

# Cardiac Rehabilitation Program Manual

CERTIFIED  
MEDICAL FITNESS  
FACILITY

thewellness  
Institute

## Overview

Welcome to our program. We hope that a little wellness will go a long way to helping you manage your health and feel better. Welcome to the Cardiac Rehabilitation Program of the Wellness Institute at the Seven Oaks General Hospital. You have just suffered a cardiovascular event or have been informed that you have cardiovascular disease. You most likely have many questions and thoughts going through your mind since your diagnosis.

Any major illness can lead to feelings of denial, fear, anxiety, anger, depression, uncertainty and frustration. All of these thoughts and feelings are normal. It is our goal to offer advice, motivation and help instill a pattern of healthy habits and confident decision making abilities that will allow you to continue with your program in a positive way.

## Program Objectives

- Educate individuals on cardiovascular disease, exercise, medications and the body-mind connection to promote and encourage a healthy lifestyle.
- Exercise within individual limits to strengthen the cardiovascular system.
- Elicit positive lifestyle change through the use of effective behavior change techniques.

## Chronic disease programming at the Wellness Institute

We understand that making lifestyle changes can be hard. Our program uses the latest evidence to help you focus on changes that are effective and our team of healthcare and fitness professionals is here to support you and your safety.

As a leader in chronic disease management, programs like this are one way we strive to help people dealing with health challenges to live well. If this program helps you or your loved ones, we hope that you will consider a contribution to the Wellness Future Fund through the Seven Oaks General Hospital Foundation. While some of our chronic disease management programs are partially funded, all are supported in part by the Wellness Institute and the charitable donations we receive. To help others get the support to live better, please call 204-632-3552.

***Get well and stay well at Seven Oaks General Hospital***

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# CHAPTER 1: GENERAL INFORMATION

## Overview

Welcome to the Wellness Institute at Seven Oaks General Hospital: a state-of-the-art medical fitness facility dedicated to improving the health of the community.

Our interdisciplinary team of health care professionals will help you learn how to better manage your health.

## General Information

### Membership cards

- Swipe your membership card at the front desk when entering the facility
- Provides access to the member parking lot
- Provides access to a locker

### Parking facilities

- Free parking is located in the member lot (west parking lot)
- Swipe your membership card or parking pass to open the gate
- Parking in the Wellness Institute member lot is limited to 3 hours
- Contact the front desk if you require parking for greater than 3 hours

### Locker and Steam rooms

- Day use lockers are available in the locker room
- Place your membership card in the black box inside the locker to release the key
- For safety reasons, avoid using the whirlpool and steam room located in the locker room

### Shoe tags

- Wear your shoe tag at all times while exercising at the Wellness Institute

### Emergency Phones

- Phones are located throughout the facility to call for help in emergency situations

## Member Responsibilities

- Work at your own pace – do not compete
- Inform staff if you are leaving the track area during the supervised workouts
- Inform staff if you have any medication changes, medical tests done or a change in your health status
- Let staff know if you are going away for any length of time
- If you feel ill, do not exercise
- Please bring a water bottle

## Track Etiquette

- Wear clean and proper footwear (shoes must be closed toed)
- Do not wear perfume/cologne or any other scented products
- Shoulder check when changing lanes
- Look both ways before crossing the track
- Walk on the inside two lanes
- Don't stop abruptly on the track

## Let staff know if you are feeling...

- More short of breath than usual
- More fatigued
- Dizzy or lightheaded
- Nausea
- Chest pain/angina
- Any other type of pain

## Additional Services to Support Your Health

### Get Better Together (free)

- A six-week peer-led program to help you better manage your chronic health condition
- Available throughout Winnipeg and Manitoba
- Call 204-632-3927

### Dietitian Services (fee for service, member rate)

- One hour individual appointment available (The Works)
- 30 minute follow-up
- May be covered by your insurance provider

### Massage Therapy (fee for service, member rate)

- Massage therapy appointments are available, book at the front desk
- May be covered by your insurance provider

