

# A Patient's Guide to Minimally Invasive Cardiac Surgery: What you Need to Know



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# WHAT TO BRING TO THE HOSPITAL

- Toiletries such as shampoo, deodorant, soap, toothbrush, and toothpaste
- Housecoat
- Pyjamas
- For women: loose sports bra with front clasp
- Shoes or slippers that are rubber-soled and closed around the heel
- Hairbrush
- Eyeglasses, hearing aids, light reading material
- Comfortable clothing to wear on day of discharge
- Absolutely no jewellery
- Name of designated contact person and contact's phone number
- Cardiac Surgery Education Booklet
- Health card

## IMPORTANT TELEPHONE NUMBERS

Southlake Regional Health Centre	905-895-4521
Regional Cardiac Care Coordinator	Ext. 2853
Cardiovascular Intensive Care Unit (CVICU)	Ext. 2878
Cardiovascular Surgery In-patient Unit	Ext. 2892

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# WELCOME TO THE REGIONAL CARDIAC CARE PROGRAM

Southlake Regional Health Centre is committed to providing the highest level of care to our cardiovascular patients. The Regional Cardiac Care Program serves patients living in York, Simcoe, Muskoka, and Dufferin Regions. Southlake is the fourth largest Regional Cardiac Care Program in Ontario and is well equipped to serve you.

Now that you have learned that heart surgery is an option for you, it is important to understand how to prepare for surgery and plan your recovery. This booklet is designed to help you and your family understand your condition; it outlines what to expect before, during, and after your heart operation. The days leading up to your operation can be stressful; however, patients have told us that preparing for heart surgery and sharing their feelings decreases stress. By reviewing this booklet before surgery, you can develop a plan that will help you prepare for your operation. Please encourage all members of your family to read this booklet – they are key partners in your care before and after surgery.

Being referred for cardiac surgery can be an emotional experience for patients and families. For further resources regarding minimally invasive cardiac surgery, please refer to our website.

**Website:** [www.mitral.ca](http://www.mitral.ca)

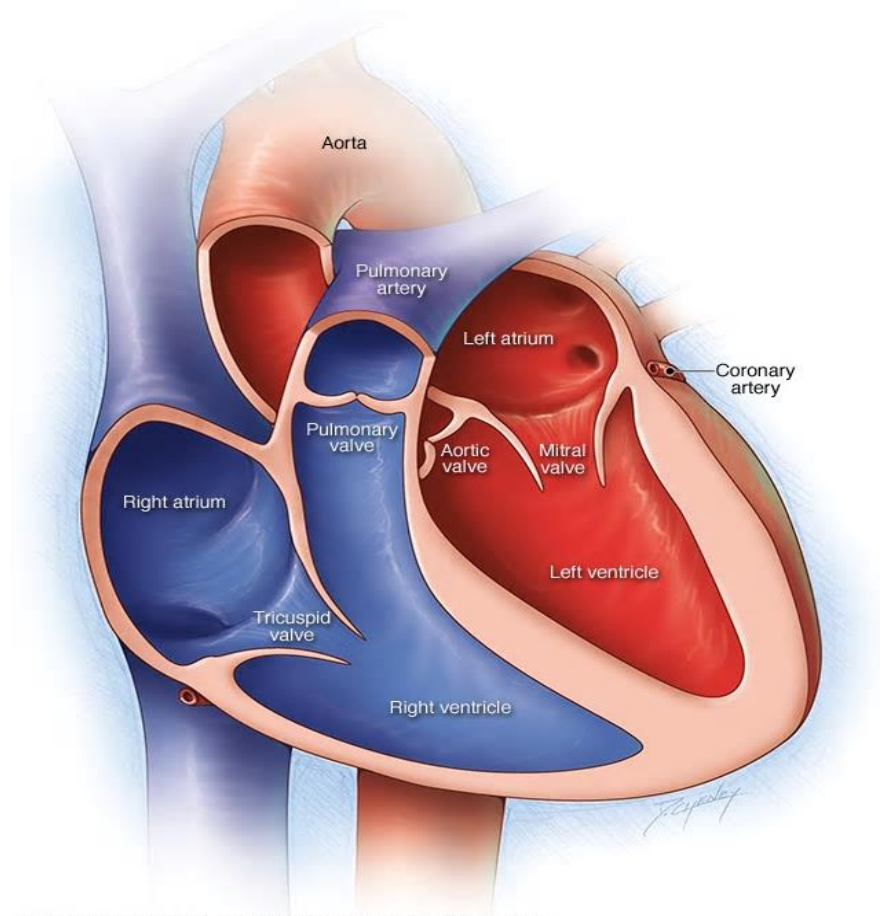
Your recovery will continue after you are discharged from the hospital. It is expected you will be able to resume your normal activities over a period of 2 weeks after surgery, though it is normal for your energy level to be low for the first few months as your body recovers. Cardiac Rehabilitation is an excellent opportunity to continue your recovery after cardiac surgery on an out-patient basis.

If you have any questions or concerns, please contact Southlake's Regional Cardiac Care Coordinator at 905-895-4521, ext. 2853.

# UNDERSTANDING THE HEART

Your heart is a muscular organ that acts like a pump to continuously send blood throughout your body. Your heart is the hub of your circulatory system. This system consists of blood vessels which include arteries, veins, and capillaries. These blood vessels transport blood to and from all areas of your body. The heart is regulated by an electrical system which relies on electrical signals to stimulate the heart muscle to pump. The pumping of the heart muscle allows for blood to be delivered to your circulatory system. Heart valves ensure that the blood flows in the correct direction.

Your heart's ability to function properly is vital to your health. Without the heart's pumping action, blood cannot circulate within your body. A healthy heart helps to regulate the blood flow throughout the body. If disease or injury weakens your heart, your body's organs will not receive enough blood to work effectively.



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# TYPES OF HEART SURGERY

## Conventional Sternotomy

A sternotomy is an incision made in the front of the chest. The breast bone is sawed open to gain access to the heart. Tubes connect to the cardiopulmonary bypass machine, which acts as the heart and lungs during the time of surgery

## Minimally Invasive Surgery via Minithoracotomy

A small incision (~ 1.5 – 2 inches) is made on the right side of the chest. The incision goes between the ribs so no bone is sawed to gain access to the heart. A small incision (~ 0.5 inches) is also made in the groin to put the tubes for the cardiopulmonary bypass machine.

