

To the Cardiac Surgery Patient

Your doctor has informed you that you will be having your cardiac surgery at St. Paul's Hospital.

Cardiac surgery offers you a treatment for your heart condition and an opportunity for returning to your old activities and pursuing new activities with renewed energy and health.

All members of the care team will provide advice and coaching to support you during your operation and recovery in hospital. However, you are the person who is the most responsible for your recovery. Being informed and planning ahead can make your surgery, recovery and rehabilitation much smoother.

This guide is especially written for you, the patient undergoing cardiac surgery, and for your family and friends. It is designed to help you understand what your cardiac surgery, recovery and rehabilitation involves and the important role you play in your recovery. **This information does not replace medical advice.** You are encouraged to talk with your doctor about your specific condition.

It is our hope that this guide will answer some questions and give food for thought for others. **Write down any questions that you may have. There is room provided at the end of each section.** These can be directed to your doctor, nurse, nurse practitioner or any member of your health care team.

The St. Paul's Hospital Cardiac Surgery Team

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www.heartcentre.ca

♥ Partnership for Care

Philosophy: Providence Health Care strives to provide health care that meets each individual's social, physical, emotional and spiritual needs in an environment of service, support and respect.

In accordance with this philosophy all the members of the Providence Health Care team will do their best to:

- ♥ Treat you and your family members and friends with respect and dignity and give you care that is courteous, considerate and professional
- ♥ Give you information about your illness, care, tests, and treatment, if you so wish, in a way that you will understand
- ♥ Work with you to develop a plan for your care and treatment that meets your needs
- ♥ Give you the opportunity to get any other opinions you may wish about your condition and care
- ♥ Keep the information that we have about you confidential
- ♥ Work with the person that you have chosen to represent and support you in making decisions about your treatment and care
- ♥ Introduce ourselves whenever we work with you, tell you what our role is and explain what we are going to do and why we are doing it
- ♥ If possible, provide you with an interpreter if you do not speak English or are hearing impaired
- ♥ Listen to your concerns and respond to them as promptly as possible
- ♥ Respect your diversity

We ask that you and /or your representative do your best to:

- ♥ Respect the rights, property, privacy and diversity of other patients/residents and the health care team
- ♥ Respect hospital policies
- ♥ Be courteous to others and act in a safe and responsible manner
- ♥ Give relevant information to the health care team
- ♥ Work with your health care team to develop a treatment or care plan that meets your needs
- ♥ Follow your treatment or care plan to the best of your ability
- ♥ Accept responsibility for the decisions you make about your treatment or care
- ♥ Let the team know when you do not understand and information given to you
- ♥ Encourage your family/representative to assist in your treatment or care when appropriate

COMMITMENT TO EDUCATION AND RESEARCH

♥ The Physicians and Surgeons at Providence Health Care/St. Paul's Hospital are members of the Faculty of Medicine of the University of British Columbia.

♥ As members of the UBC Faculty, this brings responsibilities with regard to education and research as documented in the affiliation agreement between Providence Health Care /St. Paul's Hospital and The University of British Columbia.

Medical Education

♥ The Physicians and Cardiac Surgeons are responsible for the training of surgical residents, fellows and medical students who will be the Physicians and Cardiac Surgeons of the future.

♥ During your hospital stay for your cardiac surgical procedure, you will likely become acquainted with individuals in the training programs and they may have a role in your care, under the responsibility and supervision of your Cardiac Surgeon, Cardiac Surgical Anaesthetist and Cardiologist.

Research

♥ During your visits to St. Paul's Hospital Pre-Admission Clinic and during your hospital stay, you may be approached for consideration of participation in any of our research projects.

♥ The research projects are approved by the UBC Clinical Research Ethics Board and / or the UBC-PHC Clinical Research Ethics Board.

♥ Examples of research projects are specific heart valve and heart valve replacement prostheses studies, studies on potential improvements in heart muscle protection for surgery and studies to reduce the incidence of a common side-effect of surgery, that of irregular heart rhythm of the upper/filling chambers of the heart.

♥ The research also includes studies on tissue and blood samples that you may be asked to consent and provide during your hospital stay. There are additional Research Scientists evaluating the effects of genetic determinants that may be influenced by your cardiac surgery or potentially contribute to your long-term health.

♥ You may be approached, at your consent, to review one or more of these research projects. Research Coordinators will explain the details to you and request your consideration to participate and consent.

♥ There is no obligation for you to participate and should you choose not to participate, there will be no influence on your hospital care.

♥ If you choose to consider participating, you will be provided with a detailed consent form(s) that will describe your obligation to the study, the obligation of this academic institution and your surgical/medical caregivers.

IMPORTANT PHONE NUMBERS

AREA/PERSON	PHONE NUMBER
ST. PAUL'S HOSPITAL	(604) 682-2344
Cardiac Surgery Patient Educator	(604) 806-8859
Nurse Practitioner	Local 69937/62190/66396
Social Worker	(604) 806-8241
5A Ward	Local 62304
5B Ward	Local 62646
Cardiac Surgery Intensive Care Unit	Local 62117
Dr. Abel	Local 68503
Dr. Bashir	Local 69668
Dr. Bui	Local 69389
Dr. Campbell/Gandhi (Congenital)	(604) 875-3165
Dr. Cheung	Local 68282
Dr. Lichtenstein	Local 68501
Dr. Ye	Local 69349

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SECTION 1 - ABOUT YOUR HEART



Overview

The heart is the organ responsible for pumping blood through the lungs and then to the body. It is located in the chest cavity behind the breastbone, known as the sternum. The heart is divided into the right and the left side, with each side composed of an atrium (top) and a ventricle (bottom). The right atrium receives blood without oxygen from the body. The blood in the right atrium is pumped into the right ventricle, which then pumps the blood to the lungs. In the lung, the carbon dioxide waste that is in the blood is removed and new oxygen is added. The blood then flows into the left atrium. The left atrium then pumps the newly oxygenated blood to the left ventricle, which then pumps this newly oxygenated blood back out to the body's organs.

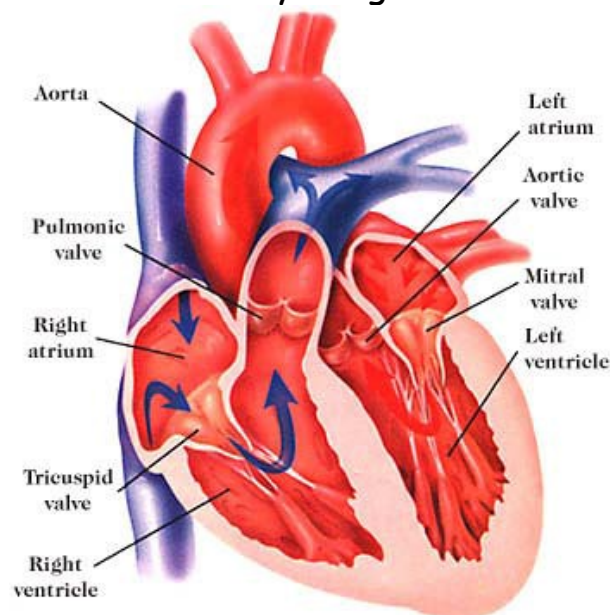


Figure 1: The Heart

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The heart is controlled by the autonomic nervous system of the brain that tells the heart to speed up or slow down depending on the body's needs. The left heart is responsible for the blood pressure measurement you hear at the doctor's office. The heart is a tireless pump. If you consider a resting heart rate of 70 beats per minute x 60 minutes per hour x 24 hours a day x 365 days per year, your heart, if you stayed at a resting heart rate of 70 would contract or "pump" over 36 million times per year!

CORONARY ARTERY DISEASE (CAD)

There are several coronary arteries on the outside surface of your heart, which are responsible for supplying oxygen and nutrients to the heart muscle. These coronary arteries can become blocked by a buildup of cholesterol fats, often referred to as "plaque". Plaque deposits can make the arteries stiff and irregular. This is called atherosclerosis, or "hardening of the arteries". There can be a single blockage or multiple blockages, and they can vary in severity and location.

Plaque deposits
can cause
atherosclerosis

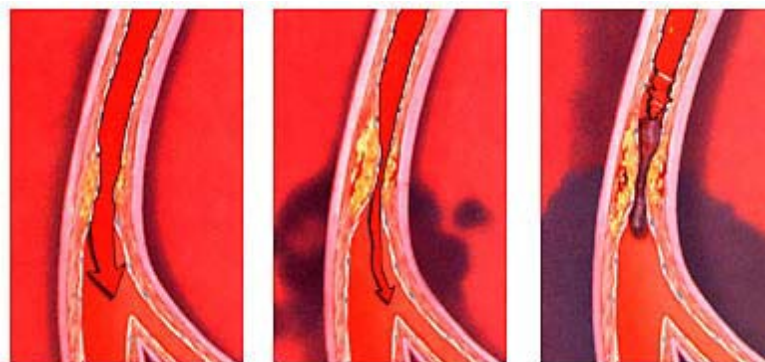


Figure 2: Plaque buildup

Any narrowing, or blockage, of the coronary arteries reduces the blood supply to the heart tissue, therefore reducing the amount of oxygen and nutrients delivered. This inhibits the normal function of the heart muscle.

What are the Symptoms of CAD?



Warning

A person with one or more blocked arteries may feel pain and periodic discomfort in the chest, radiating to the neck and/or arms (usually on the left side). Other symptoms may include; a choking feeling, chest pressure, shortness of breath, jaw or shoulder pain, or even “heartburn”. This pain is caused by a lack of oxygen getting to the heart muscle. Symptoms can be triggered by physical exertion, eating, changes in temperature, extreme emotion or may be present even at rest. The symptoms (**angina**) may last 3 to 5 minutes until the cause is relieved; otherwise symptoms may last longer. If this continues, it can starve the heart muscle cells of oxygen and eventually lead to a **heart attack**.

How Prevalent is CAD?



Did you know?

- ♥ Nine in ten Canadians have at least one risk factor for cardiovascular disease
- ♥ Two in five Canadians have three risk factors or more
- ♥ It is estimated that one of four Canadians have some form of heart disease
- ♥ Cardiovascular disease accounts for the death of more Canadians than any other disease, approximately 66,000 deaths in 2012; that is 1 person every 7 minutes.
- ♥ Heart disease and stroke are two of the three leading causes of death for men over 45 and women over 55 in Canada
- ♥ Historically, coronary artery disease has been considered a man's disease; however, women are 10 times more likely to die from heart disease than any other disease
- ♥ On average, women develop coronary artery disease fifteen years later than men and 33% of women die from the disease as compared to 31% of men
- ♥ Cardiovascular disease is the leading cause of death in women
- ♥ Cardiovascular disease costs the Canadian economy over \$22.2 billion a year

Heart and Stroke Foundation, 2012

Statistics Canada, 2004

Public Health Agency of Canada, 2016

CORONARY ARTERY BYPASS SURGERY



Overview

Coronary artery bypass surgery is an operation in which arteries or veins are taken from another part of the body to create a new pathway around the blocked part of your artery allowing blood to reach your heart muscle again.

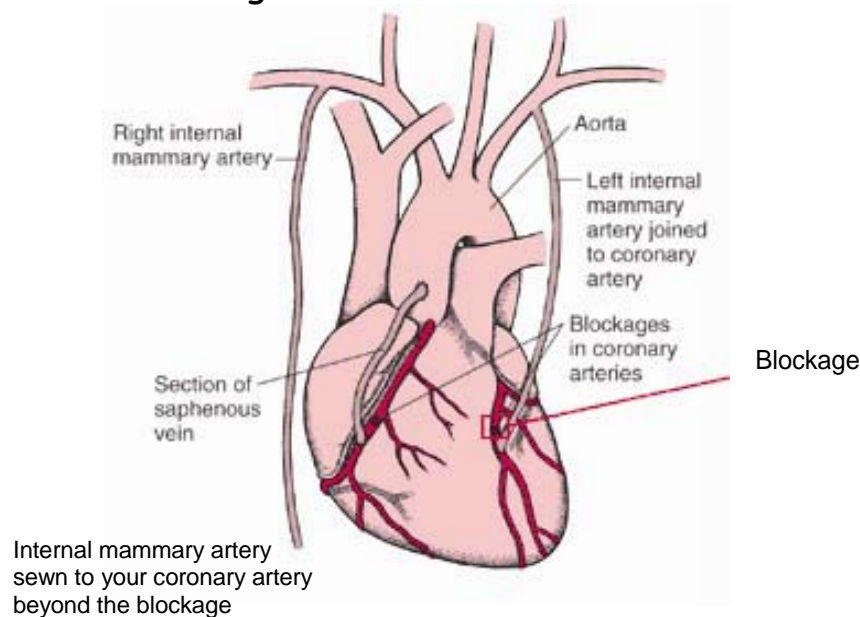


Figure 3: Coronary artery bypass surgery

What does coronary artery bypass surgery involve?

Bypass surgery can take between 3 to 6 hours

Most commonly the surgery will take 3-6 hours. You will be asleep under general anesthetic and your surgeon will open your breastbone to expose the heart. You will then be placed on the heart-lung machine, which takes over the job of circulating the blood to the body and brain from the heart during the surgery. This allows the heart to be stopped to do the surgery. A blood vessel, or graft, will be taken from your chest, arm or leg to create the new bypass. The grafts most

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often used are the internal mammary arteries along the inside of the chest wall, the saphenous veins in the legs and the radial artery in your arm. One end of the graft is sewn to the heart below the blockage and the other end is sewn to the aorta. If the internal mammary artery is used for a graft, one end is freed from the chest wall and sewn onto the coronary artery below the blockage. Your coronary arteries are on the outside surface of the heart and therefore the grafts will be attached to the outside of your heart. When this is done, oxygen-rich blood can flow from the aorta through the graft to nourish the heart muscle. The blockage is bypassed entirely.

There are now some new variations to the traditional approach to open heart surgery. In some conditions the heart may be operated on while still beating—avoiding the use of the heart-lung machine. This is called beating-heart or off-pump surgery. There are other minimally invasive surgeries that can be done by entering the chest through a small incision between the ribs. Your surgeon will discuss whether these may be appropriate options for you.

What Does Coronary Artery Bypass Surgery Do?

The purpose of coronary artery bypass surgery is to improve the blood flow to the heart. As a result, angina and shortness of breath should be improved and the heart will work better.

Bypass surgery is a treatment not a cure

Coronary artery bypass surgery plays an important role in treating coronary artery disease, but it is not a cure. **Surgery can improve symptoms and even prolong life but it does not get rid of the disease.** Risk factors for coronary artery disease are high blood pressure, high cholesterol, smoking, diabetes, and a family history of the disease. In order to minimize blockage in your newly grafted arteries and to prevent further blockage in your own coronary arteries, education about the risk factors is important. This is called **Secondary Prevention**. A person should continue to utilize methods to reduce their cardiac risk factors lifelong.

It can't be emphasized enough that long term control of risk factors, as well as, taking your medications will ensure the best possible outcome of your surgery.

HEART VALVES

Heart Valves: Doorways in the Heart

The heart has four valves inside it. These valves act like one-way doors to keep blood moving in one direction (forward) through the heart. Problems with one or more valves may mean that the heart has to work harder to get blood out to the body.

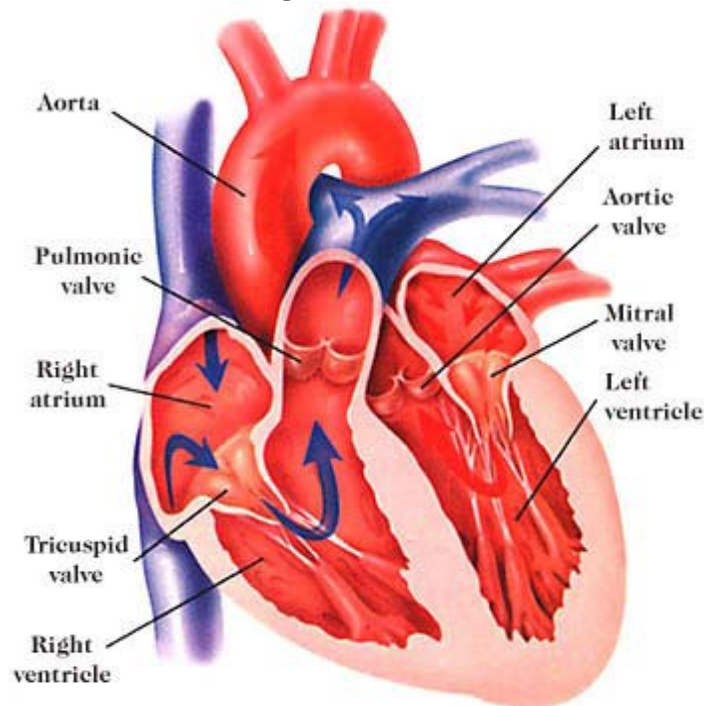


Figure 4: Heart Valves

Normal Heart Valves Help Move Blood

Atria and
Ventricles
explained

The heart is divided into four "rooms" called chambers. The upper chambers are called atria, and the lower chambers are called ventricles. The heart muscle squeezes blood from chamber to chamber. At each squeeze, the valves open to let blood through to the next chamber. Then the valves close to stop blood

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from flowing backward. In this way, the valves keep blood moving in one direction through the heart and out to the body or lungs.