### Rehabilitation & Sports Injury Clinic (fee for service)

- Physiotherapy, Athletic Therapy and Chiropractic appointments are available
- Call 204-632-3910 or visit the Rehab Desk
- May be covered by your insurance provider

### Kick Butt Smoking Cessation Program (fee for service)

- 3-month program based on the Mayo Clinic model
- Call 204-632-3946

### Positively Healthy

- Wellness Institute offers ongoing health education programs
- See Positively Healthy magazine for program details

## Important Phone Numbers

### Case Managers

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**204-632-3934**

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**204-632-3937**

### Assessment Desk

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**204-632-3907**

### Wellness Consultant

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**204-632-3929**

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**204-632-3908**

## CHAPTER 2: PHYSICAL ACTIVITY AND EXERCISE

### Definitions

**Physical Activity** is the movement of the body created by the skeletal muscles, which results in energy expenditure.

**Active Living** is a way of life where you make meaningful, satisfying and enjoyable physical activities an integral part of daily living.

**Physical Fitness** is the ability to go through your daily routine without undue fatigue and have enough energy in reserve for leisure activities and emergency situations.

**Exercise** is planned, structured and repetitive activities where the main goal is to improve or maintain the components of physical fitness.

### Components of Physical Fitness

#### Cardiovascular Endurance

- The ability of the heart, lungs and blood vessels to transport oxygen to the working muscles
- Aerobic exercise

#### Flexibility

- The range of motion of a joint

#### Muscular Strength

- The ability of a muscle to exert a maximal force one time

#### Muscular Endurance

- The ability of muscle to exert a sub-maximal force repeatedly

### FITT Principle

The **FITT Principle** can be applied to all of the components of physical fitness.

<b>F</b>	<b>Frequency</b>	How often the exercise is performed
<b>I</b>	<b>Intensity</b>	How difficult the exercise is
<b>T</b>	<b>Time</b>	How long the exercise is performed
<b>T</b>	<b>Type</b>	What form of exercise is performed

## Benefits of Exercise

### Physical

- Helps with recovery and regaining of function
- Increases your energy level
- Improves cholesterol levels, resting blood pressure and heart rate, blood glucose levels and the use of insulin by the body
- Helps maintain a healthy body weight and body composition
- Improves balance and coordination
- Increases the heart's working capacity
- Improves quality of life
- Decreases perception of shortness of breath
- Reduces your risk of developing certain chronic diseases

### Psychological

- Helps to relieve stress
- Minimizes fatigue
- Improves sleep and relaxation patterns
- Improves overall sense of well being
- Reduces feeling of depression and anxiety
- Increases confidence
- Enhances body image

## Typical Workout Session

### 1. Warm Up

- Prepares the body for the upcoming exercise session
- Increases blood flow to the active muscles
- Gradually increases heart rate and blood pressure
- Reduces the risk of injury

### 2. Stretching

- Increases flexibility
- Reduces the risk of injuries such as muscle strains
- Improves posture
- Promotes mental and physical relaxation

*Frequency: everyday, before and after your workout*

*Intensity: gentle pull, not pain*

*Time: hold for 15-30 seconds*

### 3. Cardiovascular Exercise

- Continuous, rhythmic activity, which involves the large muscles such as walking, jogging, cross-country skiing, biking, rowing, swimming, dancing or aerobics.
- Begin with walking and a variety of equipment like the bike, treadmill or rower. Recommendations for other options will be made on an individual basis.
- By exposing yourself to different methods of exercising your heart and lungs, you can begin to cross train. The variety will allow you to increase the length of your workout and help prevent injuries and boredom.

*Frequency: 3-5 days a week, including activity into your daily routine is ideal*

*Intensity: perceived exertion*

*target heart rate*

*talk test*

*Time: at least 150 min/week (work up to 30-60 minutes at a time)*

## Methods to Monitor Intensity

### A) Rate of Perceived Exertion (RPE)

Perceived exertion is one method of monitoring the intensity of your exercise session. Perceived exertion is a person's subjective impression about the overall difficulty of a particular exercise. It is important to listen to your body and pay attention to the signals it gives. Some of the signals that form your perception of exertion during exercise include breathing rate and depth, heart rate, body temperature and muscular fatigue.