**Sternotomy**



**Minithoracotomy**





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# TYPES OF HEART SURGERY

**If you are having heart valve surgery you will require a dental checkup that includes: cleaning, descaling, and a Panorex x-ray of your teeth within three months of your surgery date.**

## **Heart Valve Surgery**

People requiring heart valve surgery have a valve that has lost its ability to function well during the person's adult years. Your surgeon will determine whether to repair or replace the malfunctioning valve.

### **Common Types of Valve Disease**

#### *Stenosis*

- This occurs when a valve opening becomes smaller or narrower and is unable to open wide enough to allow sufficient blood flow through the valve.

#### *Regurgitation or Insufficiency*

- This occurs when a valve does not close completely and results in the back flow of blood. This causes increased strain or pressure on your heart. As a result, your heart has to pump harder which may cause decreased blood circulation to the rest of your body.

### **Types of Valves Used for Replacement, if Repair is not Possible**

#### *Mechanical valves:*

- are made of metal or synthetic materials.
- require lifelong blood-thinning medication to prevent blood clots (Coumadin/Warfarin).

#### *Tissue/Biological valves:*

- are made of animal or human tissue treated with chemicals to avoid rejection.
- do not usually require prolonged blood-thinning medication (greater than three months).

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# PREPARING YOURSELF FOR HEART SURGERY

## Activity

- Remain as active as possible in the weeks before surgery.
- **Ensure activity does not cause symptoms** (shortness of breath, chest pain, and fatigue).
- Your breathing and circulation will improve with activity.
- Remaining active will allow for an easier recovery after surgery.

## Smoking

- If you smoke, **quit now!**
- Smoking increases your risk of developing health problems during and after surgery.
- Southlake Regional Health Centre is smoke-free. Smoking is not permitted anywhere on the hospital property, inside or out. For additional information please visit our website at [www.southlakeregional.org](http://www.southlakeregional.org).
- If you need help on how to stop smoking, please contact the Smoker's Helpline at 1-877-513-5333, or via the Internet at [www.smokershelpline.ca](http://www.smokershelpline.ca).



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# PREPARING YOURSELF FOR HEART SURGERY

## Heart Healthy Eating

- Eating healthy foods is important to prepare for your upcoming surgery.
- Eat a variety of low fat and low salt foods.
- Maintaining healthy eating habits may help with a quick recovery.
- If you follow a special diet as part of your medical treatment, continue to do so and inform your surgeon.
- If you are diabetic, ensure that your blood sugars are well controlled to help healing and reduce infection after surgery.
- Contact your family doctor/diabetic specialist if you have concerns about your blood sugar control.

## Rest

- Arrive well rested prior to surgery.

## Alcohol

- Do **not** drink alcohol – liquor, beer, and wine – for a week prior to your surgery.
- If this concerns you, please tell your cardiac surgeon.

# PREPARING YOURSELF FOR HEART SURGERY

## If Your Condition Changes

Your position on the waiting list for cardiac surgery is based on your current and ongoing medical condition. Some patients will be required to stay in hospital until they have heart surgery due to the severity of their symptoms and anatomy. If there is **ANY** change in your condition while you are waiting for surgery it is important that you notify your cardiac surgeon **AND** the Regional Cardiac Care Coordinator 905-895-4521, ext. 2853 as this **MAY** affect your surgery date.

Change in Condition	Follow-Up
Chest pain that increases in frequency or severity can indicate a change in your angina.	Contact your Cardiologist and the Regional Cardiac Care Coordinator.
Shortness of breath with no exertion, when lying flat in bed or that wakes you up at night	Go to your nearest Emergency Room or call 911. Advise the Healthcare Providers that you are on the wait list for cardiac surgery at Southlake.
Shortness of breath that is new, worse, or occurring more frequently.	Contact your Cardiologist and the Regional Cardiac Care Coordinator.
Swelling in your feet or ankles that is new or worsening.	Contact your Cardiologist and the Regional Cardiac Care Coordinator.
Fast or irregular heart beat that you have not had before.	Go to your nearest Emergency Room or call 911. Advise the Healthcare Providers that you are on the wait list for cardiac surgery at Southlake.
Cold, fever, or infection: Fever or cough that produces yellow or green tinged mucous may indicate infection.	Contact your family doctor and the Regional Cardiac Care Coordinator.
Any other change in medical condition or new symptoms (for example, blood in stool).	Contact your family doctor and the Regional Cardiac Care Coordinator.

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# PREPARING YOURSELF FOR HEART SURGERY

## Chance of Cancellation

It is stressful for you and your family if your surgery date is changed or cancelled. There is always a chance that the date of your surgery may have to be changed because of changes in your condition, changes in the condition of others on the surgery waiting list, or emergencies. If your surgery date is changed, you will be notified by your surgeon's office.

## Patient Registration

Each time you arrive at the hospital for appointments or procedures, you must visit the Welcome Centre, located at the hospital entrances. If you have additional questions, please visit our website at [www.southlakeregional.org](http://www.southlakeregional.org)

## Accessing Resources

If you have any questions or concerns after reading this booklet or after speaking to your family members, please feel free to contact the Cardiac Program Social Worker at 905-895-4521, ext. 2001 or the Regional Cardiac Care Coordinator at ext. 2853.

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# PRE-OP CLINIC

## What is the Pre-Op Clinic?

- Your surgeon's office will provide you with a date and time for your Pre-Op Clinic visit.
- The goal of the Pre-Op Clinic is to prepare you for cardiac surgery and answer any questions you may have.
- Family members are encouraged to participate in the Pre-Op Clinic.
- At the Pre-Op Clinic, you will have a chest x-ray, blood tests, and an ECG.
- You will meet members of the Cardiac Surgery Interprofessional Team. This may include anesthesia, nursing, pharmacy, and other allied health professionals.
- You will receive a "prep-pack" with instructions.

## What to Expect at Your Pre-Op Clinic Appointment

- It is expected that you may spend up to four hours in the Pre-Op Clinic.
- Please eat and drink as you normally would prior to your appointment. It is suggested that you also bring a snack.
- Take your medications on the day of the Pre-Op Clinic as prescribed.
- Bring all prescription and non-prescription medications that you are using in their original containers; this includes, vitamins, herbals, and homeopathic remedies.
- Bring this book with you.