Heart Valve Disease

Heart valve disease occurs when a valve does not work properly. A valve may not open all the way. Or, a valve may have problems closing. If this happens, blood doesn't move through the heart's chambers the way it should.

Problems with Your Heart Valves

If a valve doesn't open all the way, less blood moves through to the next chamber. If a valve does not close tightly, blood may leak backward. These problems may mean that the heart must work harder to pump the same amount of blood. Or, blood may back up into the lungs or body because it's not moving through the heart as it should.

Problems Opening

Stenosis: valve does not open fully

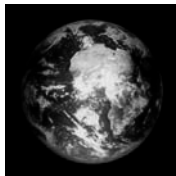
When a valve does not open fully it is due to narrowing of the heart valve, called stenosis. The valve may have become hardened or stiff with calcium deposits or scarring. Therefore, higher pressures are required inside the heart to pump blood forward across the narrow valve. Blood must flow through a smaller opening allowing less blood to get through the valve into the next chamber. This typically causes shortness of breath and fluid build up.

Problems Closing

Insufficiency:
valve does not
close tightly

Insufficiency (also called regurgitation) results when the valve does not close tightly. The valve's supportive structures may be loose or torn or the valve or heart itself may have stretched or thinned. Blood may then leak back the wrong way through the valve and not enough blood will get out to the body. This also leads to higher pressures inside the heart and may cause shortness of breath or fluid build up.

HEART VALVE SURGERY



Overview

As for CABG surgery, valve surgery may take 3-6 hours. You will be asleep under general anesthetic. The procedure is well understood and has helped thousands of patients since valve replacement was first done in the 1960s.

During heart valve surgery, one or more valves are repaired or replaced. Repair means that the valve is mended to help it work better. Replacement means your diseased valve is removed and a new valve is inserted in its place. Depending on your disease, the decision to repair or replace the valve may be decided before the surgery or it may be decided only after the surgery has begun. Your surgeon will talk with you about his or her plans for surgery and any other procedures that you may need.

To get to your heart, one or more incisions must be made in your chest. Your breastbone is exposed and

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gently separated to expose the heart. During valve surgery, your heart must not beat. To keep your blood flowing, it is passed through a heart-lung machine. This machine gives oxygen to your blood and pumps the blood back through your body. You will be connected to the machine through the vessels in your heart. Once the valve surgery is done, your heart and lungs take over again.

To reach the valve, an incision is made in your heart or major blood vessels close to the heart. If the valve can be mended, the needed repairs are done. If the valve must be replaced, the damaged valve and its supportive structures may be removed. The correct-sized replacement valve is selected and sewn firmly into place in the valve opening. The incision in your heart is closed. Your heart is then started so it beats on its own again.

Repairing a Valve

During valve repair, a ring may be sewn around the opening of the valve to tighten it. Other parts of the valve may be cut, shortened, separated, or made stronger to help the valve open and close correctly.

Replacing a Valve

If a valve cannot be repaired, it may be replaced with an artificial or prosthetic valve. Two major types of artificial heart valves are available:

Mechanical valves

Mechanical heart valves are created from man-made materials made of long-lasting metal and plastic, their

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design has been refined and improved since their introduction in the 1960s. Mechanical valves are very strong and should not break down; however, because they are artificial blood tends to clot on the valve, which can lead to valve problems or stroke.

Therefore, lifetime therapy with a blood thinner (anticoagulant) known as Warfarin (Coumadin) is needed when these types of valves are used with close monitoring of your blood tests.

Bioprosthetic valves

The other major type of artificial valve is a tissue or bioprosthetic valve. These are taken from pig, cow or human donors and are specially treated to prevent rejection. These valves may not last as long as mechanical valves but are well tolerated by the body, and do not promote clot formation to the same degree as mechanical valves. Therefore there is less of a need for anticoagulant therapy.

Your doctor will talk with you about choosing the best valve for you. Factors weighed include your age, your occupation, how well your heart is working, your heart's rhythm, your ability to tolerate anticoagulants, risk of bleeding, and your lifestyle.

Heart Valve Card

You will be given a temporary card in hospital with details about the kind of heart valve you have been given. A permanent one will be mailed to you if you consent to this.

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Antibiotic Coverage

Although the recommendations before valve replacement have recently changed, you **MUST** have antibiotic coverage before any dental, urinary tract, or bowel procedures after you receive your heart valve replacement. Please discuss this with your physicians.

OTHER TYPES OF HEART SURGERY

There are many other types of heart surgery that may be related to birth defects in the heart or other processes. Examples may include: repair of an atrial or septal defect (ASD), ventricular septal defect (VSD), surgery on the aorta, as well as new procedures that are being developed. Regardless of the type of heart surgery you require, your preparation and recovery will be similar and you can use this guide to help you. Please discuss the specifics of your surgery with your surgeon.

RISKS ASSOCIATED WITH CARDIAC SURGERY



Warning

Specific risks of complications of surgery are unique to the individual and depend on many factors. In many cases these risks relate to age and the specific operation, as well as, pre-existing conditions, such as, diabetes, blood vessel diseases or kidney disease. **It is important to discuss your risks thoroughly with your surgeon.**

The following are some of the more common and general risks that are associated with cardiac surgery:

Post-Operative Confusion/Delirium:

- ♥ Post-operative delirium occurs in approximately 30% of patients after cardiac surgery.
- ♥ You may feel confused, may see things that are not there and become agitated and not be yourself, this usually only lasts a day or two after surgery, however sometimes it can last longer.
- ♥ Post-operative delirium occurs most frequently if you are elderly, have a history of moderate to heavy alcohol use, have a history of stroke or if you are in the operating room for a long period of time.
- ♥ Delirium can be treated with the help of nursing measures as well as short-term medications ordered by a psychiatrist. St. Paul's Hospital has a Delirium Guideline to ensure safe, effective care is given if this does occur. If you have a risk of delirium you will be seen by our psychiatry

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consult team before your surgery and followed afterwards as needed.

Atrial Fibrillation:

- ♥ Atrial Fibrillation is a fast, irregular heart rate that occurs in approximately 30% of patients after cardiac surgery.
- ♥ You may feel weak and dizzy with your heart pounding or you may not be aware when it occurs.
- ♥ There are a variety of medications used to treat atrial fibrillation. It may only last a few hours or it may continue for days.
- ♥ In atrial fibrillation, there is not a coordinated contraction of the heart, which puts you at higher risk for a blood clot forming. Because of this risk, you may be put on blood thinners (anticoagulants) to prevent blood clots.

Permanent Pacemaker:

- ♥ A small number of patients may require a permanent pacemaker because of a slow heart rate after surgery or to coordinate the contraction of the heart chambers more effectively. This is a minor operation usually performed under local anesthetic. Pacemaker wires are passed down the large veins from the arms to the heart. The pacemaker battery is positioned just below the collarbone under the skin and fat tissue. Regular pacemaker clinic check-ups are required and battery changes occur every 5-10 years.

Stroke:

- ♥ You have a 1-2% chance of having a stroke. However, you should discuss your individual risk with your surgeon.
- ♥ Often the stroke is small and patients fully recover.
- ♥ The risk of stroke goes up with age, previous history of stroke, or blockages of the arteries in your neck.

Infection:

- ♥ Any surgical procedure carries a risk of infection. You are at a higher risk of decreased wound healing after cardiac surgery with advanced age, if you are having a second open heart operation, are overweight, a diabetic, have poor nutrition or are on steroids. Other risk factors associated with increased wound infections include smoking and kidney problems.

Blood Transfusions

- ♥ There is a possibility that you will require a blood transfusion before, during or after your heart surgery and you will be asked to sign consent if you agree to this.
- ♥ If you do require a blood transfusion, the risks of not getting a transfusion are far greater than the extremely remote chance of being transfused with infected blood.

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- ♥ Canada's blood system is among the safest in the world according to the World Health Organization (www.bloodservices.ca).
- ♥ To discuss specific indications for and risks of blood transfusions, speak to your doctor.

**If you have any questions, please
contact a Medical Professional**

Your Right to be Informed



Remember

It is your right as a patient to be informed of the following before you sign the consent form for surgery or any other procedure:

1. The nature and expected benefits of the treatment
2. The treatment's risks and side effects
3. Any alternative treatment options
4. The likely consequences of not having the treatment done

Planning Ahead

Surgery of any nature carries risks. Therefore, it is very important to plan ahead for your personal and financial affairs. Planning ahead will ensure that your wishes and values will be honoured. Information is available on our website at www.heartcentre.ca. **If you would like to speak to a Heart Centre Social Worker please call (604) 806-8225 or (604) 806-8241** and one of our staff will be able to provide information that suits your particular needs.

HOW CAN I LOWER MY RISK OF FURTHER HEART DISEASE?



Note

We still do not know all the causes of heart disease, but over the years we have been able to identify “risk factors”. We know that the more risk factors you have, the more likely it is that you will have heart disease, that it will be more aggressive and that it will come back repeatedly. We also know that if you work on these risk factors and reduce or remove them, you may slow the disease down, stop it, or in some cases, even reverse it!

WHAT ARE RISK FACTORS?

Reducing risk factors may have many benefits

Risk factors are personal characteristics or lifestyle situations that put you at risk for getting heart disease in the first place, or making it worse if you already have it. Some people with heart disease have several risk factors, while others may have none. Research has shown that reducing your risk factors, even after you get heart disease, may have many benefits.

♥ **Remember** . . . coronary artery bypass surgery plays an important role in treating coronary artery disease, but **it is not a cure**. Surgery can improve symptoms and even prolong life but it does not get rid of the disease. In order to minimize blockage in your newly grafted arteries, or slow progression in your non-grafted coronary arteries, lifestyle changes and medication are necessary. A person should continue to utilize methods to reduce their cardiac risk factors.

WHAT ARE My RISK FACTORS?

Do any of these Risk Factors apply to you? Place a check if you answered yes.



Some things you can't change:

- ♥ **Are you over 45 (men) or 55 (women)?**

Heart disease most often appears in people over these ages, but people in their 20s and 30s can also have coronary heart disease.

- ♥ **Is there a history of heart disease in your family?**

There is a greater chance of having heart disease if your parents, brothers or sisters had or have heart disease.

- ♥ **Are you male or are a woman post menopause?**

Men between the ages of 35 to 55 have six times the risk of heart disease as women in the same age range. But the risk for women equals that of men after menopause.

The heart disease risks you can change:



- ♥ **Do you smoke?**

Quitting smoking is the single most important action you can take to improve your health!

Some of the bad effects of smoking are:

- ♥ causes heart and other arteries to narrow and block off more quickly (due to increased deposits of cholesterol on the inner walls of arteries)

Section 1: About Your Heart

- ♥ shortens the lifespan of the arteries by as much as 15 years
- ♥ causes blood clots to form more easily
- ♥ less oxygen is delivered to the heart and body tissues (due to carbon monoxide in the blood caused by inhaling tobacco products)
- ♥ causes irritation to the heart leading to irregular heart beats or irregular rhythms
- ♥ over time lungs are chronically inflamed often leading to a condition called Chronic Obstructive Pulmonary Disease (COPD)
- ♥ 50% of those people who smoke will die of a tobacco related disease

It is very important to stop smoking before your surgery!

- ♥ Lowers the risk of lung and wound-related infections
- ♥ Shortens wound healing time
- ♥ Shortens bone (sternum) healing time
- ♥ Shortens the length of stay in hospital

Section 1: About Your Heart

Recommendation: Stop smoking. The health benefits begin immediately.

TIME LAPSE	HEALTH BENEFIT
8 hours	Blood levels of carbon monoxide drop Oxygen levels return to normal
24 hours	Carbon monoxide leaves the body Lungs begin to clear mucus out
48 hours	Nicotine has left the body Sense of smell and taste improve
72 hours	Lung capacity increases Breathing is easier, bronchial tubes relax
2 weeks- 3 months	Circulation improves Lung function increases
1 year	You have cut your risk of heart attack in half

It is very important to stay quit after your surgery!

Once you are feeling better and getting back to your normal life style you may think it is OK to start smoking again. This is not true. Smoking affects the "new" heart arteries or bypasses in the same ways that are listed above and can cause the same health problems to happen again.

quitnow
by phone 1-877-455-2233

Section 1: About Your Heart

Resources to help you quit smoking...

Vancouver Coastal Health www.vch.ca

Click on "Your Environment" tab then select "Tobacco Control" from menu.

B.C. Lung Association: supports several quit smoking resources

www.Quitnow.ca Free on-line based smoking cessation program

Quit Now by Phone 1-877-455-2233 - Free telephone counseling program

Canadian Lung Association www.lung.ca

Under Quick links on the Home Page select "How to quit smoking"

Health Canada www.quit4life.com

Free on-line based smoking cessation program - navigate using menu on left

Section 1: About Your Heart

♥ **Do you have a high level of blood cholesterol & triglycerides?**

People who eat a diet high in saturated fats or have an increased amount of cholesterol and triglycerides in their blood have a much greater chance of developing coronary artery disease.

Recommendation: Aim for LDL cholesterol ("bad" cholesterol) less than 2.0 mmol/L, HDL cholesterol ("good" cholesterol) above 0.9 mmol/L for men or above 1.1 for women, and triglycerides less than 2.0 mmol/L. Most people will require medications to reach these targets.

♥ **Do you have high blood pressure (hypertension)?**

High blood pressure makes your heart work harder and increases the risk of heart attack, stroke and heart failure (weakening of the pumping of the heart).

Recommendation: Aim for blood pressure below 130/80. Control your weight, be physically active, use alcohol in moderation and restrict salt intake. Medication will be necessary if blood pressure is consistently high.

♥ **Do you have diabetes mellitus?**

People with diabetes (high levels of sugar in the blood) have an increased risk of heart disease.

Recommendation: Ideal HbA1c < 7.0. Control blood sugar levels with diet, exercise, and/or medications.

Section 1: About Your Heart

♥ Are you physically inactive?

People who are not physically active, or exercise only occasionally, are more likely to develop heart disease than people who exercise regularly.

Recommendation: Make activity a part of your life. Start and maintain an exercise routine a minimum of 30 to 60 minutes of moderate intensity exercise 4 to 7 days per week (e.g. walking, jogging, and cycling). Also, increase your daily activities (e.g. walking breaks, using stairs, gardening, and household work) most days a week. Attend a cardiac exercise program.

♥ Are you overweight?

Extra body weight makes your heart work harder and increases the risk of coronary heart disease. The risk is even stronger if the weight is around the waist.

Recommendation: Ideal Body Mass Index (BMI) is 20-25. A BMI greater than 27 is associated with increased health risks. Losing weight can help control high blood pressure, high cholesterol, and high blood sugars. Start a weight loss diet and exercise program. Ask your doctor what your BMI is.

Section 1: About Your Heart

♥ Alcohol Intake:

Do you drink more than 2 drinks per day?

Recommendation: Limit alcohol use to one to two drinks per day if you already drink. If you drink alcohol within 7 days of your surgery your risk of delirium is increased significantly. If you don't drink, don't start.

♥ Stress and Depression:

High levels of stress, or prolonged stress and depression, can lead to higher blood pressure, higher cholesterol, and increased risk of having a heart attack or stroke

Recommendation: Take steps to reduce your stress by maintaining healthy habits, learning relaxation strategies, seek support from others, make small changes to organize your life, and laugh more.

There are a number of effective treatments for depression, there is one that is right for you. Discuss options with your physician.

resource: www.heartcentre.ca under support services; psychology support

REDUCING YOUR RISK FACTORS



The more boxes above you checked, the greater your risk of heart disease.

It is important to reduce your risk factors. But be realistic. It's a good idea to change one or two things at a time. If you try to change everything, you may end up feeling frustrated.

Consult your doctor, Nurse Practitioner or the community resources listed in this manual for advice about reducing your risk factors while you are waiting for surgery.

SECTION 2 - THE WAITING PERIOD

WAITING FOR SURGERY

Going on the Waiting List

- ♥ Waiting for surgery begins once all your tests are completed and you and your cardiac surgeon have decided to proceed with your surgery.

How Long Will I Have to Wait for Surgery?

