refer to page 47 for precautions and information while taking this medication.)

- We recommend that you wear a Medic Alert™ bracelet. You can buy the bracelet through the website of Medic Alert™ or get information about it from your pharmacy.

This bracelet will state that you have a mechanical valve and that you take Coumadin®.

You will receive a card that you must carry at all times. It contains specific information about your valve.



Medications often prescribed

Aspirin (Acetylsalicylic Acid)

This medication is used to stop the formation of clots in your blood. Take this medication with food to reduce stomach irritation.

Cordarone (Amiodarone)

This medication is used to treat and prevent the recurrence of an irregular heartbeat. It may make your skin more sensitive to sunlight. Use a sunscreen when you are outdoors. This drug has many interactions with other drugs.

For this reason, you should always go to the same pharmacy. Amiodarone can affect the liver and lungs — notify your doctor if you have labored breathing, dark-coloured urine, or pale stools, yellowing of your skin or the whites of your eyes.

Lasix (Furosemide)

This medication eliminates extra water from your body and will cause you to urinate more frequently.

Taking this medication leads to a loss in potassium. Therefore, include foods rich in potassium in your diet such as bananas, oranges, kiwis, potatoes with skin and dried fruit (after prunes): only if you are not taking any medications that keeps potassium in the blood (e.g., Aldactone (Spironolactone)).

Lopresor (Metoprolol) / Monacor (Bisoprolol)

These medications decrease the heart rate and blood pressure. They prevent arrhythmias (abnormal heart rate)

They function by decreasing the work of the heart after surgery and which helps the heart to heal.

Since these medications decrease blood pressure, they may cause dizziness. To help with feeling dizzy, get up slowly after lying down.

Morphine/Supeudol (Oxycodone) / Dilaudid (Hydromorphone)

These medications are for pain. Take them as needed, one to two pills every 4 to 6 hours.

Common side effects of these drugs include nausea, constipation, drowsiness and dizziness. Avoid driving or operating a motorized vehicle.

To decrease nausea, take your pills while eating. To avoid constipation, eat foods rich in fiber (see page 29), drink lots of water and take Colace® as prescribed.

Plavix (Clopidogrel) / Ticagrelor (Brilinta)

This medication is a blood thinner that helps to reduce heart problems caused by a build-up of fat in your arteries. It can be taken alone or with Aspirin® — they both thin the blood but by different mechanisms.

Notify your doctor if you have any unusual bleeding or bruising.

Sotacor (Sotalol)

This medication is sometimes used to control an irregular heartbeat. It can cause dizziness, therefore, get up slowly. If your pulse is slow (less than 50 beats per minute) or irregular, notify your physician.

Eliquis (Apixaban) / Lixiana (Edoxaban) / Pradaxa (Dabigatran) / Xarelto (Rivaroxaban)

These medications help to prevent clots from forming in your blood vessels.

They thin the blood. Notify your doctor if you have any unusual bleeding or bruising.

Coumadin® (Warfarin)

This medication helps to prevent clots from forming in your blood vessels. It thins the blood. If you forget to take your coumadin, and then remember on the same day, take it immediately. If you remember the next day, do not take the missed dose, and continue with your usual schedule.

Never take 2 doses on the same day.

Side effects

The main side effect of Coumadin® is bleeding. This is how you can help prevent it:

- Use a soft toothbrush to prevent bleeding gums when brushing your teeth
- Use an electric razor rather than a straight razor to avoid cutting yourself when shaving
- Be extremely careful when handling sharp objects
- Avoid contact sports

Notify your doctor immediately if you have any of the following symptoms



- Blood in your urine (a pink, red or brown colour to your urine)
- Blood in your stools (red or black stools)
- Vomiting (reddish or brownish content)
- Bruises on your skin
- Nosebleeds or coughing up blood
- Bleeding gums
- Persistent and severe headaches