Borg Scale	
0 None	
1 Very Very Light	
2 Light	
3 Moderate	Target Range
4 Somewhat Hard	
5 Hard	
6	
7 Very Hard	
8	
9	
10 Very Very Hard	

*Cardiovascular exercise should be done in the "somewhat hard" or 3-4 range on the Borg Scale.*

## **B) Talk Test**

You should be able to carry on a conversation while exercising without becoming short of breath.

## **C) Target Heart Rate**

Some people may be given target heart rates to follow while exercising. Target heart rates may not be applicable for all individuals. You can monitor your heart rate by checking your radial pulse (at your wrist) throughout your workout.

Try to increase time (duration of activity) before increasing exercise intensity (effort of activity).

Gradually increase the length of your cardiovascular exercise by up to 5 minutes each week until you are exercising for 30-60 minutes continuously.

The staff will create an individualized exercise prescription for you based on your medical history, current level of activity and ability.

## **4. Resistance Training**

Muscular strength and endurance work are also important components of physical fitness. With a lack of use, muscles will shrink and become weak. Resistance training will be initiated by the staff, if and when you are interested and able.

- Muscular Strength is the force exerted by a muscle or a group of muscles in one maximal contraction. Opening a tight lid on a jar is an example of muscular strength.
- Muscular Endurance is the ability of a muscle or group of muscles to perform repeated contractions or to apply a constant force for a period of time. Carrying a bag of groceries is an example of muscular endurance.
- A repetition (rep) is a single performance of a movement of an exercise.
- A set is a group of repetitions done consecutively.

*Frequency: 2-3 days a week, not 2 consecutive days*

*Intensity: 12-15 reps, 1-3 sets, light weight to start*

*Time: 10-60 minutes (based on # of exercises)*

*Type: cable/pulley machines, plate loaded machines, free weights, rubber tubing, water, compressed air and body weight*

### **Benefits of Resistance Training**

- Protects the joints and bones from injury and increases the stability of a joint
- Increases endurance and decreases fatigue from daily activities
- Improves posture and prevents or decreases the severity of low back pain
- Increases muscle mass which increases metabolism
- Helps maintain bone mass which may prevent or slow the process of osteoporosis
- Improves cholesterol levels and decreases insulin requirements
- Decreases resting blood pressure and heart rate
- Improves self esteem

## Getting Started

Before starting a resistance training program, check with the staff to ensure there are no medical contraindications.

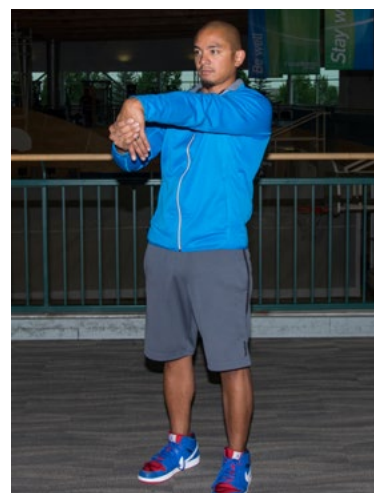
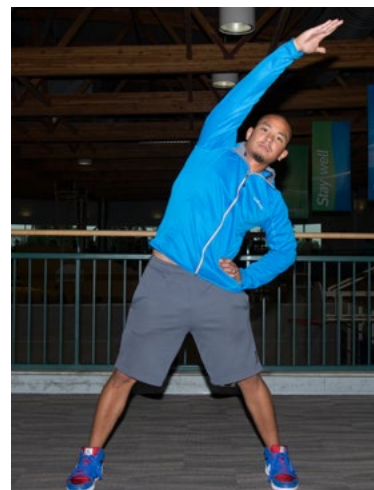
Starting weight is found through trial and error. It is better to start too light than too heavy. Choose a weight that you can comfortably perform 12 repetitions. Gradually progress to 2-3 sets of 12-15 repetitions.

Resistance training should be done 2-3 times per week with a minimum of 48 hours rest between sessions to allow the muscles time to recover.