- ♥ The wait for surgery is variable.
- ♥ The wait list for surgery is not on a first come first serve basis.
- ♥ How long you may wait will depend on the urgency of your condition. However, your surgeon will try to perform your surgery within the Canadian Benchmark Waitlist times. Your wait may range from 1 week to a few months depending on your situation
- ♥ The following web site may be helpful:
<http://www.healthservices.gov.bc.ca/waitlist/cardiac.html>
- ♥ <http://www.parl.gc.ca/Content/LOP/ResearchPublications/prb0582-e.htm>
- ♥ <http://www2.gov.bc.ca/gov/content/health/accessing-health-care/surgical-wait-times>

How Will I Know When My Surgery will Occur?

- ♥ Once you have been booked , your cardiac surgeon's office will notify you of your date and time for surgery.
- ♥ Please note that even after your surgery date and time has been confirmed you may have your surgery "changed or delayed" should another patient require more urgent surgery.

What should I do if my symptoms get worse while I wait for surgery?



Warning

- ♥ If your symptoms (e.g. angina, shortness of breath) are progressively getting worse, contact your family doctor, cardiologist, or internist immediately and notify your surgeon.
- ♥ If you or your doctor feels your surgery wait time is unacceptably long, you may request referral to another surgeon or hospital.

Section 2: The Waiting Period

What Should I Bring to the Hospital?

- ♥ **THIS PATIENT GUIDE**
- ♥ Identification including photo ID and your Care Card
- ♥ A list of current medications
- ♥ Your housecoat and pajamas
- ♥ Walker, cane or prosthetic devices that you use at home
- ♥ Women should bring a supportive bra that opens in the front. There are some medical products available on the market now which may be available at a local pharmacy. Ask your surgeon! It is important to support your breasts to reduce the tension on your breast bone after surgery.
- ♥ A comfortable pair of low-heeled shoes for walking. Bring a pair that are easy to get on your feet as swelling may occur after your operation.
- ♥ Loose clothing - a pair of shorts or pants and a shirt or blouse that opens in the front to wear when you get discharged from hospital.
- ♥ Your necessities: toothbrush, toothpaste, dentures, hearing aide, etc.
- ♥ A calling card if you are going to make long distance calls.
- ♥ CPAP machine

Leave your jewelry, electronics and valuables at home and your clothing & belongings with family if possible, as they could get lost or stolen while you're in the hospital. The hospital is not responsible for any lost valuables. Your family can bring your belongings in for you once you are on the ward.

HOW DO I GET ADMITTED TO THE HOSPITAL?

Waiting At Home:

- ♥ If you are waiting at home and live in the lower mainland you will attend the Pre-Admission Clinic at St. Paul's Hospital up to 6 weeks prior to your open-heart surgery.
- ♥ If you are coming from out of town, your pre-admission clinic appointment will be booked for one or two days before your surgery.
- ♥ The pre-admission clinic will notify you of the date of your clinic appointment.
- ♥ Your surgeons' office will notify you of the date your surgery has been scheduled.
- ♥ For the day of your surgery, the Admitting Department will instruct you as to the date and time you need to arrive at the hospital.
- ♥ All the necessary tests and consultations will be done when you arrive at the hospital. It is important that you arrive on time.
- ♥ Instructions for which medications to stop and which ones to take in the days preceding your surgery as well as when to stop eating/drinking will be given to you when you see the nurse in the Pre-Admission Clinic or by your surgeon's office.

Waiting In The Hospital:

- ♥ If you are an in-patient in another hospital, arrangements will be made to transfer you via air/ground ambulance to St. Paul's Hospital.
- ♥ If you arrive by air or ground ambulance **you will be responsible for finding your own transportation home at your own cost.**

PLANNING AHEAD FOR MY SURGERY AND RECOVERY

Planning can help reduce anxiety

Planning ahead for your surgery and recovery after surgery can decrease the anxiety you and your family may experience throughout this process. Here is a list of things to do to help prepare you for a smooth recovery.

- ♥ Arrange for someone to look after your family, home, pets, and plants while you are in the hospital.
- ♥ Arrange for transportation to get you to the hospital (e.g. car, bus, or plane).
- ♥ Stock up on non-perishable groceries, make and freeze meals to last you 3 to 4 weeks.
- ♥ Arrange for accommodation for family members who will stay in Vancouver while you are in hospital.
- ♥ Arrange for a family member or friend to stay with you for the first few days after you get home.
- ♥ Arrange for someone to clean your house and do your laundry for six weeks after your surgery.
- ♥ Arrange for someone to help you with your meal preparation and grocery shopping for 3 to 4 weeks after surgery.
- ♥ Arrange for someone to take you to your doctor's appointments (1 to 6 weeks after your surgery).
- ♥ Arrange for someone to fill your prescriptions on the day you are discharged from hospital.
- ♥ Arrange for someone to drive you home and/or accompany you home from the hospital if you are taking the bus, plane or ferry.

CARDIAC SURGERY: THE EMOTIONAL ASPECT

Cardiac surgery is an important event that affects **you** and your **family** emotionally as well as physically. It can cause temporary periods of stress in relationships and can often alter the normal patterns of your life.

- ♥ a certain amount of fear and anxiety before surgery is normal.
- ♥ getting information about what to expect will help you to cope with these feelings.
- ♥ understanding that what you are experiencing is normal, provides reassurance and often helps to lessen the fear and anxiety.

What Can I Expect Before Surgery?

The time spent waiting for surgery can be quite stressful. You and your family may feel like your lives are "on hold". You may experience:

- ♥ Anger and Frustration; it is not unusual for you to feel angry at finding out you have heart disease and need cardiac surgery. You may be asking, "Why me?"
- ♥ Anxiety and Fear; you may become quite preoccupied thinking about your heart. Some signs of increased levels of anxiety and stress you may notice are:
 - ♥ Forgetfulness
 - ♥ Difficulty concentrating
 - ♥ Irritability and restlessness
 - ♥ Difficulty sleeping

Section 2: The Waiting Period

- ♥ Boredom; physical activity is often limited before surgery. This may limit the variety of options available to occupy your time.
- ♥ Depression; is a normal part of coming to terms with a major life event.
- ♥ Giving up important activities at home and at work may result in feelings of dependency and helplessness.

What Can I Do to Reduce the Stress of the Waiting Period?

Review how realistic your expectations are about what you can do and adjust your activities accordingly. Pay attention to your body's signals and slow down the pace.

- ♥ Develop hobbies and interests that require low levels of physical strain.
- ♥ Accept your feelings and remind yourself that they are normal under the current circumstances. At the same time, try to be positive and know that this is temporary and you will be able to do more after surgery.
- ♥ Don't be too hard on yourself or your family. Give yourself and your family credit for coping as well as you have.
- ♥ Do not spend each day waiting for a phone call from the hospital. Maintain a normal routine and plan activities. If you wish to leave home for a few days-call the surgeon's office and leave a number where you can be reached.

Section 2: The Waiting Period

- ♥ Use relaxation methods to keep your stressful feelings under control. Some methods of relaxing include deep breathing exercises, listening to music, meditating, and reading.
- ♥ Ask for help when you require it. If you are worried or upset, talk with your family or friends. Talk to recovering heart surgery patients; the Pacific Open Heart Association {www.pacificopenheart.org} can put you in touch with someone who has had surgery.
- ♥ Get as much information as you need to lessen your anxiety. Some people need a lot of information while others prefer to know as little as possible about what to expect. Remember, there is no such thing as a "dumb" question.

What About the Emotional Impact on my Family/Friends?

- ♥ Cardiac surgery affects not only you but also your family/friends.
- ♥ Recovery involves adjustment for everyone.
- ♥ There may be stress resulting from changes in roles and expectations.
- ♥ Family and friends usually feel a sense of responsibility to care for you before and after surgery and are constantly on alert for problems.
- ♥ They often feel anxious about the ability to help. It is important for them to take care of themselves as well, both physically and emotionally.
- ♥ Be realistic about what responsibilities and commitments are urgent and those that can wait. Postpone commitments and accept help from others.

WHO CAN HELP?

Social Worker



- ♥ The Heart Centre social worker can help you and your families meet your emotional, social and health care needs including:
- ♥ questions about health resources and how to access them
- ♥ concerns about how you will manage after leaving the hospital
- ♥ worry over personal issues that may affect your hospital stay and well-being
- ♥ concerns about health and possible lifestyle changes

The wait period before you enter the hospital can be stressful. Remember that emotional support may decrease your fears and anxieties. It is also important to get practical information, such as:

- ♥ where your family will stay
- ♥ transportation home
- ♥ financial concerns
- ♥ support at home

For information on these and other issues or concerns, call the Heart Center Social Worker at (604) 806-8241.

Spiritual Health



- ♥ Each individual person and family member will cope with the uncertainty and concern surrounding cardiac surgery in their own unique way. For some, their spiritual, religious, and cultural belief can be a source of support and comfort during these difficult times.
- ♥ Whether you identify yourself as a person of faith or no faith, spiritual health practitioners provide support to patients, families and friends by:
 - careful listening
 - emotional, spiritual, religious and/or cultural support
 - offering prayers, sacred texts and /or other connections to your faith tradition (e.g sacramental ministry).
- ♥ Spiritual Health can be accessed 24 hours a day by asking your nurse to page the on call practitioner.
- ♥ For those seeking a quiet place there are sacred spaces in the hospital:
 - All Nations Sacred Space for traditional First Nations rituals, in room 451 on the 4th floor of the Burrard Building
 - Meditation room available for silent prayer and reflection in room 372 on the 3rd floor of the Burrard Building
 - Our Mother of Sorrow Chapel room 345 on the 3rd floor of the Burrard Building.

Section 2: The Waiting Period

- ♥ Roman Catholic Mass
Sacrament of Reconciliation and Confession before & after Mass are held Monday through Thursday at 12:30pm and Sunday at 4pm.
- ♥ Anglican Communion Service
-Service is held on Fridays at 12:30PM

STAYING IN VANCOUVER'S WEST END: WHAT DO I NEED TO KNOW?

Churches & Hospital Chapel



If you wish, ask your nurse how to locate the hospital chapel. As you explore north of the hospital, you will find a number of churches close by.

Dining Out

♥ St. Paul's Cafeteria

You can get a great meal at a reasonable price in the cafeteria. Closing time for the cafeteria is 6:30 p.m.

♥ Other Restaurants in the Area

There are many ethnic, fast food and gourmet restaurants on Davie and Robson Streets which are all walking distance from the hospital.

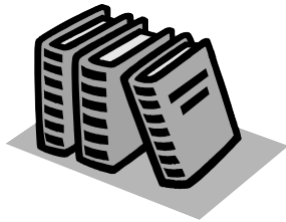
Grocery Shopping

Just down Burrard Street, one block south from St. Paul's is Davie Street. Turn west (right) and you will find some lovely bakeries and grocery stores. Two blocks along is an Independent Grocer open 7am-3am. A little further along Denman street is a NoFrills open 9am-10pm. There is also an IGA Market Place just north on Burrard Street by the Sutton Place Hotel.

Explore Davie Street mid day. We suggest that you find other places to explore after dark.

Section 2: The Waiting Period

Libraries



The Main Library is located at 350 West Georgia, on the corner of Homer and Georgia.

Pharmacies

Shoppers Drug Mart, located on Davie Street close to Thurlow Street, is open 24 hours a day. The Burrard Pharmacy is located across the street from St. Paul's Hospital on Burrard Street.

Shopping

Expensive but fun to see is Robson Street -- a few blocks north of Burrard. You will see the famous street of boutiques, restaurants, fashions, cafes etc.

Transportation

♥ Airport Public Transportation

The Canada Line is a rapid transit rail connecting the airport to downtown Vancouver; the Yaletown station is the closest to St. Paul's. Check the website www.thecanadalineline.com for schedule and map information..

♥ Buses

Many buses run both north and south on Burrard and Davie streets. The Sky Train is a short walk from Burrard Street. Contact BC Transit at 604-953-3333 for bus and Sky Train routes, fares and schedules or check on line at www.translink.ca.

Section 2: The Waiting Period

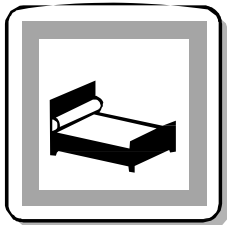
♥ Car Rentals

If you are interested in a car rental for a day or two, check with your hotel or look them up in your yellow pages.

♥ Taxis

There are many taxis in Vancouver and can be reached by phone (yellow pages) or hailed on the street.

Accommodation



For an updated list of accommodation around the hospital go to www.providencehealthcare.org and click on St. Paul's Hospital/ info for patients and families/ travel and accommodation.

Safety in the West End

Because Vancouver is a large cosmopolitan city and St. Paul's Hospital is located in the downtown core, it attracts many people of all walks of life.

Do:

- ♥ Be aware of where you are at all times
- ♥ Travel with company whenever possible
- ♥ Walk in well-lit areas, avoid alleys and bushes

Don't:

- ♥ Park in unsecured underground parking lots
- ♥ Carry lots of baggage, which may make you vulnerable to snatch-and-grab artists
- ♥ Wear lots of jewelry, which may attract undesirable people

SECTION 3- THE HOSPITAL

THE DAY OF SURGERY

Going to the Operating Room:



Overview

Before your surgery, either from the ward or the Surgical Day-Care, the nurse will:

- ♥ make sure you have signed your consent for surgery
- ♥ make sure you have signed your consent to receive a blood transfusion if necessary
- ♥ make sure that all the records are in place
- ♥ have you change into a hospital gown
- ♥ give you any medications you need to take
- ♥ ask you to empty your bladder
- ♥ ask you to remove all jewelry and dentures if you have them
- ♥ **send your jewelry and valuables home with family if possible**

You will be taken to the Pre-Operative Holding Area. Your family members or significant others can come with you. You will meet the anesthetist, who will take a brief history, answer any questions you have and will put an intravenous (IV) line into your arm so that you can be given medications during the operation.

Section 3: The Hospital

You will then be taken to the operating room on a stretcher until the time of your surgery. Remember, that the time for your surgery is not absolute - you may go a little earlier or a little later, depending on when the operating room is available or you may get rescheduled if an emergency needs to be done that day.

How long will the surgery usually last?

The operation usually lasts from three to six hours. The length of the operation depends on the type of surgery you are having.

What about my family?

After you go to the operating room, your family may wait for you in the family waiting room right outside the Cardiac Surgery Intensive Care Unit (CSICU). The CSICU is located on the 3rd floor, Providence Building, beside the operating room. If your family choose to wait at home or at a hotel, let the surgeon or CSICU know so the surgeon knows who, where, and how to contact your family when the surgery is finished.

THE OPERATING ROOM



In the operating room you'll see unfamiliar equipment and people wearing masks. You will be assisted on to the operating table. The anesthetist will give you a combination of medications through an IV line to make you drowsy. You may have a funny taste in your mouth just before you fall asleep.

After you are asleep, an IV line will be inserted in your neck and a catheter will be inserted into your bladder.

There are four types of tubes you can expect after the surgery:

Chest Drainage Tubes:

These are tubes placed in your chest near the bottom of your incision during surgery. The tubes drain blood and fluid that collects in your chest after surgery.

They are usually taken out the day after your surgery. Some patients find this uncomfortable, but medication given before removal makes this process more comfortable. Staying relaxed also helps. The tubes can be taken out in less than a minute.

Endotracheal (Breathing) Tube:

This tube is put through your mouth into your windpipe. It is attached to a breathing machine called a ventilator. This machine breathes for you during and after surgery until you can breathe strongly on your own again. When you first wake up, this tube will still be in your throat. It may feel uncomfortable and you may even feel that you cannot breathe, but you can. Relax and let the machine breathe for you. **You will**

Section 3: The Hospital

not be able to talk or drink while this breathing tube is in, but you will be able to nod "yes" or "no" when you are asked questions. The endotracheal tube will be removed once you are awake, about 3 to 12 hours after the surgery.

Foley Catheter:

This is a tube that will drain urine from your bladder into a bag. This will be removed 1-2 days after your surgery when you are able to get up and urinate on your own.

Central Line:

This is an IV line that is inserted into a vein in your neck. Not only can we deliver medications efficiently through this line, we can also tell what is going on with the blood flow and pressures in your heart using this line. This will be taken out when you are ready to go to the ward. You will also have an IV line in your arm, which will stay in place until you have been on the ward for a few days.

Pacemaker Wires:

Temporary pacemaker wires may be inserted at the time of surgery. They are placed on the surface of your heart and brought out to the surface of your abdomen. If required, the pacemaker wires are attached to a small external pacing generator to improve your heart beat. You will not be able to feel this. Once your heart is in a nice stable rhythm, the wires will be removed. This usually occurs close to your readiness for discharge.