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# PLANNING FOR DISCHARGE

## Planning for Discharge Begins Before Your Heart Surgery

The following lists some important tips when planning for your discharge from the hospital after your surgery:

- Make plans for your discharge from the hospital before you arrive for surgery. Discharge time is 10:00 a.m. Most patients are ready to be discharged on day 4 after surgery.
- Arrange for help inside the home for daily activities such as cleaning, groceries, laundry, and yard work for 2-4 weeks. **Nursing and home care services are NOT routinely supplied in your home. You will be able to care for yourself by the time you are ready to go home.**
- You will not be able to drive for 4 weeks after surgery. Arrange for someone to be available to help you get to your appointments.
- Plan to be off work for 6-12 weeks. Look into any sick benefits that may be available to provide you with support during your recovery.
- If you require further assistance in planning for your heart surgery, contact the Regional Cardiac Program Social Worker at Southlake at 905-895-4521, ext. 2001.

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# **DAYS LEADING UP TO YOUR SURGERY**

## **Countdown to Your Heart Surgery**

Your surgeon's office will contact you regarding your surgery date and your arrival time at the hospital.



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## DAY BEFORE YOUR SURGERY

- Q Pack all necessary items required for surgery including medications and this booklet. **Leave all valuable items at home.** Remove nail polish from your fingernails and toenails. Refer to the inside cover of this booklet for tips on what to bring to the hospital. Expect to stay in the hospital for 4 days after surgery.
- Q Do not eat solid foods or drink any fluids after midnight on the night before your surgery; this includes gum, candies, or mints. You are encouraged to have a light snack at 10 p.m., such as cheese and crackers, peanut butter and crackers, or one slice of toast.
- Q Surgical preparation: you will have received supplies to get you ready for surgery. Refer to the step-by-step instructions from your “prep pack” on how to use the supplies. **DO NOT shave or use hair removal products** to remove hair from your legs or chest prior to surgery. Doing so could increase your risk of developing an infection after surgery. Any unnecessary hair will be clipped prior to your surgery.
- Q Get a good night’s sleep before your surgery. If necessary, your doctor may order a sleeping pill to help you relax and sleep. Please request a prescription for this medication if you expect that you will be anxious prior to surgery.

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## MORNING OF YOUR SURGERY

- Q Get up the morning of your surgery, get dressed and brush your teeth at home.
- Q Do not wear make-up or perfumed skin products.
- Q Do not wear rings or jewellery of any kind to the hospital.
- Q **DO NOT TAKE any medications at home** on the day of your surgery. Bring all of your medications with you to the hospital. **You will get medications AT THE HOSPITAL** on the day of surgery.
- Q Proceed to the hospital as directed. Go directly to the Welcome Centre on Level 1, East Building entrance before proceeding to Surgical Admissions located on Level 2, East Building. Arrive at the hospital at the time specified. Bring your Health card. If you need directions, ask the receptionist at the information desk located at the Main Entrance of the East Building.

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# IN THE OPERATING ROOM FOR YOUR HEART SURGERY

## Meeting With Your Healthcare Team

Your cardiac healthcare team includes a highly-trained group of professionals who specialize in cardiac surgical care. Together, this team strives to provide you with exceptional care.

This team includes: the cardiac surgeons, anesthesiologists, nurse practitioners, registered nurses, physiotherapists, Regional Cardiac Care Coordinator, perfusionists, dietitians, pharmacists, respiratory therapists, social worker, chaplain, and support services. Other members of the healthcare team may also be a part of your care depending on your needs.

## What Happens in the Operating Room (OR)

Here are some general things to expect once you enter the operating room:

- The operating room team includes: your surgeon, registered nurses, anesthesiologists, a respiratory therapist, a perfusionist, surgical assistants, and registered nurse first assistants.
- It will be cold and have many bright lights, machines, and instruments.
- Intravenous lines (IVs) are small tubes that will be inserted in the veins in your arms to supply you with medications, replace fluids during surgery, and monitor your blood pressure. After the first IV is inserted, the anesthesiologist may give you some medication to help you feel relaxed and drowsy. The Anesthesiologist will ask you to breathe into a lightweight mask, and give you medication through your IV so that you are asleep during surgery.
- Other lines and monitoring devices will be inserted in the operating room after you are asleep.

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# VISITING HEART SURGERY PATIENTS IN CVICU

## Visitors

Our Cardiovascular Intensive Care Unit (CVICU) is a restricted area. Access to patients post-operatively is limited to immediate family members and significant others only. Two visitors at one time may be permitted **following a call into the unit from the waiting room**. Please inform family members and significant others of this restriction.

For more information please refer to the **“Visitor Information for Southlake’s Critical Care Units”** brochure.

We suggest that your family wait in the CVICU waiting room while you are in the operating room. The surgeon will update your family members after your heart surgery is completed. Your family members will be able to see you in the CVICU after you have been admitted to the unit. It may be up to 45 minutes after the surgeon speaks with the family before they can see you. Please inform your family members of this information. If you require alternate contact arrangements, please inform the staff at the Pre-Op Clinic. The surgeon will, if requested, call your family member at home to report on the surgery.

**Please note:** The Privacy Act **prevents all hospital staff** from disclosing any information to persons other than the primary or secondary contact identified by the patient. Please refer to the Patient Privacy section on Southlake’s website at [www.southlakeregional.org](http://www.southlakeregional.org). You may also wish to review the brochure: Privacy of Personal Health Information: A Patient’s Guide.

## Visiting Hours

Please ask your healthcare team regarding specific visiting hours.

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# WHAT TO EXPECT IMMEDIATELY AFTER SURGERY

## Recovery in the Cardiovascular Intensive Care Unit (CVICU)

- For the first 4-6 hours after your surgery you will be asleep.
- You will wake up in the CVICU after your surgery is completed.
- You can expect to be in the CVICU for approximately 12-24 hours after your surgery.
- When you first awake from the anesthetic, do not be alarmed if you feel a certain amount of discomfort. You will receive pain medication to relieve this discomfort.
- A registered nurse will continuously monitor and assist you as you awake from surgery.
- While your body is at rest during surgery, several pieces of medical equipment are doing much of the body's work for you (for example breathing, warming, and urinating).
- Upon awaking, you will notice that you are still connected to the medical equipment to which you were attached during your operation.
- These tubes and wires may seem awkward and uncomfortable.
- You will be able to move around in bed with the assistance of a nurse even though you are still connected to these machines.