### Guidelines for Resistance Training

- Complete your cardio workout before starting the resistance machines
- Do not hold your breath; exhale as you exert/lift
- Maintain proper posture and alignment
- Be in control of the weight – lift and lower slowly
- Balance your workouts; work the muscles in the front and the back of the body
- Do not “lock” or fully straighten your joints during the exercise
- Avoid straining (excessive hand gripping, gritting teeth, etc.)
- Listen to your body and know when you are working too hard; if you experience dizziness, unusual shortness of breath, angina, arrhythmias or feel unwell, stop and talk to a staff member
- Specify your program to your fitness level, past injuries, posture and recreational activities
- Speak to a Wellness Consultant before changing your resistance training routine

## Stretch Routine



## CHAPTER 3: SEXUAL ACTIVITY AND CHRONIC DISEASE

### Concerns

- Increased shortness of breath and/or fatigue
- Overprotection from partner
- Fear of sexual inadequacy (dysfunction) – related to medications, depression/anxiety following an event, or role changes between partners

Chronic illnesses produce a wide spectrum of stressors affecting every body system, including sexual functioning. Physical demands of sexual intercourse are not as great as people assume. Try working up to sexual intercourse gradually and carefully. Talk with your partner honestly regarding your feelings about having sex. This will keep the lines of communication open and allow your partner to express their feelings in return.

### Some things to keep in mind

The physical effort required for sexual intercourse is approximately equal to that required to go for a brisk walk or to climb two flights of stairs (5 METs).

Research findings show the effort required for intercourse does not raise blood pressure, heart rate, and respiration rate to a level that is considered dangerous.

Some changes in sexuality are not related to your chronic disease but are normal changes with aging. For instance, slower erections and delayed orgasms are normal in middle and later life.

### What are some general guidelines for couples resuming sex?

- Improve your physical fitness
- Choose a time when you feel relaxed, rested and have no time restrictions
- Choose an environment that is comfortable, familiar and free from interruptions
- Wait one to three hours after eating a full meal to allow time for digestion
- If prescribed by your doctor, take medicine before sexual relations
- Postpone sex when you are angry, stressed or tired
- Don't be afraid to take a break; slow down or pause to rest
- Focus more on hugging, kissing and cuddling than the actual sex act itself
- Strive for intimacy rather than sexual gratification
- Do not skip foreplay; not only does it create a more relaxed atmosphere and enhance sexual enjoyment for both partners, it allows a gradual increase in heart rate and blood pressure

### Positions

If you find it acceptable, self-gratification may be the first step towards intercourse. You can control the amount of stimulation and are less pressured by time or ability to please your partner.

Supporting the body weight on your arms will cause an increase in blood pressure causing the heart to work harder. Alternative positions to ease the load may be considered such as lying side to side.

## Eating and Drinking (Alcohol)

In our society, food and drink are a way of sharing and friendship. One should wait 1-3 hours after a heavy meal or alcoholic beverage before having sex. Alcohol is a depressant and can actually cause a decrease in sexual appetite.

## Medications

Certain drugs may affect sexual function. They may cause decreased desire, impotence or premature ejaculation in men. Side effects in women include decreased desire, decreased vaginal lubrication and inability to achieve orgasm. If you are experiencing side effects, it is important to keep taking the medications and discuss concerns with your doctor. Urologists are specialists who also offer various solutions to erectile dysfunction.

## Disease Specific Recommendations

### Cardiac Rehab

- The chance of a cardiac event during sex is less than 1%. This risk is decreased even further with regular exercise.
- Wait at least 3-4 weeks after an event or until you can go for a brisk walk or climb 2 flights of stairs without any unusual symptoms.
- *Angina and Sexual Activity*: As with all forms of physical exertion, angina may occur during sex. If discomfort occurs, stop your activity and take nitro as instructed. You may resume if you wish. If you have experienced angina during sexual activity, you may take nitro 5-10 minutes prior to sex to reduce the chance of angina.
- *Viagra* (or the other drugs in this category) are generally not recommended for heart patients who may need to use nitroglycerin. Both medications can decrease blood pressure and using both within any 24-hour time frame can potentially be dangerous.