MOVING TO THE CARDIAC SURGERY INTENSIVE CARE UNIT (CSICU)



Note

From the operating room you will go directly to the CSICU. You will be under constant observation by your nurse and watched very closely. As you begin to wake up from the anesthetic you will become aware of all the tubes and lines put in while you were asleep. You may hear many sounds such as alarms or bubbling noises. These are normal sounds made by the equipment around you. Remember, you will not be able to speak because of the endotracheal tube in your windpipe. You will be able to communicate by nodding "yes" or "no" to the questions your nurse asks you.

Advise your family about what to expect

When you are settled, your family will be able to visit, usually about an hour after you come to the CSICU. Let your family know that you will look pale and feel cool to the touch after your surgery and that you will have a breathing tube in and a lot of tubes and equipment at your bedside. You may also shiver and have a swollen face.

Will I Have Pain After the Surgery?

Expect only minimal pain and discomfort

There will be some pain and discomfort, especially around the surgical incisions. The discomfort comes from the surgical incisions and from muscle spasms. You will be given medication to relieve the pain and may also be given medication to help relax your muscles. The medications are given through an IV at first but as you become able to eat and drink, you will

Section 3: The Hospital

take the medication by mouth. It is essential that you keep your pain under control. On a scale of 0-10 your pain should be no more than 2/10 even when you cough or move. The medications we give you for pain are non-addictive in the short term and should be used as often as you need it. Be sure to ask if you are not getting enough pain relief. Having less pain will help you heal faster. As your recovery progresses, you will require less pain medication.

How Will I Feel After the Surgery?

It is important for family to let you rest

You may notice that it is hard to keep track of time after your surgery. The surgery, constant activity in the CSICU, changes in your normal routines and being in unfamiliar surroundings may disturb your rest and sleep. This can mislead your senses and affect your memory. You may become confused and disoriented. This tends to be worse at night. Medications given for pain or to help you relax may increase your sense of confusion. This is a temporary condition. As you are able to rest, your patterns of sleep and thinking processes will improve. It is important for family to allow you to rest while you are recovering.

What About Activity in the CSICU?

The first activity after your surgery is simply moving about in bed. Your nurse will help to reposition you for comfort.

The day after your surgery you will sit at the side of the bed, with the help of your nurse or the physiotherapist.

Becoming active helps you recover faster.

Section 3: The Hospital



It's good to cough

Deep breathing and coughing are also important to help speed up your recovery. Deep breathing and coughing when needed decreases the risk of pneumonia and will not harm your incisions. We encourage you to support the breast bone when coughing. The nurse or physiotherapist will show you how to support your chest with a pillow when you cough. Most patients don't like to cough or breathe deeply after the surgery but these activities are essential. The pain medication you will be given reduces the discomfort associated with coughing and deep breathing.

When Can I Drink Liquids?

You may start to drink liquids once your breathing tube is removed and your digestive system starts to make noises called bowel sounds.

Can My Family Call the CSICU?

We ask that each family decide on a "key contact" person to call the CSICU to inquire about your condition. This limits the number of calls to your nurse who is busy looking after you. The key contact person can then call each member of the family and update them on your condition. The contact person can call the CSICU 24 hours a day.

What are the CSICU Visiting Hours?

Providence Health Care recognizes that families play an important role in the healing process. Families are welcome to be present at any time, whenever your loved

Section 3: The Hospital

one feels ready to see you while in care. There are many opportunities throughout the day for you and your family to receive updates and ask questions about your condition. Feel free to ask your bedside nurse about this option.

We ask that families please follow a few safety guidelines during your stay:

- Sick people need rest. You can visit often, but please respect your loved ones wishes for privacy and rest.
- Children under 14 must be supervised by an adult (someone other than the patient or resident) at all times.
- Visiting may be restricted to protect the privacy and rights of other patients.
- It is an expectation that patients and families respect confidentiality of anything they may overhear during all times in the unit
- Your visit may be interrupted by staff to provide patient care
- If you feel unwell, have an infection, flu-like or respiratory symptoms, or any sort of communicable disease, or have recently been in contact with anyone with these symptoms, we encourage you to stay at home until you're well again.
- Refrain from using scented products if you are visiting your family member staff and patients may have severe allergies to scented products.
- We may not have the space to accommodate a large number of family members, but we'll try our best.

Guidelines can never replace the conversations you have between your family member, and your family member's care provider. If you need more information - just ask so we can help create the best care experience overall.

Section 3: The Hospital

When will I move out of the CSICU?

You will be transferred out of the CSICU when you no longer require intensive care nursing, usually the day after your surgery. You will be transferred to a cardiac ward on the fifth floor.

ON THE WARD



Transferring out of the CSICU to the fifth floor cardiac ward is a big step in your recovery. The nursing staffs on these wards are skilled in the care of the cardiac surgery patient. You will notice that your nurse has several patients instead of just one as in the CSICU. This can sometimes cause anxiety for you and your family. Be assured that your nurse will check on you regularly. However, if at any time you need assistance you can call your nurse by ringing your nurse call bell.

During your stay on the ward you may be cared for daily by a Nurse practitioner. Nurse Practitioners are Advanced Practice Registered Nurses who have the education and skills needed to diagnose, prescribe, order diagnostic tests and manage common acute and chronic illnesses. Nurse Practitioners work in partnership with physicians and other health care providers to manage your care and ensure that your discharge from hospital to home goes smoothly.

How Long Will I Be On The Fifth Floor Cardiac Ward?

Your discharge from hospital will occur approximately 4 to 7 days after your surgery. You may have to stay longer depending on your recovery. Refer to the Cardiac Surgery Pathway for daily events you can expect after surgery. You should start planning for both your discharge from hospital and your recovery at home at this time if you did not do any planning before you came to hospital.

Why Do I Need a Heart Monitor on the Ward?

The heart monitor or "telemetry" provides information about your heart rate and rhythm. After heart surgery some patients may get an irregular heart rhythm called atrial fibrillation. This most commonly occurs two to three days after surgery. You may be given medication to help control the atrial fibrillation should it occur. The heart monitor is usually removed on the third or fourth day after surgery or when you no longer require the heart monitor.

Who Can Visit?

All our staff members recognize that families are partners in a patient's recovery and healing process. We are committed to providing patients and their families with quality care. When we use the word 'family', we mean anyone who is important to our patients.

Families are welcome anytime. We do not restrict visiting hours.

Section 3: The Hospital

We ask that families please follow the following guidelines:

Our first commitment is to the patient

- Please respect our loved one's and other patients' need for privacy and rest
- Your visit may be interrupted by staff to provide patient care
- If you are feeling unwell or having flu-like symptoms we encourage you to stay home until you are well again

Family members are important partners in patient care

- Important care decisions will be made in partnership between the patient, their family and the care team
- Family members are free to ask staff for information about their loved one's condition at any time
- We welcome the patient's family members and friends of all ages to the unit
- Children under 14 must have adult supervision at all times
- We will try to make space to accommodate visitors but we may ask you to take turns if there is a large group

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Can I Make Phone Calls?

Each bedside has a telephone so you can make and receive calls. You will need to call collect or use a calling card for long distance calls.

How Will I Feel?

At St. Paul's Hospital, we recognize that you and your family need information, support and reassurance during this period. Every effort is made to keep you and your family informed about what is happening to hopefully decrease your anxiety.

While you will be feeling a great relief from having your surgery over, you may also experience some or all of the following during your hospital stay. For some, the emotional responses may not happen until after discharge from hospital. Frequent rest periods and talking to someone about your feelings can help.

- ♥ Anxiety and Fear

After surgery anxiety and fear are common feelings. "Is my recovery progressing normally"? The fear of going home can also cause anxiety.

- ♥ Confusion and Disorientation

Some people have difficulty concentrating, short-term memory loss, and periods of disorientation and may have trouble keeping track of time for a few weeks after surgery. These are temporary and are normal.

- ♥ Denial

After cardiac surgery patients often ignore

Section 3: The Hospital

physical symptoms or distress and try to do more activity than is recommended. It is normal to want to find out what you can do and to resume independence as soon as possible. At the same time, it is very important to pay attention to your body, to rest and do moderate activity.

♥ Sadness and Changes in Mood

Feelings of sadness are common. You will likely have ideas about how your recovery should be and if these expectations (realistic or not) are not met, you may feel let down.

♥ Frustration and Anger

Irritability and impatience during your recovery can be related to physical restrictions and also to the dislike of being dependent on others. You may find it frustrating to be unable to control the speed of your recovery.

What About My Diet?



Your diet will move from liquids to regular food as quickly as you can tolerate the change. Your appetite will probably be smaller than usual for a few days; this is normal after surgery. However, it's important to drink enough liquid and eat enough food to nourish your body and promote healing.

Let your nurse know if you feel nauseated, have difficulty eating or were on a special diet before you came to hospital. Medications may be given to reduce the nausea.

What About Bathing?

Sponge baths are given right away. In a few days after the pacing wires have been removed, a shower and shampoo will be allowed. Tub baths should be avoided until your incisions are fully healed which occurs at around 6 weeks after your surgery.

How Long Will My Discomfort Last?

Most patients complain of soreness and stiffness that may last several weeks. It may also only last a few days. The stiffness and soreness can be helped by changing your position frequently, being active and taking pain medication regularly.

What Position Should I Sleep In?

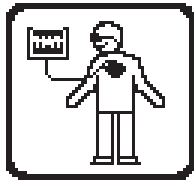
You should sleep in whichever position you find most comfortable, except on your stomach initially. It's best to avoid lying flat on your back for long periods of time as it isn't good for your lungs or skin. Try to lie on your side at least part of the time, changing your position every few hours. You may be given medication to help you relax or to help you sleep.

CARDIAC SURGERY PATIENT PATHWAY

All cardiac surgery patients receive the "Cardiac Surgery Patient Pathway" when they arrive at the hospital. This document is a guideline and an example of what the progress of your recovery might look like after surgery. Remember that all patients are individual and you may recover sooner than the example or take a little longer.





A copy of this document is included on the next three pages.

Section 3: The Hospital



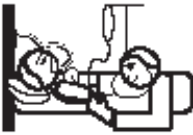









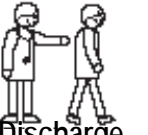













Open Heart Surgery

Daily events you can expect are:

 Day of Surgery	<ul style="list-style-type: none"> • After surgery you will go to the Cardiac Surgery ICU • Your nurse will closely monitor vital signs. • You will get pain medication regularly, indicate to your nurse if you still feel any pain. • You will have a breathing tube and a tube draining excess fluid from your chest; you will be asleep when all tubes are inserted. • The breathing tube will come out later in the day. • You will be on bed rest. • A catheter will be present in your bladder to drain your urine.
 1 st Day After Surgery	<ul style="list-style-type: none"> • Your pain medication will be changed to pills, tell your nurse if you feel any pain. • Chest drainage tube and most IV lines are removed. • You will continue to have a catheter to drain urine. • Do coughing and breathing exercises every hour, remember to support your chest when coughing. • Sit and stand at side of bed with nurse and / or physiotherapist. • Start drinking clear fluids. • You will be transferred to the Cardiac Ward.
 2 nd Day After Surgery	<ul style="list-style-type: none"> • You will get pain pills on a regular basis; tell your nurse if you still feel any pain. • Start to eat regular foods and fluids. • IV lines capped with red stoppers. • Your catheter that drains urine will be removed. • If you are taking a water pill, expect to go to the bathroom frequently. • The heart monitor will be removed if in normal rhythm. • The dressings to your chest and leg will be removed if the incisions are dry and healing. • Continue to do the coughing and breathing exercises, remember to support your chest. • The nurse will assist with your wash. • You will walk laps in the hallway and participate in the exercise class. • Your personal medication will be assessed and resumed as necessary. • You may experience some mood changes. • The health care team will discuss your discharge plan with you.
 3 rd Day After Surgery	<ul style="list-style-type: none"> • You will get pain pills on a regular basis; tell your nurse if you do not get pain relief. • Continue to do the coughing and breathing exercises, remember to support the chest. • Continue to walk and participate in exercise class. You may also start to climb stairs. • Rest for 30 minutes after each meal. • Your pacing wires will be removed. • You may shower by yourself or with some help. • Discharge planning: <ul style="list-style-type: none"> - Your expected discharge date will be confirmed. - Arrange your transportation home. - Watch "Going Home" video. - Visit the Cardiac Resource Centre. - The pharmacist will review your medications if necessary.
<p><i>This tool is intended as a guideline only. Each patient is an individual and responses may vary. If you have any questions, please talk to your doctor or nurse.</i></p>	

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Open Heart Surgery Regular Pathway

	Admission Day of Surgery	Day 1 After Surgery	Day 2 After Surgery	Day 3 After Surgery	Day 4 After Surgery	Day 5 After Surgery
Activity	 Bed Rest	 Sitting Up	 Walk w/Help	 Walking Laps + Exercise Class	 Stairs	 Home
Tubes & Lines	 Surgery/IV	 Some Tubes Out	 Heart Monitor Removed	 Chest Wires Removed	 Discharge Arrangements	 Discharge
Pain Medication	 IV	 IV / Oral	 Less IV / Oral	 Oral	 Medication Training Oral	 Oral
Food Nutrition	 No Fluids No Solid Food	 Fluids Only No Solid Food	 Fluids, Food As Tolerated	 Fluids & Solid Food	 Nutrition Education Fluids & Solid Food	 Fluids & Solid Food
Special Note						

RESOURCES FOR ALL PATIENTS AND FAMILIES AFTER HEART SURGERY:

Physiotherapy Classes:

- ♥ Physiotherapy classes are held throughout the week. Ask your nurse or physiotherapist for details.
- ♥ The classes take place in the Physiotherapy Exercise Room on 5A.
- ♥ Activity guidelines during recovery and exercises for home will be demonstrated and discussed.
- ♥ Family members and friends are strongly encouraged to attend with the patient so that any questions or concerns regarding the return to normal activity can be addressed.

Occupational Therapy:

- ♥ If you have any disabilities or need assistance with your usual activities of daily living (dressing yourself, bathing, etc) you will be seen by an occupational therapist while in hospital to help you with these activities for when you go home.

Diet:

- ♥ Dieticians can be contacted to discuss heart healthy nutrition while you are on the fifth floor.

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Resource Centre:

- ♥ The Resource Centre is located on 5B as you enter the unit from the elevators. The Resource Centre is a great way to get information about cardiac risk factors and healthy eating for people with heart disease. You can also access the internet for information while visiting the centre.

Pacific Open Heart Association:

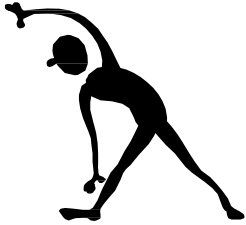
- ♥ The Pacific Open Heart Association is a group of volunteers who have had cardiac surgery who will come around and visit you before and/or after your surgery. They are an excellent support and can be contacted by e-mail through their web site at www.pacificopenheart.org.

Heart and Stroke Foundation

- ♥ The Heart and Stroke Foundation offers many information brochures regarding reducing risks in your health to assist you in living better after your heart surgery/procedure. Please ask for these at the St. Paul's Hospital Patient and Family Resource Centre on 5B.
- ♥ 1.800 Info Line
Trained volunteers are available Monday to Friday to answer questions about heart services available in your community and to assist you in reducing your risk in your overall health. Call 1-888-473-4636.

EXERCISING AFTER OPEN HEART SURGERY

Why?



- ♥ Increases cardiovascular recovery and efficiency
- ♥ Increases flexibility and strength of muscles especially for people who were very deconditioned in the weeks prior to surgery
- ♥ Promotes faster healing
- ♥ Enhances respiration and digestion
- ♥ Increases balance and coordination
- ♥ Decreases chances of complications related to immobility (blood clots, pneumonia, skin breakdown)

When?

- ♥ The earlier the better! You will be sitting up on the first day after your surgery, and likely up walking on the second day
- ♥ Remember that you are not 'broken', but you still have some work ahead to maximize your recovery. Increasing your activity during the early postoperative stage (up to six weeks) will speed your healing and return you to normal activities.

Where?

- ♥ RIGHT HERE initially, but you should continue to exercise at home.
- ♥ We also recommend enrolling in a recognized Cardiac Rehabilitation Program 4 to 6 weeks after your discharge, such as the Healthy Heart Program at St. Paul's Hospital. Non-medically

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managed programs will enroll you 12 to 24 weeks after your discharge.

Who?

- ♥ YOU! Remember that if you wish to improve the quality, effectiveness and duration of your cardiac function then you must be willing to make a life-long commitment to keeping your body in good running condition. Don't think of your recovery as a "sprint to the finish", but rather a part of a continued healthy lifestyle!
- ♥ Get your partner or your friends to join you in your new lifestyle!

THE WALKING PROGRAM

What Kind of Exercise? How Hard? For How Long?