## Breathing Tube

- You will have a breathing tube in your windpipe to assist you with your breathing while you are asleep. Most patients will have this tube removed 4-6 hours after they are admitted to the CVICU.
- You will be unable to speak, eat, or drink until the tube is removed.
- After the breathing tube is removed, you may find that for the next few days your throat is sore and your voice may sound hoarse.
- You will have a mask placed on your face to give you oxygen.

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# WHAT TO EXPECT IMMEDIATELY AFTER SURGERY

## **Chest Tubes**

- You may notice that you have 2 chest tubes placed close your incision and wrapped in the dressing that covers this area.
- These tubes help to drain the extra fluid from the surgical area.
- Your chest tubes will remain in place for 1-2 days after surgery and will be removed when the amount of drainage slows or stops.

## **Incisions**

- You will have a small incision on the right side of your chest, and a very small incision in your groin
- These dressings will remain on your incision (changed daily) until you are discharged.

## **Heart Monitor**

- You will be attached to a bedside heart monitor by electrodes that continuously monitor your heart rate and rhythm.

## **Pacemaker Wires**

- After surgery, your heart may need temporary electrical support to help it beat while it is healing. Temporary pacemaker wires are inserted under your skin during surgery and can be attached to a small pacemaker box.
- Pacemaker wires will be removed before you go home.

## **Foley Catheter**

- A Foley catheter drains the urine from your bladder and is usually removed on the day after surgery.

## **Intravenous Lines (IVs)**

- The intravenous lines are used to supply fluid and medication to you. They will be removed when suitable.

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# ADDRESSING YOUR PAIN

## Taking Care of Pain

Our goal is to work with you to ensure you remain as comfortable as possible during your hospital stay and throughout your recovery. The following provides you with some information about pain control, including what you should and shouldn't feel, and when to speak to your healthcare provider.

- You should never experience chest pains like your previous angina symptoms. Chest pains require immediate medical attention. Notify your nurse immediately if this occurs.
- You should expect to have mild surgical pain, which will gradually decrease as you heal and recover.
- Your nurse will check on you often while you are receiving pain medication. You will be asked to rate your pain on a 0-10 scale. A rating of 0 means that you feel no pain, and 10 means you are experiencing the worst pain you can imagine.
- We aim for you to experience pain of less than 3 on the rating scale. If you are experiencing more pain than this, let your nurse know and he or she will help to ease your discomfort.
- If you feel pain more than 3 on the rating scale, tell your nurse right away. Do not wait until the pain becomes intolerable. Your pain medication will be adjusted to keep you as comfortable as possible.
- Pain medication can be given in many different ways; examples are, medications injected in an intravenous line (IV), a rectal suppository, a needle under your skin, a patch on your skin, or a pill.

0      1      2      **3**      4      5      6      7      8      9      10

**h**

No Pain

**Request Pain Medication**

Worst Pain Imaginable



## REQUIRED ACTIVITY AFTER SURGERY

Successful recovery from cardiac surgery is dependent on early mobilization and exercises to build up strength and endurance. This video describes what to expect post-operatively and allows patients to practice the exercises prior to surgery.

**Website:** [www.youtube.com/SouthlakeRHC](http://www.youtube.com/SouthlakeRHC)

**Video:** Preparing for cardiac surgery Part 2 - Mobility and exercises

### Breathing Exercises

- Breathing exercises and getting up out of bed will help prevent complications such as pneumonia.
- Breathing exercises should be started as soon as you are awake.
- Take a slow breath in, letting your abdomen rise as the air gets to the bottom of your lungs, relax and blow the air out.
- Repeat 5-10 times every hour while you are awake.

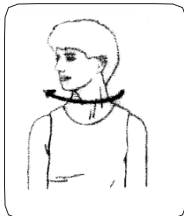
### Coughing

- After your breathing exercise, it is important to cough to get rid of any mucous that may be in your lungs.
- Hold your heart-shaped pillow firmly against your chest incision.
- Take a large breath in and cough strongly 2-3 times.
- Spit out any mucous that may be brought up.

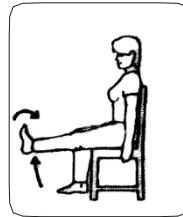
# ACTIVITY GUIDELINES

Exercises are best performed sitting in a firm chair unless otherwise stated.

**DO NOT** hold your breath.



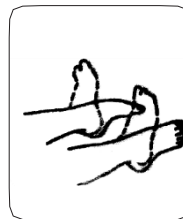
Slowly turn your head to the right, to the middle, then to the left. Repeat 5 times.



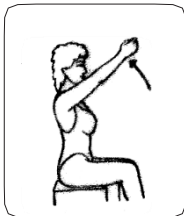
Straighten one leg by lifting it up off the floor. Keep thighs parallel. Hold for 5 seconds. Do 10 repetitions with each leg.



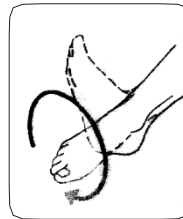
Slowly lift both shoulders upward, roll them forward, downward, and back. Repeat 10 times; then repeat in opposite direction.



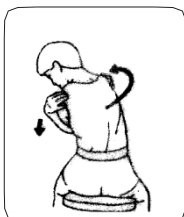
Slowly bend and straighten your ankles through their full movement. Do 10 repetitions with each ankle.



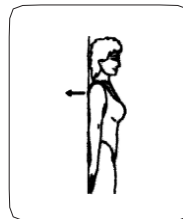
Slowly raise one arm forward and upward until your arm is next to your ear. Then slowly lower your arm then the other. Repeat 5 times. Then repeat with opposite arm. If you are able, you can progress to lift both arms at the same time.



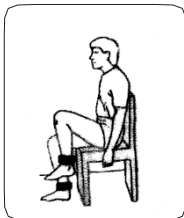
Make circles with your ankle and foot. Do 10 repetitions with each foot.



Keeping your hips and buttocks still, slowly turn your upper body to the right. Hold for 5 seconds and relax. Repeat 5 times. Then, repeat in the opposite direction.



**POSTURE:** Stand against a wall. Keep your buttocks, shoulder blades, and head against the wall. Do not tip your head back – keep looking straight ahead. Continue breathing in and out while maintaining this position for 20 seconds. Repeat.



Slowly lift one knee up, then lower it down. Do 10 repetitions with each leg.