*For more information on Sexual Activity and Chronic Disease, please refer to the following resources:*

<http://copd.about.com/od/livingwithcopd/a/sexandcopd.htm>

[http://umanitoba.ca/faculties/medicine/units/cardiac\\_sciences/sexualactivity.htm](http://umanitoba.ca/faculties/medicine/units/cardiac_sciences/sexualactivity.htm)

[http://sexuality.about.com/od/sexualhealthqanda/a/sex\\_after\\_heart\\_attack.htm](http://sexuality.about.com/od/sexualhealthqanda/a/sex_after_heart_attack.htm)

## CHAPTER 4: MEDICATIONS

Medications are prescribed for you and are specific to your medical history. Advise all of your doctors of any medications you are taking. This includes dentists and optometrists.

### **Purpose of Medications**

- Relieve symptoms (such as inhalers and pain medications)
- Prevent further problems (such as diuretics [water pills] and blood thinners to prevent stroke)
- Improve the disease or slow its progress (such as some heart medications and drugs for osteoporosis)
- Replace substances body normally produces (such as insulin and thyroid)

### **You and Your Doctor**

- Follow your doctor's instructions regarding dosage of prescribed drugs
- Keep your family physician aware of medications prescribed by other doctors/specialists

### **You and Your Pharmacist**

- Understand why you are taking the medication prescribed and how it works
- Ask if there are adverse effects when mixing over the counter drugs with prescribed medications
- Use the same pharmacy to reduce the chances of drug interactions - the pharmacist can better track the drugs you are taking

### **Medication Do's**

- Know the brand name and the generic name of medications
- Store medications out of reach of children, in their original container and as instructed
- Finish medications as prescribed
- Keep follow up appointments to determine the effectiveness of the drugs
- Contact your doctor if you suspect an adverse reaction to prescribed drugs
- Follow instructions (diet may enhance the effectiveness of a drug)
- Shake liquid medicine and use a pill cutter rather than guessing the dosage

### **Medication Don'ts**

- Offer prescribed medications to anyone or accept someone's prescribed medications
- Change dosage or timing without physician's approval
- Withhold important information about previous drug reactions
- Keep medications that are no longer required or outdated
- Store medications on the night stand or take medications in the dark
- Mix medications or drink alcohol while taking medications without the approval of your doctor or pharmacist
- Stop taking medication without consulting your doctor

*Ask your educator or pharmacist if you have questions about the medications you are taking.*

## Common Cardiac Medications

### 1. Platelet Inhibitors

- ASA (Enteric Coated Aspirin)
- Plavix (Clopidogrel)
- Brilinta (Ticagrelor)
- Efficient (Prasugrel)

These drugs, also known as “blood thinners” are used to prevent platelets in the blood from clumping together by making them “less sticky”.

Side effects may include:

- Nausea
- Stomach pain
- Skin rash
- Diarrhea
- Ringing in the ears
- Excessive bleeding

Call your doctor right away if you are taking a platelet inhibitor and have...

- Severe stomach pain
- Bloody vomit or vomit that looks like coffee grounds
- Blood in your stool or urine, or black tarry stools
- Skin rash or hives that is very itchy
- Wheezing or trouble breathing
- Any unusual bleeding or bruising

### ASA

ASA is used to lessen the chance of a heart attack, stroke or other problems that may occur if a blood vessel is blocked. It may also be used to relieve pain and reduce swelling, redness and fever in a number of medical conditions such as arthritis.

Check with your doctor before taking ASA if you have asthma, a history of ulcers or kidney problems. If you are allergic to ASA, or have had problems with it in the past, you may be told to take Plavix instead.

This medication may need to be stopped before a planned surgery or dental work to prevent bleeding. ASA may be contained in over the counter medications, such as pain or cough medicine. Do not confuse with Tylenol!

Did you know...?