Important Guidelines



- ✔ Never miss appointments for your blood test. This test will allow your doctor or pharmacist to adjust your Coumadin® dose.
- ✔ Notify your doctor or your pharmacist immediately if you forget to take your Coumadin® for two or more days.
- ✔ You must tell every doctor, nurse practitioner, pharmacist, or dentist that you take Coumadin®.
- ✔ Products containing aspirin should only be taken on the advice of a doctor.
- ✔ Consult your dietitian or your doctor before changing your dietary habits or before starting a new diet.
- ✔ Do not take over the counter supplements or natural health supplements without consulting with your doctor, nurse practitioner, dietitian, or pharmacist.

RETURN TO WORK + APPOINTMENTS



Work

- You can return to work within 3 months after your heart surgery.

Follow-up

- We will make arrangements with your CLSC for removal of clips from the incision site, dressings and/or home care.
- When you return home, make appointments with your family doctor and cardiologist to be seen in 4 to 6 weeks.
- If you do not have a cardiologist, let us know. Please call as soon as possible to make the appointments because it can take 3 months to see a cardiologist.



To help you stop smoking



- 1-866-527-7383
- www.iqitnow.qc.ca



- The Quebec Lung Association
- 1-888-768-6669
 - www.poumonquebec.ca/en

Quit smoking centres: ask your CLSC for information

Smoking cessation clinic at the MUHC:
This requires a referral from your doctor or nurse practitioner.
Send the request by fax to 514-934-8488.

McConnell Patient Resource Centre Online Resource Pages

→ www.muhclibraries.ca/patients

- **The heart (general information):**
→ *cardiology*
- **Heart surgery:**
→ *heart-surgery*
- **Heart disease:**
→ *heart-disease*
- **Heart valves:**
→ *heart-valve-disease*
- **Pain:**
→ *pain*
- **Anesthesia:**
→ *anesthesia*
- **Quitting smoking:**
→ *smoking-cessation*

For help finding reliable health and wellness information, contact the McConnell Patient Resource Centre at crp-prc@muhc.mcgill.ca

Websites

<ul style="list-style-type: none"> • Heart and Stroke Foundation 1-888-473-4636 www.heartandstroke.ca 	
<p>Stress Management: www.heartandstroke.ca/-/media/pdf-files/canada/other/coping-with-stress</p>	
<ul style="list-style-type: none"> • Canadian Diabetes Association 1-800-226-8464 www.diabetes.qc.ca 	
<ul style="list-style-type: none"> • Canadian Medic Alert Foundation 1-800-668-1507 www.medicalert.ca 	
<ul style="list-style-type: none"> • Health Canada www.canada.ca/en/health-canada 	
<ul style="list-style-type: none"> • Nutrition Information www.dietitians.ca www.annelindsay.com www.bonniestern.com 	



Heart Rehabilitation Programs

- **Montreal Heart Institute Preventive Medicine and Physical Activity Centre (EPIC)**
www.centrepic.org • info@centrepic.org • 514-374-1480
- **Laval Cardiovascular Centre**
450-629-7659
- **Ma vie à Coeur Programme de prévention et de réadaptation cardiaque Rive-Sud**
450-655-9150 (Boucherville) • 450-465-7220 (Brossard)
- **Réadaptation cardiaque CIUSSS Nord-de-l'Île-de-Montréal**
maladies.chroniques.cnmtl@ssss.gouv.qc.ca • 514-384-2000, ext. 7254