# ACTIVITY LOG

Each step listed below reflects the progress you will make following your surgery. Many patients accomplish these steps within 3-4 days. Listen to what your body is telling you. Your physiotherapist will help you develop a plan that is best suited to you.

STEP #	ACTIVITY	COMMENTS	DATE
1	<ul style="list-style-type: none"> <li>• Sit on the side of the bed.</li> <li>• Make circles with your ankles every hour (10 times).</li> <li>• Do deep breathing exercises with supported coughing every hour.</li> <li>• Get out of bed and sit in a chair as tolerated.</li> </ul>		
2	<ul style="list-style-type: none"> <li>• Get out of the bed and sit in a chair as tolerated.</li> <li>• Go for short walks with staff assistance.</li> <li>• Do arm and leg exercises (5-10 times twice a day).</li> <li>• Continue deep breathing exercises hourly.</li> </ul>	rr rr rr	
3	<ul style="list-style-type: none"> <li>• Go for short walks with staff assistance.</li> <li>• Do arm, leg, and breathing exercises twice a day.</li> <li>• Sit in chair as tolerated for all meals.</li> <li>• Brush teeth, wash face, and do grooming at bedside.</li> </ul>	rrr rr rrr r	
4	<ul style="list-style-type: none"> <li>• Walk in hall at slow, relaxed pace every few hours.</li> <li>• Do arm, leg, and breathing exercises.</li> <li>• Wash yourself independently at bedside.</li> <li>• Dress yourself independently.</li> <li>• Go to the toilet independently.</li> </ul>	rrrrrr rr r r r	
5	<ul style="list-style-type: none"> <li>• Increase walking as tolerated to <b>6 times a day</b>.</li> <li>• Do arm, leg, and breathing exercises.</li> <li>• Attend discharge class.</li> <li>• Do stairs training with staff.</li> </ul>	rrrrrrrr rr r	

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# IMMEDIATE RECOVERY AFTER SURGERY

Your healthcare team will discuss with you the following goals for every day:

- Pain Management
- Deep Breathing and Coughing
- Potential mood changes
- Delirium
- Bowel Function
- Balance of activity, rest and sleep

## Day 1

- Most tubes will be removed.
- Foley catheter removed in the evening.
- Blood work, ECG and a chest x-ray will be completed.
- You will begin a regular cardiac diet and continue on this until discharge.
- You will be assisted to sit at the bed side in the morning and up to the chair for lunch and dinner.
- A Physiotherapist will assist you with your exercises as identified on page 23 and walk in the halls.
- You may be up to using the bathroom and complete activities of daily living with assistance such as brushing teeth, brushing hair, washing and dressing self.
- The nursing staff will make frequent assessments; this will include monitoring of your blood pressure.
- If your blood sugar is elevated after surgery you will require insulin. This is usually temporary for most people and will be changed to either your previous medications, or stopped once your blood sugars have returned to normal.
- After you are transferred to the Cardiac Surgery Ward on the 5th floor, you will be required to wear a portable heart monitor.
- You will be started on stool softeners.

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# IMMEDIATE RECOVERY AFTER SURGERY

## Day 2

- You will be seen by your surgeon.
- Request your pain medication regularly.
- You will sit in the chair for all meals as tolerated.
- Continue with your exercises and complete activities of daily living independently as this prepares you for discharge.
- Walk in halls with staff up to three times today.
- Stool softeners will continue to be given and a laxative will be given at bedtime.
- Discuss discharge plans, tentative date for discharge and patient follow up with nursing staff and the Nurse Practitioner.
- Dressings over your incisions will be changed daily and remain on until discharge.
- Oxygen nasal prongs will be worn until your oxygen levels have returned to normal.

## Day 3

- Request your pain medication regularly.
- You will sit in the chair for all meals and as tolerated.
- Continue with your exercises.
- You will do stair exercises with the physiotherapist.
- Walk the full length of the hall on CVS (from main doors to lounge and back) 4-5 times per day.
- Your pacemaker wires will be removed.
- You may shower with assistance after your pacemaker wires are removed.
- You may have investigations done such as blood work, chest x-ray and ECG.
- Confirm discharge plans including pick up time for ride home at 10:00 a.m. on the day of discharge.
- If you have not had a bowel movement, a laxative will be given.
- Discuss any concerns about your progress with your healthcare team and surgeon.

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# IMMEDIATE RECOVERY AFTER SURGERY

## Day 4 – Day of Discharge

- **By the date you are to be discharged you will:**

1. Be able to get in and out of bed on your own.
  2. Be able to walk in the hall on your own or with a walker, and walk a flight of stairs.
  3. Have had a bowel movement.
  4. Be comfortable with your current pain management plan.
- IV will be removed.
  - Heart monitoring will be discontinued.
  - Review Discharge Summary and Discharge Instructions with staff.
  - Review prescriptions with a nurse or pharmacist.
  - Discuss follow-up appointments.
  - Dress with plans to leave the unit by 10:00 a.m.

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## UPON DISCHARGE

If, for some reason, you are not discharged on Post-Op Day 4, you will be encouraged daily to carry on with your exercise program, continue to eat a healthy diet, and try to rest as much as possible. Prior to discharge, you will receive a physiotherapy walking program, prescriptions for any medication you will have to take at home, a discharge plan regarding rehabilitation or home care (if necessary), and discharge instructions.

- By the time you are discharged, you will be able to walk short distances, climb a flight of stairs, shower without supervision, and prepare light meals (assuming you were able to do these things prior to coming to the hospital).
- Your companion should not be afraid to leave you alone for periods of time. If you live alone, have special needs, or do not have a companion or family member to attend closely to you for a few days after you return home, please notify the staff and ask to see a social worker.
- Feel free to ask questions regarding your care or planned discharge.

### **The following is important information for patients recovering from heart surgery:**

- Recovery from heart surgery can take up to three months or longer.
- Listen to your body and do everything in moderation.
- If you are feeling very tired or sore, slow down.
- Tiredness is normal after heart surgery, do not be surprised if you feel strong one day and tired and weak the next day.
- Be patient – recovery varies from person to person.