- ♥ Most people will be able to walk between 3 and 10 minutes consecutively by the time they leave the hospital following surgery. It is best to focus on the duration (time) that you are walking, NOT the speed OR the intensity (e.g. hills).
- ♥ Increase the duration of your walking sessions by 1 or 2 minutes each day (not each walk). If you are walking under 15 minutes, it is best to do two (or even three) walks daily. Keep the speed steady and comfortable. Once you can walk 15 minutes, you can focus on one walk daily if you choose.
- ♥ Fight the urge to 'jump ahead' just because you are feeling good on a particular day. You have plenty of time to progress. And don't be too hard

Section 3: The Hospital

on yourself! Measure your recovery week-to-week, not day-to-day. You are likely to have 'off days' now and again but it is still fine to continue walking UNLESS you are having significant symptoms (**see further on for symptoms to watch out for). In this case, stay at a comfortable level until you are able to progress again.

- ♥ Most people (but not all) will have progressed to 30 minutes of consecutive walking between 4 and 6 weeks after surgery.
- ♥ At this point, you can add more structure to your walk. For the first ten minutes, walk at an easy pace (warm-up). After this, increase your pace slightly so there is more of a challenge but make sure you can still carry on a conversation, and are not experiencing any of the symptoms listed below. End the last ten minutes of your walk with walking at an easy pace again (cool down). Each week, try to increase the middle part of the walk (conditioning phase) by 2 minutes until that part alone is 30 minutes.

How Hard Should I Work?



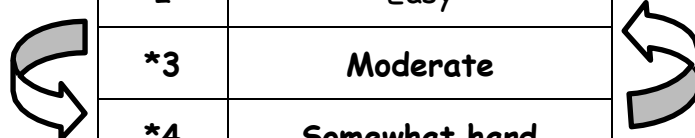
Warning

Symptoms to watch out for:

- ♥ undue shortness of breath (e.g. Use the "Sing/Talk/Gasp" test - see the next page)
- ♥ any new chest pain, or pain like you had before your heart surgery or heart palpitations
- ♥ extreme sweating relative to your workload (exercise level)
- ♥ dizziness, faintness, blurry vision or nausea
- ♥ strong cramping or pain in the legs
- ♥ significant fatigue that is still quite evident even an hour after finishing your exercise session

Rating of Perceived Exertion (RPE)

- ♥ Even though this may not seem very “scientific”, many studies show that we have the ability to rate our workload (exercise level) accurately when compared to more objective tests.
- ♥ If you rate your exertion level on a scale from 0 to 10, you should be working in the 3 to 4 range during the conditioning (middle) part of your session.
- ♥ The first and last ten minutes (warm-up and cool-down) should be very easy or easy (1 or 2 on the RPE Scale)



0	No effort
1	Very easy
2	Easy
*3	Moderate
*4	Somewhat hard
5	Hard
6	
7	Very hard
8	
9	
10	Very, very hard (maximal)

Table 1: Rating of Perceived Exertion (RPE) Scale

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Use the 'Sing/Talk/Gasp' test

- ♥ You should be able to talk comfortably while you walk.
- ♥ If you are... finding.... that.... you..... have..... to speak... between.... breaths, you should slow down.
- ♥ Likewise, if you could sing a song, you could likely pick up the pace a little bit. You want to be comfortable, but you also want to be effective.

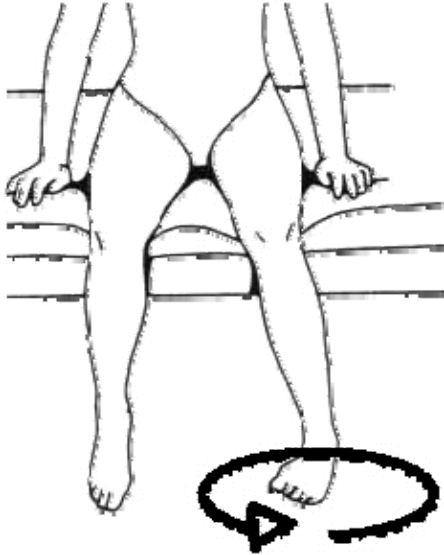
The Mobility & Stretching Program

- ♥ Some exercises on this sheet are effective for increasing flexibility, and all are suitable for warming up before and cooling down after you walk.
- ♥ Hold any stretches for 15 - 30 seconds. Once you become familiar with the stretches, hold them longer.
- ♥ Avoid bouncing or quick repetitions during a stretch.
- ♥ DO NOT HOLD YOUR BREATH. Breathing should be slow and rhythmical.
- ♥ DO NOT STRETCH TO A POINT OF PAIN. There may be the mild discomfort of a stretch, but there should be no pain. Always be aware of body position - keep your head, neck and spine in a straight line during your stretching.

Exercises

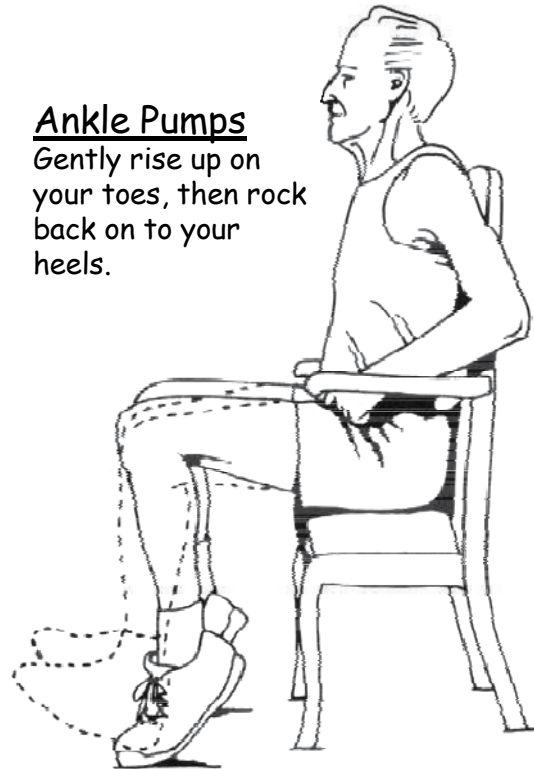
Ankle Rotation

Make circles with your ankles, or write your name!



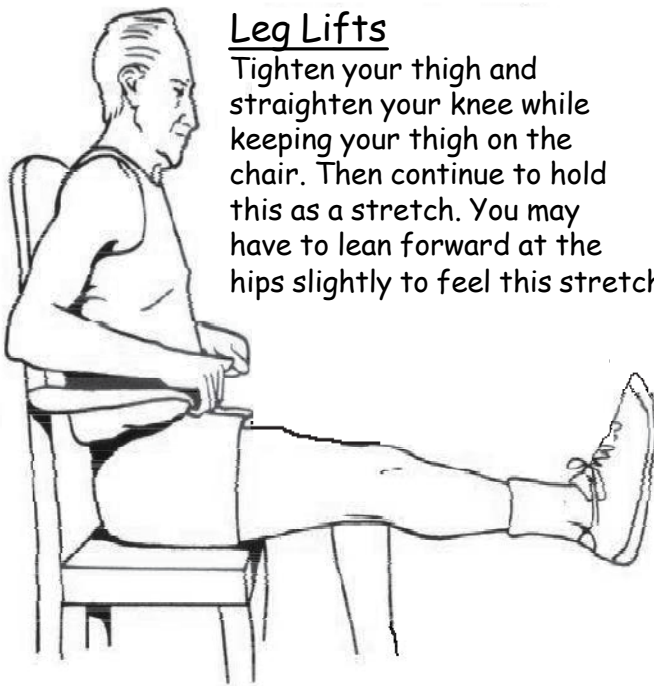
Ankle Pumps

Gently rise up on your toes, then rock back on to your heels.



Leg Lifts

Tighten your thigh and straighten your knee while keeping your thigh on the chair. Then continue to hold this as a stretch. You may have to lean forward at the hips slightly to feel this stretch.



Knee Raises

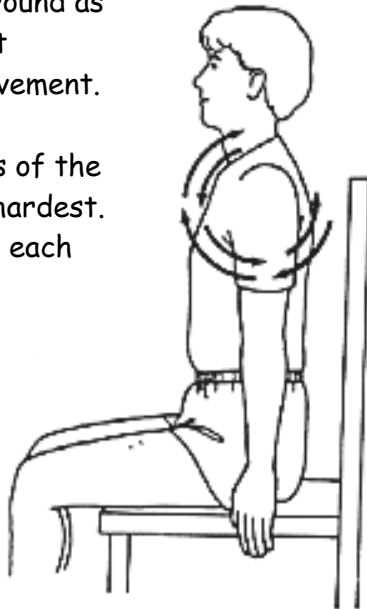
Lift one knee so your thigh leaves the chair. Alternate knees one at a time.



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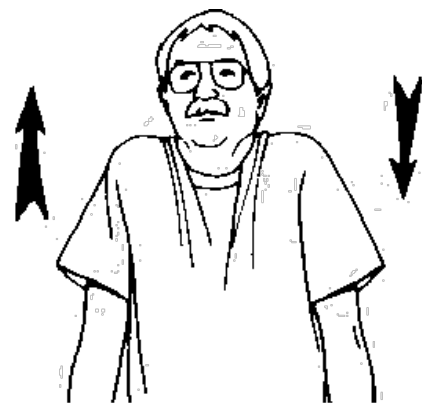
Shoulder Circles

Roll your shoulder forward and backward slowly. Try and make the circles as round as you can without forcing any movement. The lower and backward parts of the circle are the hardest. Repeat 5 times each direction.



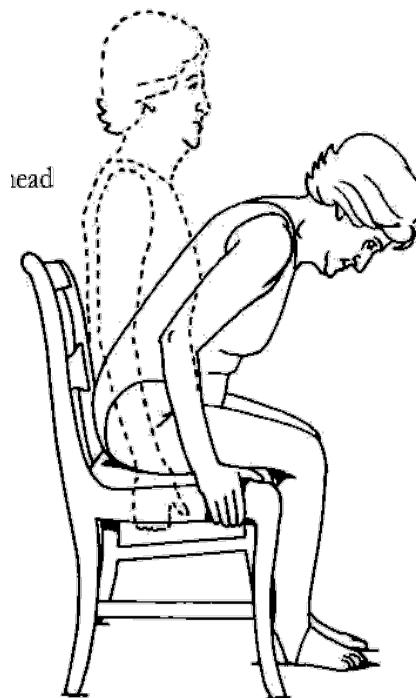
Shoulder Shrugs

Raise shoulders in an exaggerated manner; then reverse the movement and emphasize stretching downward.



Forward Bends

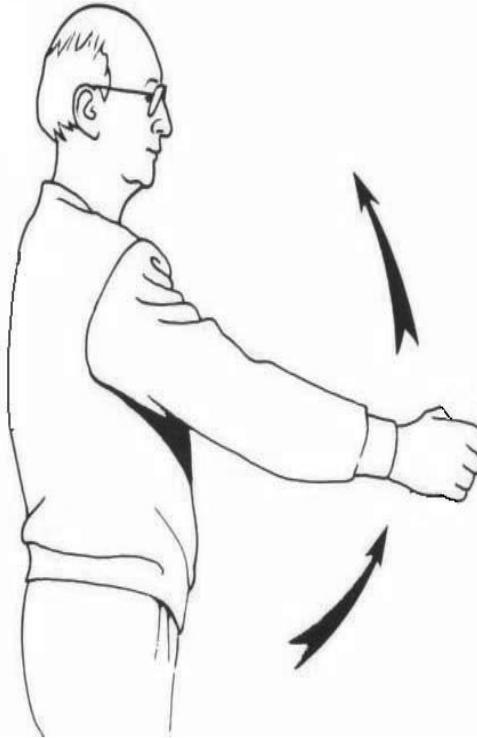
Exhale as you lean forward in your chair, keeping your head in line with your trunk. Return to a normal sitting position while inhaling deeply.



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Arm Lifts

1. Keeping your elbow straight, raise your arm slowly above your head to a point that is comfortable. Stop if you feel pulling through your breast bone. Very slowly return your arm to the side. Repeat with the opposite arm.
2. Clench your hand in a fist, then relax and fully extend your fingers.



Neck Rotation



Rotate head as far to one side as is comfortable. Return to midline and then rotate head in the other direction.

Neck Side Bending



Tilt head toward one shoulder (do not raise the shoulder). Then go to the other side.

Deep Breathing

With your left hand on your stomach and your right hand on your chest, breathe in deeply. Your left hand should move outwards as you breathe in. This means you are using the lower lobes of the lungs to breathe, lessening your chance of lung infection and/or collapse after your surgery.



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Sternal Precautions

Patients who have their breastbone cut (sternotomy) need to be aware of certain precautions after their surgery. For other types of incisions, please discuss precautions with your surgeon.

- ♥ Avoid exercising with machines that need you to use your arms (rowing, stationary bikes with arm levers).
- ♥ Avoid golfing, bowling, swimming or racquet sports for 3 months.
- ♥ Avoid lifting, pushing or pulling more than ten pounds.
- ♥ Try to avoid doing activities with your arms over your head with a weight in your hand(s) or for more than 1-2 minutes.
- ♥ When possible, use both arms to carry objects instead of using only one hand. Similarly, use both hands to open and close heavy doors.
- ♥ When standing up from sitting in a chair, focus on using your legs and avoid using your arms to push up from the chair.
- ♥ Place frequently used items nearby to avoid overreaching.
- ♥ Although it is important be aware of the 'rules' listed here, the goal is to eventually return to normal movement and activities (you do not need to avoid these activities forever!). You can have your pillow with you when you walk (in case you have to cough) but you do not need to hold it to your chest at all times. Try to walk as naturally

Section 3: The Hospital

as you can by slowly and gently swinging your arms as you walk.

- ♥ Everyone recovers at a different pace. Talk to your doctor about when and how much you can increase your activity.
- ♥ Generally, you should NOT increase your activity or the amount of weight that you are lifting if:
 - you still have pain along your wound or scar that is severe or lasts a long time
 - you feel “clicking” or “popping” of the breastbone when you move or when you take a deep breath
 - if there is an infection of your wound (if it is hot, red and oozing fluid or puss)

General Advice

- ♥ Do not hold your breath during activity.
- ♥ Wait 30 minutes after eating before exercises.
- ♥ Talk to your doctor about when you may drive.
- ♥ You can generally shower 3 days after your surgery if your dressings and pacing wires have been removed and the incisions are dry.
- ♥ Do not use hot tubs, swimming pools or soak in a tub until approved by your doctor.
- ♥ If you have dental work within 6 weeks of your surgery, antibiotic coverage is recommended.
- ♥ Be careful about exercising outside when it is too hot or too cold.

SECTION 4 – HOMEWARD BOUND

GOING HOME

Preparing To Go Home



You and your family should be planning for discharge from the moment you receive this guide. Planning early will make your discharge from hospital smoother. Health care team members are available to assist you. These may include: doctors, nurses, clinical nurse specialists, nurse practitioners, social workers, physiotherapists, pharmacists, dietitians, occupational therapists and spiritual health associates.

When Can I Go Home?

Your doctor or nurse practitioner will discharge you when you are medically stable. This is usually within 3-10 days of your surgery. The average stay is 7 days.

Am I Prepared?

Ask yourself these questions:

- ♥ How am I getting home?
- ♥ If I need assistance, do I have someone to help me?
- ♥ Do I know how to care for myself?
- ♥ How will I fill my prescriptions? Please remember that St. Paul's is unable to give you medications, you must go to a pharmacy for this.
- ♥ How will I get to future appointments?

How Will I Get Home?

It is up to you to arrange transportation. Discharge time is 11 am. Patients are not allowed to drive for six weeks after heart surgery. Review your restrictions with your doctor or nurse.

You may travel home by any form of transportation: car, bus or plane. **Ambulance services are not used to return patients to their homes.**

Will I Need a Nurse?

Most patients do not require nursing care after discharge. Your doctor may order Home Care Nursing, if you require certain treatments or care at home like help with your medications or dressings that need to be changed.

Will I Need Additional Help At Home?

You may be eligible for home help services if you do not have family or friends to help you. Ask to see the Cardiac Social Worker for more information. Please note generally these are private pay services and are either not covered or are partially covered by secondary insurance.

Learning To Care For Myself

You and your family or friends need to know what you should and should not do after discharge. Members of the health care team help by providing information and answering your questions. Remember that you will be able to do most things on discharge. You will be able to dress yourself, bathe yourself and do light cooking. Take

Section 4: Homeward Bound

advantage of these opportunities as soon as possible. Your discharge from hospital will come quickly.

What about Cardiac Rehabilitation Programs?

You are encouraged to attend a cardiac rehabilitation program if one is available in your area. Patients who attend these programs have healthier lifestyles, an improved quality of life and psychological well being, and decrease their risk of further heart disease. Ask a member of your health care team for more information before you go home (please see the resource section for more information). If you live within the Vancouver Coastal Health Authority (VCH) you will be automatically referred to a program at discharge. If you live outside VCH your GP will need to refer you to a health heart program in your area.