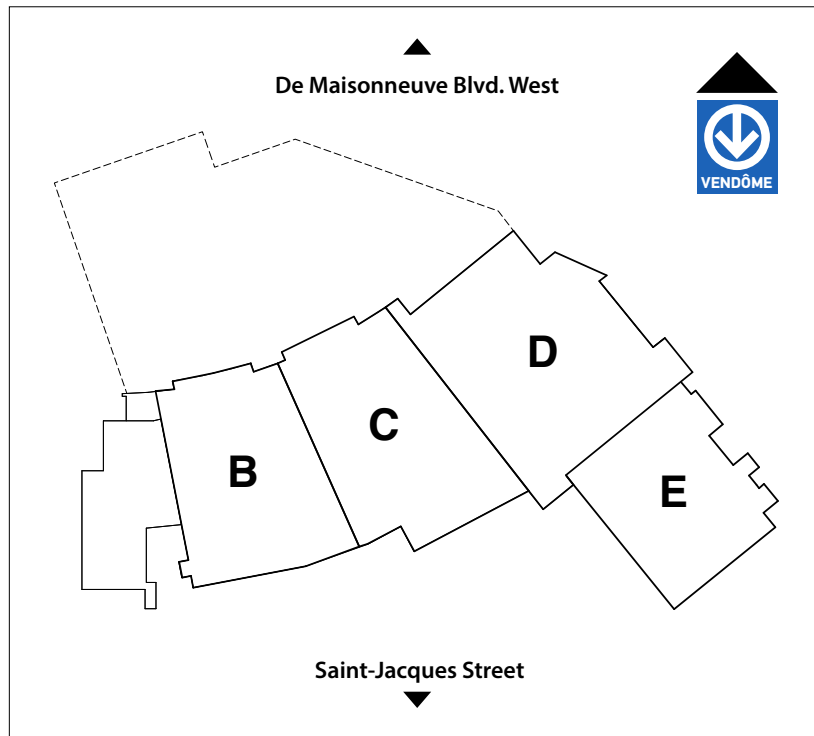
IMPORTANT CONTACTS + INFORMATION



Royal Victoria Hospital — Glen Site
1001 Décarie Boulevard, Montréal, QC H4A 3J1

	Cardiac Surgery Unit	514-934-1934, ext. 34985
	Post-Hospitalisation Line for Patients	514-934-4494
	Dietitian	514-934-1934, ext. 34451
	Physiotherapist	514-934-1934, ext. 31565
	Network: CUSM-MUHC-PUBLIC Username: public Password: wifi	
Cafeteria	S1 level, Adult Atrium	
Vending Machines	S1 level, Block C	
Stores/ Restaurants/ Coffee shops	RC level (Ground level) and S1 level	

Bank Machines (ATM)	RC level (Ground level) Blocks C and D, and S1 level
McConnell Centre (Patient Library)	RC level (Ground level), Block B (B RC.0078)
Prayer and Meditation Room	Level 2, Block C (C 02.0310.4)
Parking Rates	www.muhc.ca/patient-and-visitor-parking



WHEN TO GO TO THE EMERGENCY ROOM



Go to the Emergency Room if:

- you have intense pain in your chest and symptoms similar to those experienced before surgery (angina).
- you feel instability or a “clicking” sensation in your breastbone.
- you have a fever over 38 °C or 101 °F for more than 24 hours.

Consult your cardiologist or go to the Emergency Room if:

- you experience palpitations (feeling your heart going fast) lasting more than a few minutes.
- during your daily activities or exercises, you have symptoms such as:
 - shortness of breath that does not go away with rest
 - dizziness
 - nausea or vomiting

Consult your surgeon or go to the Emergency Room if:

- you notice increased redness, foul smelling, thick yellowish or greenish discharge from your incision(s).

Consult your cardiologist or your family doctor if:

- your legs remain swollen after 8 weeks, or if you have a rapid increase in weight.

Thank you to the following for their contribution in the development of this booklet.

- Cardiac Surgery team and members
from the Surgical Care Pathway Program,
- Pre-operative Clinic,
- MUHC Library, and the
- Medical Multimedia Services

Important: The information provided in this document is for educational purposes. It is not intended to replace the advice of a professional healthcare practitioner or to substitute for medical care. Contact a qualified healthcare practitioner if you have any questions about your care.

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de santé McGill



McGill University
Health Centre

To download booklet:



www.muhc.ca/guidecardiac

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