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# UPON DISCHARGE

## Medications

- Following surgery, your medications and administration times may be different than what they were before surgery.
- Your pharmacist or nurse will provide you with a detailed medication list which will outline any new medications, medications that are to be continued, herbal or vitamin supplementations, and those that are to be stopped.
- You will have an opportunity to ask any questions about your medications.
- Be sure to know the name of your medications and understand their purpose, dose, effects, and for how long you will need to take them.
- Our pharmacist will also work with your Community Pharmacist to assist in a smooth transition from hospital to home. Before you leave the hospital, you will be given a prescription for your discharge medications. Your Community Pharmacist can further assist you with any questions.
- If you have any concerns about your ability to pay for your medications, please let our staff know and we will arrange to have our Social Worker assist you, either prior to your admission or during your hospital stay.

## **Blood-thinning Medications for Heart Valve Surgery and/or for Atrial Fibrillation**

- Blood-thinning medication are given to some patients after heart valve surgery or if they are in atrial fibrillation (irregular heart beat).
- When taking medication that thins your blood, it is important to watch for bleeding; this may include frequent bruising, bowel movements that are bloody or black, urine that is pink or blood tinged, vomit that is brown or red, severe headaches, nose bleeds and severe abdominal pain.
- You are advised to wear a medical alert bracelet that indicates that you are taking blood-thinning medication.
- Please take the medications as prescribed as there may be serious consequences to increasing doses or missing doses of the blood-thinning medication.
- Make sure other healthcare professionals (dentist, surgeon, etc.) know that you are taking blood-thinners.
- Your healthcare team will determine which type of blood thinner is right for you.

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## UPON DISCHARGE

### Warfarin (Coumadin)

- Some patients will be discharged on a blood thinning medication called warfarin (Coumadin).
- The effect of warfarin can be measured through a blood test called “INR” (International Normalized Ratio).
- The INR will indicate how long it takes for the blood to clot. If your blood is too thin, you may bleed excessively; if it is not thin enough, clots may form which can cause serious complication.
- You will need regular blood monitoring (at least twice a week) if you are discharged on warfarin. You can do this at a lab close to your home.
- Your family doctor or nurse practitioner will adjust your warfarin dose based on the INR results.

## Travelling

### Travelling Home

If you have to travel a long distance to get home, stop for a short walk and stretch your legs every 1-2 hours. Try to have enough room in the backseat of the car to be able to sit and rest comfortably. It is important that you request pain medication before you leave the hospital so you are comfortable for the ride home.

### Driving

- You can resume driving approximately 4 weeks after surgery.
- Consult your doctor if you have any questions or concerns.
- Wear a seat belt as it will not harm your incision. A small pillow may be used under your seat belt to prevent rubbing on your incision.

### Air Travel

It is recommended that you consult your surgeon before making any air travel plans after heart surgery.

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# UPON DISCHARGE

## Showering and Incision Care

- You will shower prior to your discharge from the hospital and resume your normal hygiene habits once you are home. Your incisions may itch or feel sore, tight, or numb for a few weeks. Some bruising around the incisions is also normal.
- Use warm (not hot) water.
- You may wash your incisions gently with soap and water; let the water flow over your incisions but do not scrub them.
- Pat your incisions dry; do not use powders or lotions on your incisions.
- Do not take baths until your Doctor gives you permission, as they can affect your blood flow. You may take showers.
- You may have white pieces of tape on your chest. These are called 'steri strips'. If they have not fallen off in one week, gently wash your chest with soap and water and slowly peel them off.

## Follow-up Appointments

Upon discharge, you will be given instructions regarding your follow-up appointments. You will need to arrange follow-up appointments with:

- Your family doctor **one week after** discharge.
- If you would like a follow-up appointment with your cardiac surgeon, please contact their office directly **8-12 weeks after** surgery.

Please follow the discharge summary instructions that you received upon discharge.

# RECOVERING AT HOME AFTER HEART SURGERY

You have made great progress! Staying active is essential for your recovery. The following instructions will guide your activity at home for the next several weeks.

## Activity Guidelines Weeks 1-6

### Home Exercise Program

- Continue to perform all of the exercises you completed in the hospital every day (page 23).
- Walk every day. Your goal is to progress to 30 minutes a day of walking. Follow the chart below and progress through the steps as you are comfortable.

Step #	Walking Time	# of Walks/Day	Total Time
1	5 minutes	6 times	30 minutes
2	6 minutes	5 times	30 minutes
3	7-8 minutes	4 times	30 minutes
4	10 minutes	3 times	30 minutes
5	15 minutes	2 times	30 minutes
6	30 minutes	1 time	30 minutes

- Follow the **Walk-Talk Rule**. If you can walk and talk at the same time without being short of breath, you are walking at a good pace. If you are short of breath, slow down or stop. You can walk inside or outside.
- Some people might be able to walk 30 minutes in a row within 4-6 weeks after surgery.

***Continue with your Home Exercise Program until you start Cardiac Rehabilitation (see page 39).***

When you go home, you will be able to do light housework, reading, computer work, visit with friends and family, and do your **Home Exercise Program**. Stairs should not be done for exercise at this time. You can go up and down the stairs inside and outside of your home to relocate yourself as needed.

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# RECOVERING AT HOME AFTER HEART SURGERY

## **Lifting**

Do not lift, carry, push or pull anything heavier than 10 pounds (4 kg) for two weeks after your surgery. This is to allow the soft tissue (e.g. muscle) to heal. Then you are free to resume your activities, but start off slow with light weights and increase as your body tolerates.

## **Activity Guidelines Weeks 2 to 12**

After two weeks, you can gradually increase your housework, do light gardening, and start to resume recreational activities.

A referral has been sent to your local Cardiac Rehabilitation Program. They will contact you at home (see page 39). They will assess you and progress your exercise program.

Most people with less strenuous jobs can go back to work 6-8 weeks after surgery. Your doctor will provide specific guidelines for your recovery and return.

## **Activity Guidelines Week 12 and beyond**

Continue your Cardiac Rehabilitation Program. Your Cardiac Rehab team will guide your return to more physically demanding hobbies and recreational activities.

People with more physically demanding jobs (such as construction workers or jobs requiring heavy lifting) may have to wait up to 12 weeks before returning to work. Your doctor will provide specific guidelines for your recovery and return.

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# RECOVERING AT HOME AFTER HEART SURGERY

## Special Instructions for Patients After Valve Surgery

- It is important for patients who have had valve surgery to protect their new valves from bacterial infection by taking antibiotics before dental work and before other medical interventions or operations.
- Antibiotics must be prescribed by your doctor before and after these procedures to decrease the risk of an infection that may affect your heart valve.
- Signs of infection can include fatigue, general feeling of unwell, fever, chills, and sweating. Arrange to see your doctor right away if you develop any of these symptoms.