What Do I Need Before I Go?

You will need your discharge instructions, prescriptions, valuables, personal medications and belongings.

General Recovery

Recovery from heart surgery takes approximately 6 to 12 weeks. During this time, you start to build up your strength and get back to normal. At times, your recovery may seem slow. You may feel drained from limited activity, lack of good sleep, medications and surgery itself. On some days you will have more energy than on others. This is all normal.

Section 4: Homeward Bound

Return to Work

The decision of when to return to work is made by you and your family doctor during a check-up appointment. This depends on the type of work, demands of the job, your physical stamina, and other medical conditions.

Wound Healing



Note

Do not use creams or lotions on your incisions, just normal soap and water

Sternum

During the first weeks after surgery, your incision may be bruised. It may also itch, feel numb, or be sore. Changes in the weather, too much (or too little) activity and sleeping in one position can cause soreness. At times your back or shoulders may also feel sore, and you may notice a swelling or lump at the top of your chest incision. All these things are common and will slowly go away. For back and shoulder soreness, some people find a heating pad helpful (on a low setting).

Your main restrictions after surgery relate to healing of the sternum (breastbone). Avoid activities that can put strain on the sternum, such as heavy lifting or excessive weight on the breastbone. You may notice a slight clicking or movement of the sternum when you breathe or turn. If this happens continue to protect your breastbone with a small pillow. This is common and should go away when your sternum heals (on average 6 to 12 weeks). If the clicking doesn't go away, notify your doctor.

Women sometimes experience more discomfort in the chest and breast area after surgery. It is important for them to wear a bra to support the breast and to prevent tension on the chest incision. A bra that has a front closure can be more comfortable to wear and will give good support on the chest incision.

Section 4: Homeward Bound

Arms and Legs

Taking pain medication regularly will decrease the discomfort. Try to exercise the affected limb as per physiotherapist suggestion. To help your leg incision heal more quickly, keep your leg elevated when you are sitting in a chair or are in the bed.

Life After Surgery



Note

- ♥ An important result of cardiac surgery is improved quality of life. Patients often feel the need to re-evaluate their lives and priorities. Recovery may mean being able to do more than before or it may involve lifestyle changes.
- ♥ Look at how stress affects you, both mentally and physically.
- ♥ Find ways to relax and avoid needless worry.
- ♥ Find a variety of activities you enjoy.
- ♥ Learn to pace your activities by setting priorities, managing time well and having realistic goals about what you can do within a reasonable amount of time.
- ♥ Start a regular program of physical fitness - initially walking and then after the breast bone is healed swimming and cycling may be added. Limit your intake of alcohol to two drinks a day.
- ♥ Quit smoking. Ask a health care professional about nicotine replacement therapy or smoking cessation programs to help you quit. Visit quitnow.ca or call the hotline at 1-877-455-2233.
- ♥ Follow a healthy diet, which includes low cholesterol, low fat, low sugar, and low salt foods. Ask your nurse practitioner or doctor if you would like speak to a dietician.
- ♥ Enjoy relationships with family and friends.

Section 4: Homeward Bound

- ♥ It is important not to try and change your lifestyle overnight. This can add to your level of stress. Make small, manageable changes rather than a lot of major ones all at once.

Things to AVOID for 6 Weeks After Your Surgery

- ♥ Holding your breath during activity (ever!)
- ♥ Walking on hills and slopes
- ♥ Lifting, pushing or pulling more than 10 pounds
- ♥ Sustained overhead activities
- ♥ Overstretching the chest so that your breast bone is being stressed
- ♥ Avoid extreme environmental temperatures
- ♥ Driving (6 weeks)
- ♥ Exercising immediately after a meal (wait 30 minutes)
- ♥ If you have dental work within 6 weeks of your surgery, antibiotic coverage is recommended.
- ♥ NOTE: You can have a shower 3 to 5 days after your surgery if your dressings are off, pacing wires are removed and the incisions are dry (NO hot tubs, swimming pools or soaking in the tub!)

Resuming Sexual Relationships

Sex with your partner requires about the same energy it takes to climb 2 flights of stairs (6 stairs per flight). Many people return to sex about a month after heart surgery. Use this as a guide to estimate your readiness. **Remember to protect your breastbone.** Remember not to have sex after eating.

Section 4: Homeward Bound

Angina

If you develop angina with activity, rest and take up to three nitroglycerin tablets or spray (one every 5 minutes) until the pain goes away. **If your angina does not go away, go to your local Emergency Department immediately.** If you have frequent angina call or see your doctor, or go to you local Emergency Department.

Riding in a Car or Driving

You can be a passenger in a car for short trips. Using a seat belt is fine (it may be more comfortable to put a small pillow between the seat belt and your breast bone). Do not drive a car until you are pain free in the shoulders and breastbone and do not drive a car if you are taking narcotics for pain. This usually takes about 6 weeks after surgery. Ask your family doctor if you are ready.

Follow-Up Appointments

You need to make two follow-up appointments when you return home:

- ♥ Family Doctor - see within the week of your discharge. Remember cardiac rehabilitation is a very important aspect of your recovery and will contribute to helping you make healthy lifestyle choices and improve your outcome. You can begin your program 4-6 weeks after discharge. Ask your doctor to refer you to a program in your local area.

Section 4: Homeward Bound

- ♥ Heart Specialist - see the cardiologist or internist you saw before your surgery within 6 to 8 weeks of you going home (if you don't have a heart specialist, have your family doctor refer you to one, or we may recommend a specialist in your area).

Surgeon

A follow up plan with the surgeon will be individualized at discharge and depends on the nature of your surgery. Your surgeon will make an appointment for you if an office visit is required and may arrange follow up testing, such as an echocardiogram, if needed. If you experience a surgical problem after discharge, contact your family doctor and they will notify your surgeon if required.

TelAsk Automated Phone Follow-up

You will receive an automated telephone call 3 days and 10 days after you are discharged from the hospital. This is to assess how you are doing at home. Please note your call display will show HeartCheck Call or 613-627-1030 if you don't have call display. The automated system will notify a member of the health care team to follow-up with patients who have been identified needing further follow up.

Section 4: Homeward Bound

Sleep

Many patients find it difficult to sleep through the night when they return home. This is both a normal side effect of the surgery and is temporary. Most patients will be given a prescription for sleeping pills for short term use. Do not be afraid to take the sleeping pills. You will not become addicted to them and they will help you get a good night sleep while you are recovering.

Tips to Help you Sleep Better!

- ♥ Don't take more than one nap during the day, short rest periods after activity is best
- ♥ Avoid caffeine. If you do have caffeine, limit to one each day and enjoy it in the morning.
- ♥ Take your pain medications during the day and right before bed time and again if you wake up in the middle of the night.
- ♥ If you cannot sleep, get up and do a short activity for 30 minutes and then go back to bed.



After I go Home, When should I be concerned?

If you notice the following...	It could mean...	What you should do...
<p>Redness, tenderness or drainage from your incisions.</p> <p>New or worsening cough with thick coloured sputum.</p> <p>Fever above 38°C or 101°F</p> <p>Feeling unwell.</p>	<p>Infection</p>	<p>Call your family doctor.</p> <p>If you have drainage in your chest incision, let your surgeon know.</p>
<p>New or increased swelling in your ankles.</p> <p>Weight gain over 2-3 days.</p> <p>New or increased shortness of breath or cough.</p> <p>Trouble breathing when you lie down.</p>	<p>Too much fluid in your body</p>	<p>Call your family doctor.</p> <p>If your shortness of breath is sudden or causing you distress, call an ambulance.</p>
<p>Fast and/or irregular pounding of your heart that is sustained or accompanied by dizziness or feeling like you are going to faint.</p>	<p>Heart rhythm problem</p>	<p>Go to the nearest emergency department (do not drive yourself). If there is no one to drive you, call 911.</p>
<p>No bowel movement for a few days.</p> <p>Fullness in your abdomen. Pain or discomfort in your abdomen. Nausea and/or vomiting.</p>	<p>Constipation or blockage in your bowel (bowel obstruction)</p>	<p>Try a suppository or an enema</p> <p>If no results from these, call your doctor. If you are in severe pain, go to an ER department.</p>

INFORMATION ABOUT YOUR MEDICATIONS



After your open-heart surgery there will be many changes to your heart medications. These changes may be minor or significant. For example, these could include adjusting doses of medications or switching to a different one altogether. These heart medications are all prescribed to you for a specific reason - some of work to decrease your symptoms and some can prevent you from having future heart-related complications. The amount of time that you take these medications for may vary as well - some will continue on long-term, whereas others will only be used for a short period of time after your surgery. It is important that you take these exactly as prescribed and try not to miss any doses. Always check with your doctor or pharmacist before starting any new medication to make sure that is right for you and there are no drug-interactions (where one drug changes the effect of another drug).

The following table lists heart medications that are commonly prescribed after coronary artery bypass grafting and valve repair or replacement surgeries. This table will list medication classes and common names, explain what these medications do, and highlight important points about each medication.

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Medication Class and Names	What It Does	Potential side effects and considerations
<p>Antiplatelet Agents</p> <p>Examples: ASA (Aspirin), clopidogrel (Plavix)</p>	<p>Helps bypass grafts heal</p> <p>Prevents clots from forming in heart arteries and bypass grafts</p> <p>Reduces risk of future heart attacks, stroke, death</p>	<p>Stomach upset (e.g. acid reflux) – may take with food</p> <p>Minor bleeding (e.g. nose bleeds, bleeding gums, small bruises)</p> <p>Report major bleeding to your doctor (e.g. vomiting blood, black stools, large bruises)</p>
<p>Anticoagulants</p> <p>Example: Warfarin (Coumadin)</p>	<p>Prevents formation of blood clots in the heart and on prosthetic heart valves</p> <p>Reduces risk of stroke</p>	<p>Minor bleeding (e.g. nose bleeds, bleeding gums, small bruises)</p> <p>Report major bleeding to your doctor (e.g. vomiting blood, black stools, large bruises)</p>
<p>ACE Inhibitors (Angiotensin-converting enzyme inhibitors)</p> <p>Examples: enalapril (Vasotec), lisinopril (Prinivil, Zestril), perindopril (Coversyl), ramipril (Altace), trandolapril (Mavik)</p>	<p>Lowers blood pressure</p> <p>Helps heart heal after open heart surgery and helps it pump more efficiently</p> <p>Reduces risk of future heart attacks, stroke, death</p> <p>Protects the kidneys in those with chronic kidney disease</p>	<p>Lightheadedness</p> <p>Dry cough – advise your doctor if the cough is bothersome</p>
<p>ARB (Angiotensin II Receptor Blockers)</p> <p>Examples: candesartan (Atacand), losartan (Cozaar), valsartan (Diovan)</p>	<p>Lowers blood pressure</p> <p>Helps heart heal after open heart surgery and helps it pump more efficiently</p> <p>Reduces risk of future heart attacks, stroke, death</p> <p>Protects the kidneys in those with chronic kidney disease</p>	<p>Lightheadedness</p>

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Medication Class	What It Does	Potential Side Effects
<p>Antiarrhythmics</p> <p>Examples: amiodarone (Cordarone)</p>	<p>Helps prevent irregular heart rhythms or maintain normal heart rhythm</p>	<p>Stomach upset</p> <p>Increased sensitivity to the sun – wear sunscreen and sun protection</p>
<p>Beta Blockers</p> <p>Examples: atenolol (Tenormin), bisoprolol (Monacor) carvedilol (Coreg), metoprolol (Lopressor), sotalol</p>	<p>Slows down heart rate and lowers blood pressure, which reduces workload on the heart</p> <p>Prevents and controls irregular heart rhythms</p> <p>Reduces risk of future heart attacks, stroke, death</p>	<p>Lightheadedness, fatigue</p>
<p>Diuretics</p> <p>Examples: furosemide (Lasix)</p>	<p>Removes excess fluid from the body following open heart surgery</p>	<p>Increased urinary frequency</p> <p>May need to take potassium supplements while on a diuretic</p> <p>Dose and duration of therapy requires reassessment by doctor</p>
<p>Statins</p> <p>Examples: atorvastatin (Lipitor), pravastatin (Pravachol), rosuvastatin (Crestor), simvastatin (Zocor)</p>	<p>Lowers cholesterol</p> <p>Prevents cholesterol plaques from forming in heart arteries and grafts</p> <p>Reduces risk of future heart attacks, stroke, death</p>	<p>Muscle aches – advise your doctor if you experience these symptoms</p>

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Medication Class	What It Does	Potential Side Effects
Medications to prevent stress ulcers Examples: ranitidine (Zantac), pantoprazole (Tecta, Pantoloc)	Reduces amount of stomach acid Prevents gastric reflux Prevents formation of stress ulcers	Only need to take for a short period of time after heart surgery (e.g. 6 weeks)
Medications for coronary artery bypass with radial artery grafts Example: amlodipine (Norvasc), isosorbide dinitrite (Isordil)	Lowers blood pressure Prevents spasm of the radial artery graft	Lightheadedness Only need to take for a short period of time after heart surgery (e.g. 6-12 weeks)

HEART HEALTHY EATING



If you have a good appetite, are within or above your ideal body weight, and have fully recovered from surgery, follow the 6 steps to Heart Healthy Eating. If you have a poor appetite, are below your ideal body weight, or are still recovering from your surgery, talk with a Registered Dietitian about your specific nutritional needs.

The dietary guidelines below are not intended to replace the expertise of a Registered Dietitian. After you leave the hospital you will be referred to a healthy heart program where you can discuss your individual nutrition needs with a dietitian. If you are not able to attend or are waiting to attend a healthy heart program, and have questions regarding heart healthy eating call BC HealthLink at 8-1-1 (anywhere in B.C.) and ask to speak to a dietitian. www.healthlinkbc.ca

Diet is a very important part of lowering cholesterol levels. The following tips are for individuals with high cholesterol, and those with a history of heart disease, such as atherosclerosis (hardening of the arteries) or diabetes.

SIX STEPS TO HEART HEALTHY EATING

All of these steps are important to help lower your blood cholesterol and control your weight. Make changes one step at a time.

1 Reduce all added fats, especially saturated and hydrogenated (trans) fat

- ♥ keep total amount of fat that you add to food and in cooking to 6 teaspoons per day
- ♥ choose more often: canola oil, olive oil, and flax oil, nuts and seeds, nut butters and soft margarine with non-hydrogenated fats
- ♥ choose less often: butter, hard margarine, lard, shortening, creamy dressings and sauces and coconut milk
- ♥ when cooking foods: broil, bake, grill, steam or microwave; avoid frying and deep-frying

2 Eat a variety of vegetables and fruit everyday

- ♥ try fresh, frozen or pre-packaged fresh vegetable and fruit mixtures
- ♥ add vegetables to salads, soups, stews, and stir-fries. Season with lemon juice, vinegar, low-fat salad dressings and dips
- ♥ better choices include: dark green and orange vegetables such as broccoli, spinach, romaine lettuce, carrots, squash, and sweet potatoes.
- ♥ choose to eat fruit and limit intake of all fruit juices

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- ♥ add fruit to cereals, plain yogurt or enjoy on its own as a tasty snack or dessert

3 Eat more whole grain products

- ♥ better choices include: whole grain breads, cereals and pastas, brown rice, and barley,
- ♥ choose less often: white bread, white rice, granola, croissants, donuts, pastries, scones, biscuits and commercial muffins

4 Choose lower fat dairy products

- ♥ better choices include: skim and 1% milk, yogurt and cottage cheese, low fat cheese (less than 20% milk fat) and low fat sour cream
- ♥ choose less often: regular cheese, whipping cream, and sour cream

5 Select smaller, leaner portions of meat, poultry, fish and alternatives

- ♥ eat 2-3 servings of lean choices each day (1 serving = deck of playing cards). Trim fat from meats and remove poultry skin
- ♥ choose fish at least twice per week (fresh, frozen or canned in water)
- ♥ instead of meat choose legumes such as chickpeas, kidney beans, split peas, lentils, baked beans and/or soy and tofu products at least once per week
- ♥ choose less often: bacon, bologna, salami, sausages, fatty cuts of meat, egg yolk and organ meats
- ♥ limit egg yolks to 3 per week

6 Limit high fat snacks and desserts

- ♥ better snack choices include: vegetables, fruit, whole grain crackers, and low fat dairy products
- ♥ choose desserts low in fat such as fruit, low fat puddings, angel food cake, frozen yogurt and homemade baked goods (made with vegetable oil or non-hydrogenated margarine)
- ♥ choose less often: chips, cheezies, chocolates, cookies, regular microwave popcorn, ice cream and baked goods (croissants, donuts, pastries, scones, biscuits and commercial muffins)

Remember:

Activity helps control your weight, lower your cholesterol, and improves your heart health. Be active every day. Start slowly and gradually work your way up. Check with your doctor before starting any exercise program.