## What's Normal After Surgery?

### Diet

- You may not have much appetite. It can take several weeks for your appetite to return to normal.
- Many patients notice that their sense of taste is diminished or almost absent. It will return.
- Eat 5-6 small meals per day instead of trying to eat three larger meals.
- Some patients complain of nausea at the smell of food for a week or two after surgery.
- Choose bland foods that do not have a strong odour. Try eating cold foods as they tend to have a milder odour than hot foods.

### Swelling

- It is normal to have generalized swelling after surgery. This may persist for 4 to 6 weeks.
- Elevate your feet whenever you are at rest.
- Avoid crossing your legs as this interferes with blood flow.
- Avoid socks with a tight band.

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# RECOVERING AT HOME AFTER HEART SURGERY

## **Sleeping**

- You may find it difficult to fall asleep or you may find that you wake up at 2:00 a.m. or 3:00 a.m. and cannot fall back to sleep. This will improve.
- Try to fit in 1 to 2 naps during the day but limit them to 45 minutes. Don't nap past 3:30 in the afternoon.
- Make sure you have adequate pain control before you go to bed at night.

## **Constipation**

- The pain medication (narcotics) or iron supplements you are prescribed can cause constipation.
- You may use a laxative of your choice or ask your pharmacist for recommendations.
- You should not go longer than two days without a bowel movement.
- Adding fiber to your diet such as fresh fruits and vegetables, high fibre breads and cereals may help.
- Drink adequate amounts of fluids.
- Exercise will also improve bowel motility.
- Add more high fibre foods such as fresh fruits, vegetables, whole grain breads, and cereals. Drink plenty of fluids. Exercise will also improve bowel motility.

## **Mood**

- You may experience mood swings and feel depressed. This is common and will pass.
- You may have good days and bad days. Do not be discouraged.
- Communicate your feelings openly with your family members.
- These feelings may occur for up to 6-8 weeks but they will get better. If they last longer, discuss this with your doctor.

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# RECOVERING AT HOME AFTER HEART SURGERY

## Healing

- You may have a lump at your groin incision. This will disappear with time.
- You may numbness, tingling or short sharp pains at the incision site. This should occur less often with time and go away completely within the first couple of weeks. If it gets worse, call your surgeon.
- Muscle pain or tightness in your shoulders and upper back between your shoulder blades is not uncommon. This will get better with time. Your pain medication will help relieve this discomfort.
- You may feel a tingling or pulling sensation around your incision area if you are a large-breasted woman. Wearing a comfortable, loose-fitting brassiere will help alleviate these sensations.
- Follow the exercise program given to you by your physiotherapist.



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# WHEN TO CONTACT YOUR DOCTOR

## CONTACT YOUR FAMILY DOCTOR IF YOU EXPERIENCE THE FOLLOWING:

- Fever greater than 38.5°C or 101°F.
- Shortness of breath that continues once you stop an activity and/or while you are at rest.
- Increased swelling of your ankles and weight gain of more than 2-3 lbs (0.9-1.3 kg) over two days.
- A change in incision drainage that is red or looks like pus.
- A change in the appearance of your incisions: increased redness, swelling or pain, gaping, or open incision edges.
- A fast, irregular heartbeat and palpitations.
- Severe bruising for no apparent reason (especially with patients on blood-thinning medication).
- Persistent nausea and/or vomiting.
- Dizziness or light-headedness.
- Fainting or a severe headache.
- Blood in urine or stool (dark, tarry stool).
- Excessive sweating and/or excessive fatigue.
- Pain in your chest or shoulder that worsens with deep breathing or coughing.

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# LONG TERM RECOVERY AFTER HEART SURGERY

**Recovery after heart surgery is a long-term process.**

Re-evaluate your health and make lifestyle changes that will benefit your heart and overall health. The key to making long-lasting lifestyle changes is moderation. It is important that you take time to make gradual changes and set realistic goals for yourself. The staff at the Cardiac Rehabilitation Program may assist you in making these life-altering changes.

## **Cardiac Rehabilitation Program**

Participation in a Cardiac Rehabilitation Program is important to prevent future cardiac problems. People who participate in Cardiac Rehabilitation Program after undergoing cardiac surgery decrease their risk of future cardiac events by up to 25%. The goal of Cardiac Rehabilitation is to assist you in achieving and maintaining your best physical, emotional, social, and work life potential. The Program provides an initial assessment, supervised exercise, and lifestyle change classes.

Cardiac Rehabilitation also provides emotional support as you work through the recovery process. Our team includes kinesiologists, pharmacists, registered nurses, a dietitian, and a social worker. There are a variety of program options and several locations. Please see the brochure included in this package for additional information about Cardiac Rehabilitation at Southlake. By the time you are discharged from the hospital after your heart surgery, a referral will have been sent to the Cardiac Rehabilitation Program of your choice.

# HEART HEALTHY EATING GUIDELINES

Your diet influences 20% of your total cholesterol levels. Because of this, following a balanced diet and maintaining a healthy body weight can make a positive difference to your heart health.

**Healthy heart** eating is part of a healthy lifestyle. This includes a diet that is high in fibre, low in sodium and provides the right kinds of fats in healthy amounts.

**Here are some ways that you can follow a healthy heart diet:**

## Follow “Eating Well with Canada’s Food Guide”

- Enjoy different foods from the 4 food groups: [www.healthcanada.gc.ca/foodguide](http://www.healthcanada.gc.ca/foodguide).
- Include at least 3 of the 4 food groups at each meal.

## Reach and keep a healthy body weight

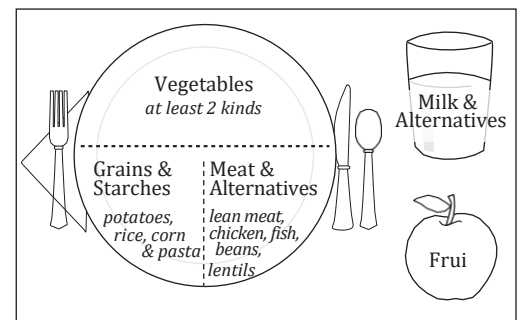
- Balance energy in (food) with energy out (physical activity).