Following a low fat diet does not guarantee you will lose weight - all calories count! If you eat more food than you need you may have difficulty achieving a healthy weight. The key is to eat a variety of foods and keep active every day.

For more information on serving sizes refer to Canada's Food Guide to Healthy Eating www.hc-sc.gc.ca (or search for Canada's Food Guide).

Other Considerations:

Limit your salt intake

Lowering dietary salt (sodium) can help some people lower their blood pressure. If you have high blood pressure and/or congestive heart failure, avoid salty foods like commercial soups, salad dressings and sauces, pickles, deli meats, salty snacks and fast foods, and use salt sparingly in cooking and at the table.

Alcohol

Some studies show that alcohol may help heart health by raising levels of "good" HDL cholesterol.

Caution: if your triglyceride levels are high, even small amounts of alcohol can be harmful. Large amounts of alcohol are harmful to health.

Recommendations:

If you don't drink alcohol now, don't start.

If you do drink alcohol, do so in moderation (1 drink a day or less for women or lighter-weight men, and 2 drinks a day or less for average-weight men). Discuss alcohol use with your doctor.

1 drink is equal to: 1 oz (30 ml) 100 proof liquor,
1.5 oz (50 ml) 80 proof
liquor, 5 oz (150 ml) wine,
12 oz (375 ml) beer

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Heart Healthy Cookbooks

The New American Heart Association Cookbook, 8th Edition (2012)

Heart Smart Flavours of India (1998), by K Jamal

Heart Smart Chinese Cooking (2001) by S. Wong

The Heartsmart Shopper: Nutrition on the Run (1998),
by Ramona Josephson

Heart Smart Cooking for Family and Friends (2000) by B. Stern

Heart Smart: The Best of Heart Smart Cooking (2006) by B. Stern

The New Lighthearted Cookbook (2005), by A. Lindsay
Eating Light, Eating Right (2001), by S. Ratner and F. Johnson

Cook! (2011) and Simply Great Food (2007), Dietitians of Canada

The Heartsmart Diabetes Kitchen: Fresh, Fast, and Flavorful recipes (2010), American Diabetes Association

Grocery Shopping Tours

Choices Market:

<http://www.choicesmarket.com/storetour.aspx>

Save on Foods:

<http://www.saveonfoods.com/nutrition-tours>

CARDIAC REHABILITATION PROGRAMS

Think of cardiac rehabilitation as a process - each step means your heart and body are getting stronger and healthier.

Inpatient Cardiac Rehabilitation

Rehabilitation starts after your surgery while you are still in the hospital. You won't be alone. An entire care team including your nurse, doctor, nurse practitioner, physiotherapist, dietician and pharmacist will work with you. They'll help you and your families understand your condition, provide treatments and prepare you for your return home.

You will receive information about heart disease and self-care and learn about your risk factors and how to reduce them. You will also be provided with information on community resources.

You'll also be given instructions about how much activity you should do those first few weeks at home.

Outpatient Cardiac Rehabilitation

This begins when you leave the hospital and begin an outpatient program. Most people can begin this phase after being discharged home and are feeling up to exercise. This usually happens in about 6 weeks. If you live within the Vancouver Coastal Health Authority (VCH) you will be automatically referred to a program at discharge. Be prepared when they call you!

If you live outside of Vancouver Coastal Health Authority, please speak to your doctor about rehab

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programs as you will need a medical referral from your family doctor or Cardiologist.

There is a cost to attend a cardiac rehab program, please ask about fees when they call you. There may be financial support available for those on a fixed income and unable to afford the fee. For further information please talk with a nurse/case manager before starting the program.

You may be working with a care team, including a:

- ♥ nurse
- ♥ nurse practitioner
- ♥ cardiologist
- ♥ physiotherapist
- ♥ dietitian
- ♥ social worker
- ♥ pharmacist
- ♥ psychologist
- ♥ exercise specialist
- ♥ occupational therapist

What happens in Outpatient Cardiac Rehabilitation?

Your risk factors will be identified and a plan to reduce the risks will be developed. You will also get information about:

- ♥ nutrition
- ♥ cholesterol
- ♥ how the heart functions
- ♥ exercise
- ♥ blood pressure
- ♥ how the heart disease process works
- ♥ smoking cessation
- ♥ medications

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Because exercise is an important part of lowering your heart disease risk, medically supervised exercise classes will be an important part of this phase. When you first start your classes, you'll be wearing a heart monitor. Your blood pressure will be checked to keep track of your heart's response. The key is to learn how to exercise in a way that is good for your condition. An exercise routine will be designed for you. It will be based on what you like to do. You will feel confident in how to exercise by the end of this program.

As your recovery continues, you probably won't need to have your heart and blood pressure monitored. That doesn't mean you won't need some help and supervision from the staff. This program will help you and your families know what your risk factors for heart disease are and how you can reduce them. You will have a personal risk reduction plan with both lifestyle changes and medications. You will know more about how to maintain a healthier lifestyle.

While attending a cardiac rehab program it is important to continue to follow up with your family doctor for care of your general medical health and your private cardiologist who will take care of your heart after you finish the 4 month-long program and will look after your heart issues not related to rehabilitation during the program.

St. Paul's Hospital Healthy Heart Program

The Cardiac Rehabilitation & Prevention Clinic is part of the Healthy Heart Program at St. Paul's Hospital. The focus of Cardiac Rehabilitation is to reduce the risk of a heart event, to help recovery after a heart procedure and to provide education about a heart-healthy lifestyle.

Each person referred to the clinic is given a plan specially designed to reduce his/her risks. The plans include:

- ♥ cholesterol management
- ♥ assessment of physical ability
- ♥ exercise prescription
- ♥ an exercise program
- ♥ dietary counseling
- ♥ help to quit smoking
- ♥ stress management
- ♥ blood sugar management
- ♥ blood pressure management
- ♥ screening for heart disease

What Happens Once I'm Referred to the Clinic?

Assessment Time

Your first appointment will be to assess your condition. You will be called with your appointment time. Usually, this happens within two to four weeks of leaving the hospital. At the assessment clinic, a doctor, nurse, dietician and pharmacist will see you. Your risk factors are identified and a plan for treating them is created for you. Other health care professionals are also available to help you make lifestyle changes that will lower your risk:

- ♥ medical director/
cardiologist
- ♥ nurse
- ♥ exercise specialist
- ♥ exercise leader
- ♥ dietitian
- ♥ pharmacist
- ♥ social worker
- ♥ occupational therapist
- ♥ Physiatrist
- ♥ Psychologist
- ♥ smoking cessation
nurse

On average, each person spends two to four months in the program. You may need less or more time depending on your individual needs and distance from St. Paul's Hospital.

The Exercise Factor

Exercise classes are held twice a week. It's very important that you come to all these classes. They are one hour and fifteen minutes long and are supervised by a nurse and exercise personnel. Before you start the exercise portion of your program, you may need to take a treadmill test. The results of the test are used to develop your exercise program. An exercise specialist will meet with you to discuss the results of the test, to find out what you like to do and will also let you know what to expect in the classes.

Together, you will plan a home exercise program for the days you don't come to class. By the time you finish the program, you'll be a pro at your home routine.

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Talking about Education

Education will occur both for you and within a group. We encourage your partner or spouse to join you. It's a great chance for him/her to learn:

- ♥ more about heart disease
- ♥ how to reduce risk factors
- ♥ how to help encourage healthy lifestyle choices

Education topics will include:

- ♥ stress management
- ♥ high blood pressure
- ♥ weight loss
- ♥ symptoms of and actions for chest pains
- ♥ all you wanted to know about cholesterol
- ♥ managing your diabetes
- ♥ pacemakers and arrhythmias
- ♥ understanding your medications
- ♥ quitting smoking
- ♥ nutrition
- ♥ exercise
- ♥ hormone replacement therapy
- ♥ women and heart disease
- ♥ sexuality and heart disease
- ♥ dealing with anger and depression
- ♥ returning to work
- ♥ retirement planning

Where Is the Clinic?

The Healthy Heart Cardiac Rehab Program (604-806-9270) offered at St. Paul's Hospital is located on the first floor of the Burrard Building.

SECTION 5- RESOURCES

BRITISH COLUMBIA CARDIAC REHAB PROGRAMS

The following is a list of cardiac exercise and/or education programs available in British Columbia. Despite many programs sharing the same name of "Healthy Heart", the programs listed vary in the services they provide, the amount and types of exercise equipment, and the level of staff and medical supervision available. Some of the cardiac exercise programs may not be appropriate for individuals with certain cardiac conditions, and we recommend that you discuss your specific situation with your physician prior to starting any exercise program.

If you live within Vancouver Coastal Health Authority your referral will be made for you at discharge.

If you live outside the Vancouver Coastal Health Authority, please speak to your family doctor or cardiologist, as you will need a medical referral to a cardiac rehab program.

Heart and Stroke Foundation web site lists cardiac rehabilitation programs in Canada at http://www.cacpr.ca/information_for_public/directory.cfm or the information line 1-888-473-4643 has trained volunteers who will assist callers in locating community based services and resources. Hours of business are Monday to Friday 10:00AM - 4:00PM.

Section 5: Resources

Heart & Stroke Foundation of BC & Yukon

Lower Mainland Tel: (604) 736-4404

Toll Free Tel: 1 (888) 473-4636

Hearts in Motion Walking Club

See Website for more details: www.heartandstroke.bc.ca

LOWER MAINLAND

St. Paul's Hospital Healthy Heart Program

Main Floor B180, Burrard Building

1081 Burrard Street

Vancouver, BC, V6Z 1Y6

Tel: (604) 806-8591

Fax: (604) 806-8590

Centre for Cardiac Rehabilitation and Risk Factor Management - VGH

6th Floor, Gordon and Leslie Diamond Health Care Centre

2775 Laurel Street

Vancouver, BC, V5Z 1M9

Tel: (604) 875-5389

Fax: (604) 875-5794

Jewish Community Centre of Greater Vancouver Healthy Heart Program

950 West 41st Avenue

Vancouver, BC, V5Z 2N7

Tel: (604) 257-5111 ext. 218

Kerrisdale Community Centre - Cardiofit class

5851 West Boulevard

Vancouver, BC, V6M 3W9

Tel: (604) 257-8100 ext. 1

Section 5: Resources

Langara Family YMCA Healthy Heart Program

282 West 49th Avenue
Vancouver, BC, V5Y 2Z5
Tel: (604) 324-9622

Burnaby Hospital Healthy Heart Program

5th Floor, 3935 Kincaid Street
Burnaby, BC, V5G 2X6
Tel: (604) 412-6440
Fax: (604) 412-6189

Richmond Hospital Healthy Heart Program

7000 Westminster Highway
Richmond, BC, V6X 1A2
Tel: (604) 244-5163
Fax: (604) 244-5571

Garratt Wellness Centre Heart Wellness Program

Registration office:
7504 Chelsea Place
Richmond, BC, V7C 3S9
Tel: (604) 238-8004

Lions Gate Hospital Cardiac Rehabilitation Program

Intake Office
1110 160 East 14th Street
North Vancouver, BC, V7L 2L7
Tel: (604) 904-0810
Fax: (604) 904-0812

Section 5: Resources

Lions Gate Hospital - Cardiac Home Follow-up Program

231 East 15th Street
North Vancouver, BC, V7L 2L7
Tel: (604) 984-5933

North Vancouver Cardiac Rehabilitation Maintenance Programs

Website: www.northvanrec.com/health-and-fitness/specialty-fitness-and-rehabilitation.aspx#cardiac
Tel: (604) 987-7529
Fax: (604) 983-6409

Harry Jerome Recreation Centre

123 East 23rd Street
North Vancouver, BC, V7L 3E2

Memorial Community Recreation Centre

100 Block East 23rd
North Vancouver, BC, V7N 2L3

Ron Andrews Community Centre

931 Lytton Street
North Vancouver, BC, V7H 2M5

John Braithwaite Community Centre

145 West 1st Street
North Vancouver, BC, V7M 3N8
Tel: (604) 982-8300

Parkgate Community Centre

3625 Banff Court
North Vancouver, BC, V7H 2M5
Tel: (604) 987-7529

Section 5: Resources

West Vancouver Aquatic Centre Healthy Heart Program

2121 Marine Drive
West Vancouver, BC, V7V 4Y2
Tel: (604) 925-7270

Peace Arch Hospital Healthy Heart Program

15455 Vine Avenue
White Rock, BC, V4B 2T3
Tel: (604) 535-4500 Ext. 757676 or 757794
Fax: (604) 538-9809

Tsawwassen Healthy Heart Program

Winskill Aquatic & Fitness Centre
5575 9th Avenue
Delta, BC, V4M 1W1
Tel: (604) 952-3005

Surrey Memorial Healthy Heart Program

Jim Pattison Outpatient Care and Surgery Centre
9750 140th Street
Surrey, BC, V3V 1Z2
Tel: (604) 582-4584 loc 763859
Fax: (604) 585-5921

Langley Cardiac Rehabilitation Program

W.C. Blair Recreation Centre
22200 Fraser Highway
Langley, BC, V3A 7T2
Tel: (604) 533-6170

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YMCA Healthy Heart Program

208 - 245 East Columbia Street
New Westminster, BC, V3L 3W4

Tel: (604) 521-5801

Fax: (604) 521-3242

Email: healthy.heart@vanymca.org

Website: www.vanymca.org/health/healthyheart.html

Centennial Community Centre

65 6th Avenue

New Westminster, BC,

Confederation Centre

4585 Albert Street

Burnaby, BC,

Coquitlam Recreation Centre

620 Poirier Street

Coquitlam, BC, V3J 6B1

Port Moody Recreation Centre

300 Loco Road

Port Moody, BC, V3H 2V7

Tong Louie Family YMCA

14988 57 Avenue

Surrey, BC, V3S 7S6

Tel: (604) 575-9622

Chilliwack Family YMCA

45844 Hocking Avenue

Chilliwack, BC, V2P 1B4

Tel: (604) 792-3371

Section 5: Resources

VANCOUVER ISLAND

[www.viha.ca/heart health/for patients/recovery/](http://www.viha.ca/heart_health/for_patients/recovery/)

Victoria Cardiac Rehabilitation / Risk Reduction Program

Royal Jubilee Hospital
4 East, 1952 Bay Street
Victoria, BC, V8R 1J8
Tel: (250) 519-1601

Take Heart - Exercise Support Program Only

South, Central and North Island

See website for more details:

[http://www.viha.ca/heart health/for patients/recovery/](http://www.viha.ca/heart_health/for_patients/recovery/)

Nanaimo Cardiac Risk Reduction Program

Nanaimo Health Unit
1665 Grant Avenue
Nanaimo, BC, V9S 5K7
Tel: (250) 755-6207
Fax: (250) 755-3371

Island Heart to Heart - Heart Health Education Only

Victoria

Tel: (778) 678-8424

Email: islandheart2heart@shaw.ca

Heart Matters - Heart Health Education Only

Parksville Tel: (250) 947-8202

Campbell River Tel: (250) 850-2195

Port Alberni Tel: (250) 724-8824

Section 5: Resources

Heart to Heart - Heart Health Education Only

Comox

Tel: (250) 339-2242 Ext. 1227

INTERIOR

<http://www.interiorhealth.ca/health-services.aspx?id=354>

Central Okanagan Association for Cardiac Health (COACH)

#204 - 2622 Pandosy St.

Kelowna, BC, V1Y 1V6 Tel:

(250) 763-3433

Fax: (250) 763-3442

Website: www.coachkelowna.com

Penticton Integrated Health Centre Healthy Heart Program

105 550 Carmi Avenue

Penticton, BC, V2A 3G6

Tel: (250) 770-5507

Vernon Health Improvement Network

4 North, Vernon Jubilee Hospital

2101 32nd Street

Vernon, BC, V1T 5L2

Tel: (250) 503-3712

Cranbrook Healthy Heart Program

Cranbrook Health Unit

20 - 23rd Avenue South

Cranbrook, BC

Tel: (250) 489-6414

Section 5: Resources

Sparwood Cardiac Wellness Program

Sparwood Primary Health Care Centre

570 Pine Avenue

Sparwood, BC V0B 2G0

Tel: (250) 425-6212

Fax: (250) 425-2313

Heart to Heart: Cardiac Wellness Seminars - Heart Health

Education Only

Kimberley Primary Health Care Centre

260 4th Avenue

Kimberly, BC

Tel: (250) 427-2215

Kamloops Vascular Improvement Program (VIP)

Royal Inland Hospital, Clinical Services Building, Level 2

311 Columbia Street

Kamloops, BC, V2C 2T1

Tel: (250) 314-2727

Kamloops Community YMCA Cardiac Rehabilitation Program

400 Battle Street

Kamloops, BC, V2C 2L7

Tel: (250) 372-7725

Fax: (250) 372-3023

Section 5: Resources

NORTH

Prince Rupert and Area Healthy Heart and Diabetes Education Programs

Prince Rupert Hospital 4th Floor
1305 Summit Avenue
Prince Rupert, BC, V8J 2A6
Tel: (250) 622-6225 OR
Tel: (250) 624-0225
Fax: (250) 627-0521

GR Baker Memorial Hospital Chronic Disease Healthy Heart Program

543 Front Street
Quesnel, BC, V2J 2K7
Tel: (250) 985-5657

Fort St. John Hospital Chronic Disease Rehabilitation Program

9636 100th Avenue
Fort St. John, BC, V1J 1Y3
Tel: (250) 262-5200

Bulkley Valley Hospital Home and Community Care

3950 8th Avenue
Smithers, BC, V0J 2N3
Tel: (250) 847-6245

Northern Interior Healthy Heart Program

1475 Edmonton Street
Prince George, BC, V2M 1S2
Tel: (250) 565-7432
Fax: (250) 565-2501

Websites for Cardiac Information

These sites are meant to provide you with health information. They do not take the place of services supplied by a healthcare professional. We recommend that you check with your doctor before starting any new treatment, diet, or exercise program to ensure it is okay in your particular situation.

- Comprehensive information about prevention of heart disease, tests and procedures and how to prepare for them if you are coming to St. Paul's
www.heartcentre.ca
- Central Okanagan Association for Cardiac Health (COACH)
www.coachkelowna.com
- American Heart Association
Information on tests, procedures and surgeries 1-800-242-8721
www.heart.org
- Heartsite: circulatory system, tests, procedures
www.heartsite.com
- Heart and Stroke Foundation of Canada
www.heartandstroke.com
1-888-473-4636

Websites for Nutrition

- Becel Canada - meal planning for heart healthy diets
www.becel.ca
- Canada's Food Guide
www.healthcanada.gc.ca/foodguide
- BC HealthLine 8-1-1
www.healthlinkbc.ca
- Delicious Decisions - information and recipes on delicious, nutritious meals
www.deliciousdecisions.org

Smoking Cessation/ Quitting Smoking

- St Paul's Hospital Healthy Heart Smoking Cessation Program 604-806-8591
- Vancouver Coastal Health Smoking Cessation Program 604-875-4800 option #2
www.vch.ca - click on "Your Environment" tab then select "Tobacco Control" from menu.
- B.C. Lung Association:
Quit Now - free online-based smoking cessation program www.quitnow.ca
Quit Now by Phone 1-877-455-2233 - Free telephone counseling
- B.C. Lung Association: Freedom from Smoking workbooks 1-800-665-5864
- BC Smokers' Helpline 1-877-455-2233
- Canadian Cancer Society: Support and Services - Quit Smoking www.cancer.ca
- Health Canada: Go Smoke Free www.gosmokefree.com 1-866-318-1116

Stress Management

- Canadian Mental Health Association www.cmha.ca

Other Useful Websites

- Canadian Diabetes Association www.diabetes.ca
- Chronic Disease Self Management Program - learn skills to help you manage your condition www.selfmanagementbc.ca 1-866-902-3767
- Lifeline Program - a response system that links to 24 hr assistance
www.canwestlifeline.com 1-800-life line or 1-800-543-3546
- Medic Alert www.medicalert.ca 1-800-668-1507

OTHER INFORMATION SOURCES

Stress Management- "Stop! Take Care of Yourself"

Coumadin- "Coumadin Care Program: Providing a lifetime of confidence"

Congestive Heart Failure:

"Living With Heart Failure"- overview

"A Guide for Patients"- resources

"Why is it important to reduce my salt intake?"

"Medications- Your heart medications"

"Monitoring your fluid intake"

"Patient Reminders"

"Weekly Log Sheet"

Available on 5B- Just ask any Health Care Professional

Please note: If you have been diagnosed with Congestive Heart Failure, you will be seen by a team of specialists to provide management for this aspect of your care

PARKING LOTS NEAR ST. PAUL'S HOSPITAL

- | | | | |
|---|---|----|---|
| 1 | St. Paul's Hospital
1081 Burrard St. | 6 | Wall Centre Hotel
1040 Burrard St. |
| 2 | Corner of Comox &
Thurlow | 7 | Advanced Parking
1237 Davie St. |
| 3 | Century Plaza
Hotel

1015 Burrard St.

(enter from Comox
St.) | 8 | Impark

1123 Davie St. |
| 4 | Impark

1160 Burrard St. | 9 | Burrard Motor Inn

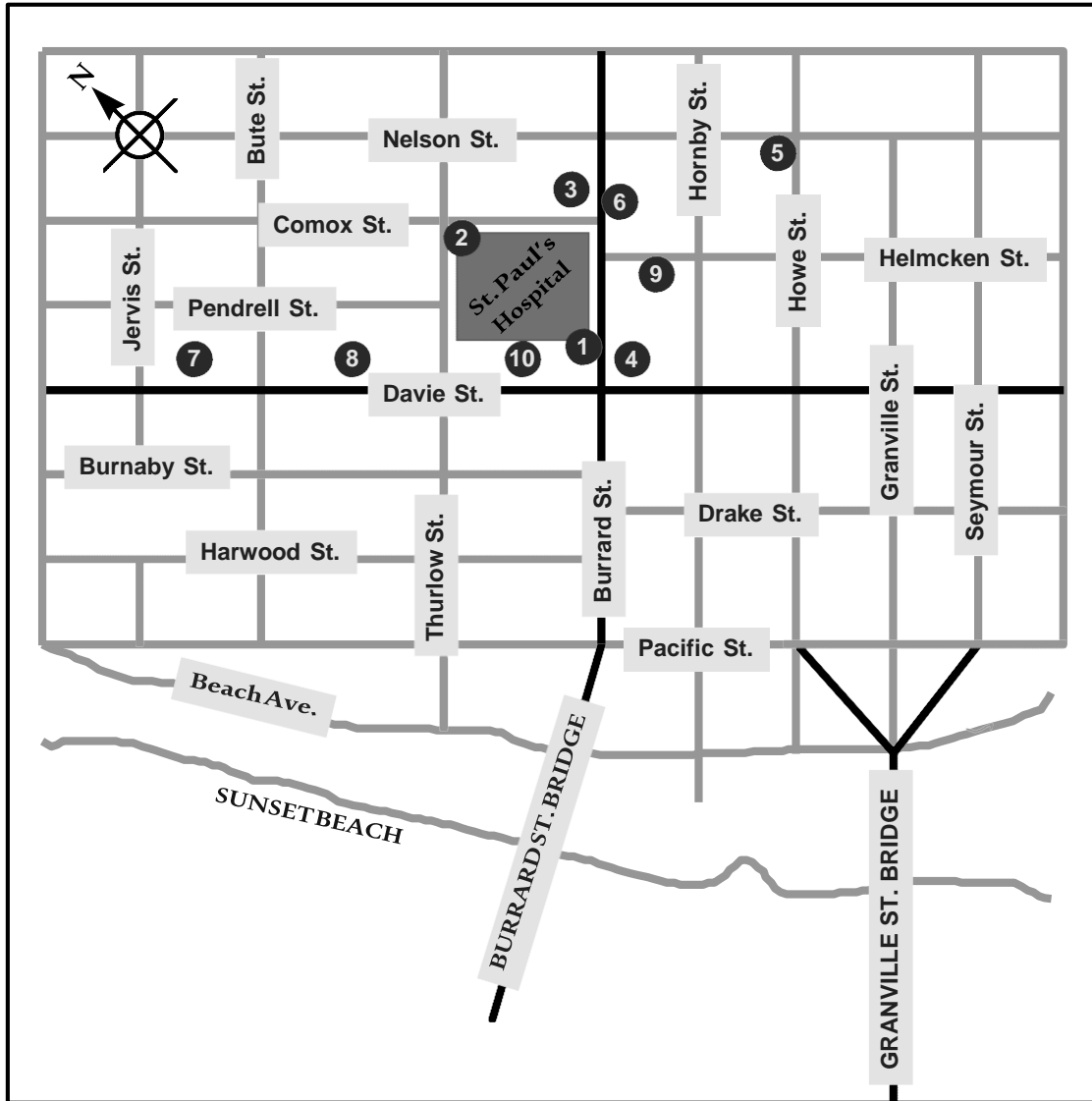
1100 Burrard St. |
| 5 | Nelson Square

808 Nelson St. | 10 | Impark

1125 Burrard St. |

* This is not a comprehensive list

Section 5: Resources



Glossary of Terms

Angina (Angina Pectoris): A temporary discomfort, pain, or tightness in the chest, arm, shoulder, back, neck or jaw that occurs when too little oxygen gets to the heart muscle.

Angiogram: An x-ray picture of the heart and its blood vessels.

Angiography: The process where dye is injected into the heart or blood vessels so that an x-ray picture (angiogram) can be taken.

Anticoagulant: A medication to slow the clotting of blood. It is sometimes called a blood thinner.

Aorta: The larger artery that carries oxygen rich blood from the heart to all parts of the body.

Aortic stenosis: A narrowing of the aortic valve combined with a thickening or stiffening of its cusps (flaps or leaflets).

Aortic valve: The valve, normally having three cusps (flaps or leaflets), lying between the left ventricle and the aorta. It allows the flow of blood into the major artery (aorta), taking blood away from the heart.

Arrhythmia: (also know as dysrhythmia) An abnormal rhythm of the heartbeat. It is not necessarily dangerous or significant.

Artery: A vessel that carries blood away from the heart. Arteries are high-pressure blood vessels from which you can find a pulse.

Atrial fibrillation: Rapid, irregular contractions of the atria followed by the irregular contractions of the ventricles.

Glossary of Terms

Atherosclerosis: The build-up of cholesterol, calcium and blood clotting materials on the inner walls of an artery. This causes a narrowing of the artery. It is sometimes called hardening of the arteries or arteriosclerosis.

Atrium: (plural, atria) One of the two upper chambers of the heart. The left and right atria send blood to the left and right ventricles.

Bradycardia: A heart rhythm that is slow.

Body Mass Index (BMI): A practical marker of optimal weight for your height. It is calculated as weight (Kg) divided by 2 X your height (metres). 18.5-25 is normal, 25-30 is overweight, and 30-40 is obese.

Cardiac: Having to do with the heart.

Cardiology: The study of the heart and its functions in health and disease.

Cardiovascular: Concerning the heart and blood vessels.

Cholesterol: A fatty substance that occurs naturally in the body and which is necessary for hormone production, cell metabolism, and other vital processes. There are 2 main types of blood cholesterol -- high-density lipoprotein (HDL) and low-density lipoprotein (LDL). It is generally considered desirable to have high levels of HDL cholesterol and low levels of LDL cholesterol.

Congenital: A condition existing at the time of birth. An example may be when the heart or its major blood vessels have not developed properly and do not work as they should.

Congestive heart failure: The inability of the heart to pump out all of the blood that returns to it. This may result in blood backing up in the veins and lungs or in fluid building up in various parts of the body (liver and legs).

Glossary of Terms

Constrict: To narrow or squeeze.

Coronary artery disease: Blockage of the arteries that supply blood to the heart muscle.

Dietary Cholesterol: Cholesterol that comes from animal products in the diet, such as butter, meats, egg yolks, and dairy products. Excess amounts may raise blood cholesterol levels in some people, and contribute to the buildup of plaque on the walls of the arteries and lead to atherosclerosis (hardening of the arteries).

Echocardiography: A diagnostic method in which pulses of sound are transmitted into the body. The echoes returning from the surfaces of the heart and other structures are plotted and recorded as an electronic picture.

Electrocardiogram: (ECG or EKG) A graphic record of electrical impulses produced by the heart.

Endocarditis: An inflammation or infection of the inner lining (endocardium) of the heart or heart valves.

Endotracheal tube: (ET tube or breathing tube) A tube inserted into the windpipe, which is connected to a breathing machine.

Fibre: A component of food, which may help to lower blood cholesterol levels. You should aim for a fibre intake of 25 to 30 grams a day. To increase the fibre in your diet, choose more whole grain products, vegetables and fruit, beans, peas, and lentils.

High blood pressure: [commonly called hypertension (HTN)] Blood pressure that is consistently above the normal range.

Holter monitor: A tape recording of the ECG (electrocardiogram) usually taken over a 24-hour period.

Glossary of Terms

Hydrogenation: A way to harden a liquid oil to make it spreadable at room temperature. Hydrogenation increases saturated fat while partial hydrogenation increases both saturated fat and trans fatty acids. Saturated fat and trans fatty acids raise blood cholesterol.

Hypertrophy: An increase in the bulk of the heart muscle not accompanied by improved strength.

Impulse: The movement of a small electrical charge through the cells of the heart muscle that causes it to contract and results in a heartbeat.

Internal mammary artery: One of two arteries found running along the inside of the front chest wall that can be used for a graft to bypass blocked coronary arteries.

Ischemia: Inadequate blood and oxygen supply to the heart.

Met: The energy required to perform a specific activity. One met is equal to lying still in bed and all other activities are graded upward from that.

Mitral valve: The heart valve between the left atrium and left ventricle. It has two cusps (flaps or leaflets).

Monounsaturated Fat: Tends to lower blood cholesterol levels when it replaces saturated fat in the diet. It is found primarily in olive and canola oils and in foods that contain these oils.

Myocardial infarction: Damage to a part of the heart muscle that results from lack of oxygen. Also called a heart attack, MI, coronary occlusion or coronary thrombosis.

Myocardium: The middle layer of the heart wall consisting of heart muscle.

Glossary of Terms

Nasogastric tube: (NG tube) A tube passed through the nose or mouth and the esophagus into the stomach to remove air and stomach contents.

Non-Hydrogenated: blending a small amount of naturally harder non-hydrogenated fat with liquid oil makes Margarine. This process does not introduce trans fat.

Pacemaker: A device that can be used to replace the heart's natural pacemaker (sinus node). This pacemaker controls the heart's beating and rhythm by emitting a series of electrical impulses when the sinus node fails to do so. In a healthy heart, the sinus node is a small mass of special cells in the top of the right atrium that sends out electrical impulses causing the heart to contract or "beat".

Palpitations: A fluttering feeling of the heart caused by a change in the heart rate or rhythm.

Pericardium: The sac around the heart.

Polyunsaturated Fat: Actively lowers blood cholesterol levels. Some are essential fatty acids that our bodies need for good nutrition. Polyunsaturated fat is mainly found in vegetable oils such as safflower, sunflower, corn, and soybean, as well as in foods that contain these oils.

Postoperative: (post-op) After surgery.

Preoperative: (pre-op) Before surgery.

Prophylaxis: A preventive measure.

Pulmonary artery: The large artery that takes low-oxygen blood from the right ventricle to the lungs.

Pulmonary stenosis: A narrowing of the pulmonary valve.

Glossary of Terms

Pulmonary (pulmonic) valve: The heart valve between the right ventricle and the pulmonary artery. The pulmonary valve has three flaps or cusps.

Regurgitation: The abnormal backward flow of blood through a heart valve.

Saphenous vein: A large vein running along the inside of the thigh and calf. This vein is often used as a graft to bypass blocked coronary arteries.

Saturated Fat: Raises blood cholesterol levels. It is found mostly in animal products like meat, dairy products made from whole milk, egg yolks, and in certain types of processed foods that contain hydrogenated fats.

Septum: A wall that divides the right and left sides of the heart. The atrial septum separates the top chambers and the ventricular septum separates the bottom chambers.

Stenosis: The narrowing or constriction of an opening, such as a heart valve.

Tachycardia: A fast heart rhythm.

Trachea: The windpipe.

Trans Fatty Acids or Trans Fat: Have been shown to raise blood cholesterol levels. It is found primarily in foods that contain partially hydrogenated fats, and occurs naturally in smaller quantities in meat and dairy products, including butter.

Tricuspid valve: The valve between the right atrium and right ventricle. It has three cusps (flaps or leaflets).

Glossary of Terms

Triglycerides (TG): Fats that circulate in the bloodstream. High levels may be a risk factor heart disease.

Valve: A structure made up of membrane flaps that lie between two heart chambers or between a chamber of the heart and a blood vessel. Open valves allow blood flow in only one direction. Closed valves normally prevent blood from passing through an opening.

Vascular: Concerning the blood vessels.

Vein: A blood vessel that carries low-oxygen (blue) blood back to the heart.

Ventricle: The two lower chambers of the heart that pumps blood. The right ventricle pumps blood through the pulmonary artery to the lungs and the left ventricle pumps blood out through the aorta to the body