## Choosing the Right Balance: the Plate Model

Follow a lower fat diet with controlled portion sizes. A simple way to ensure proper portion sizes is to follow the plate model (see illustration at right).

## Use the right amount of the right kinds of fats

- Use unsaturated fats called monounsaturated (MUFA) and polyunsaturated (PUFA) fatty acids, which can be found in olive oil, corn, and sunflower oil.
- Omega -3 fats from fish, walnuts, flax seeds.
- Limit saturated fat from:
  - Animal products; choose lean cuts of meat, poultry, trim fat and remove skin.
  - Dairy products.
  - Products containing hydrogenated oils, such as palm and coconut oils.
- Avoid trans fats; these are found in shortening, commercial baked goods, and deep fried foods.
- Choose avocado, nuts, non-hydrogenated margarine.



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# HEART HEALTHY EATING GUIDELINES

## Choose lower fat Milk and Alternatives

- Use skim or 1% milk, low fat yogurt and low fat cheese (less than 20% milk fat).

**Choose high fibre foods at least 3 times a week** from whole grain breads/cereals, beans, peas, fruits and vegetables (fresh or frozen).

## Consume a diet rich in plant sterols

- Can help lower LDL (“bad”) cholesterol.
- Naturally found in nuts, vegetables, and fruit.

## Reduce your cholesterol

- Eat no more than 3 egg yolks every week, egg whites can be consumed daily.
- Limit shrimp and other shellfish, squid, and organ meats.

## Avoid foods that are high in salt (sodium)

- Limit intake of sodium to 2300mg or less than 1 teaspoon per day.
- Restaurant meals tend to be very high in sodium. Choose carefully from the menu!
- Check the Nutrition Facts food label. Choose items with less than 5% daily value of sodium per serving.
- Tips to reduce sodium intake:
  - Remove salt shaker from the table and reduce salt in cooking and baking.
  - Limit: sauces and condiments (soy sauce, ketchup, mustard), chips, pretzels, fries, popcorn, pickled or smoked foods; products containing monosodium glutamate (MSG).
  - Avoid salt substitutes that contain potassium chloride (e.g. No Salt, Half Salt).
  - Use herb spice mixes with no salt added (e.g. Mrs. Dash, Club House brands) to enhance the flavour of various foods.

## Choose healthy cooking methods

- Bake, broil, BBQ, roast, or microwave your meats on a rack so fat drips off.

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# HEART HEALTHY EATING GUIDELINES

## **Have meat alternatives such as beans, lentils, and tofu more often**

- These are excellent sources of fibre and are low in saturated fat.
- Enjoy a handful (¼ cup) of unsalted, dry roasted mixed nuts for a healthy source of fat and fibre.

## **Have less sugar and sweets** to help reach a healthy body weight.

## **Alcohol – Beer, Wine, Liquor**

- Talk to your doctor about safe alcohol use as it can interfere with some medications.
- Effect of alcohol consumption may: increase to your triglyceride levels; contributes to weight gain; it can have a negative effect on high blood pressure and diabetes.

## **Limit caffeine consumption**

- No more than 2 cups of caffeinated coffee and 4 cups of caffeinated tea per day.

## **Look for Reliable Sources of Nutrition Information:**

Cookbooks that are approved by the Heart and Stroke Foundation or written by Registered Dietitians are best. Visit the following websites:

**Canadian Diabetes Association**

[www.diabetes.ca](http://www.diabetes.ca)

**Dietitians of Canada**

[www.dietitians.ca](http://www.dietitians.ca)

**Eat Right Ontario**

[www.eatrightontario.ca](http://www.eatrightontario.ca)

**Heart and Stroke Foundation**

[www.heartandstroke.ca](http://www.heartandstroke.ca)

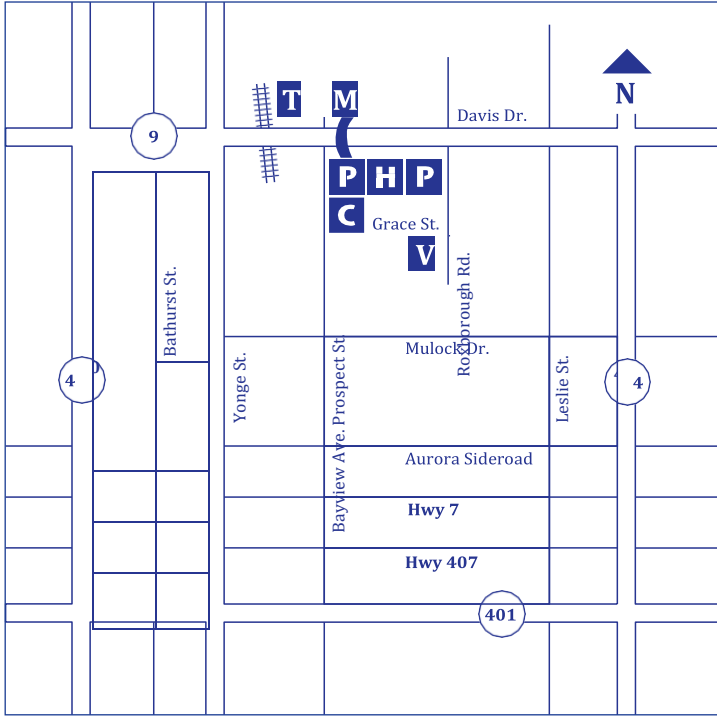
## **Health Canada – Eating Well with Canada’s Food Guide**

<http://www.hc-sc.gc.ca/fun-an/food-guide-aliment/index-eng.php>

**After your surgery, a Registered Dietitian will be advising you on heart healthy eating changes.**



## How to find us:



- v Southlake Village, 640 Grace Street
- m Medical Arts Building, 581 Davis Drive Southlake Foundation, 581 Davis Drive
- h Southlake Regional Health Centre c Stronach Regional Cancer Centre
- t The Tannery Mall, 465 Davis Drive
- p Parking
- Bridge crossing Davis Drive. Accessible from P3 of the Parking Garage and Level 3 of the Medical Arts Building.

For more information contact:

**Regional Cardiac Care Coordinator**  
Regional Cardiac Care Program  
Southlake Regional Health Centre  
596 Davis Drive

Newmarket, Ontario L3Y 2P9  
Tel: 905-895-4521, ext. 2853  
[www.southlakeregional.org](http://www.southlakeregional.org)



**SOUTHLAKE**  
REGIONAL HEALTH CENTRE