Research has shown that a baby aspirin, ½ regular aspirin or 1 aspirin every other day is sufficient to prevent a heart attack, stroke or other problems caused by clots. If you need a medicine to relieve pain, fever or arthritis, your doctor may not want you to take extra aspirin. Discuss this with your doctor, so that you know ahead of time.

ASA and Plavix may be used in combination up to one year after an angioplasty and stent procedure.

## 2. Ace Inhibitors & ARBs

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| • ARBs                            | • Ace Inhibitors                |
| <i>Usually ends with 'sartan'</i> | <i>Usually ends with 'pril'</i> |
| • Candesartan (Atacond)           | • Captopril (Capoten)           |
| • Irbesartan (Avapro)             | • Enalapril (Vasotec)           |
| • Losartan (Cozaar)               | • Lisinopril (Prinival)         |
| • Telmisartan (Micardis)          | • Quinapril (Accupril)          |
| • Valsartan (Diovan)              | • Ramipril (Altace)             |
|                                   | • Fosinopril (Monopril)         |
|                                   | • Perindopril (Coversyl)        |

If a dry cough or an allergic reaction occurs with an ace inhibitor, an ARB may be used as an alternative.

The ARBs and ace inhibitor drugs, block the enzyme that makes a blood vessel tighten. This causes the blood vessel to relax and lowers blood pressure, increases the supply of blood/oxygen to the heart and lowers the risk of heart failure.

Ace inhibitors also regulate the fluid in the body and are helpful in managing Heart Failure and Left Ventricular Hypertrophy (enlarged left ventricle).

Side effects may include:

- Dizziness
- Light headedness
- Fainting
- Skin rash
- Dry cough (not with ARBs)
- Loss of/unusual taste in the mouth
- Angioedema (swelling of the face, lips, tongue and extremities)

Call your doctor right away if you are taking an ace inhibitor and have...

- *Chills or a temperature over 38.5°C (101°F)*
- *Swollen face, mouth or hands*
- *Difficulty breathing*
- *Skin rash*
- *Joint pain*
- *Small amount of urine*
- *Hoarse voice*

### 3. Beta Blockers

Usually ends with "olol"

- Metoprolol (Lopressor)
- Nadolol (Corgard)
- Acebutolol (Sectral)
- Atenolol (Tenormin)
- Sotalol (Soctacar)
- Propranolol (Inderal)
- Carvedilol (Coreg)
- Bisoprolol (Monacor)

Beta blockers are used as anti-anginals (prevent chest pain), anti-hypertensives (regulate blood pressure) and anti-arrythmics (regulate heart rate/rhythm).

They will slow the heart rate, decrease blood pressure, decrease force of contractility, decrease nerve impulse rates in the heart and decrease the oxygen requirements of the heart.

Side effects may include:

- Breathlessness
- Cramping
- Vivid dreams
- Depression
- Cool hands and feet
- Fatigue
- Dizziness/light headedness
- Decreased motivation and sexual activity

Beta blockers may mask the symptoms of low blood sugars (except for sweating). This is important for diabetics. Beta blockers may not allow you to get your exercise heart rate very high even when you feel like you are working "somewhat/moderately hard".

Call your doctor right away if you are taking a beta blocker and have...

- Cold hands and feet
- Trouble breathing or are wheezing
- Swollen feet and ankles
- Slow heart rate (less than 50 beats per minute)
- Depression, nightmares or headaches

#### 4. Anti-Cholesterol

*The "statins" for cholesterol*

- Lovastatin (Mevacor)
- Simvastatin (Zocor)
- Pravastatin (Pravochol)
- Fluvastatin (Lescol)
- Atorvastatin (Lipitor)
- Rosuvastatin (Crestor)

*The "fibrates" for triglycerides*

- Bezafibrate (Bezalip)
- Fenofibrate (Lipidil)
- Gemfibrozil (Lopid)

"Fibrates" may be used in combination with a "statin" but may increase the risk of liver or muscle damage.

These drugs lower the levels of cholesterol and other fats in the blood and help prevent plaque from forming in the blood vessels. Medications may be used even when cholesterol levels are not high.

Liver function must be monitored when taking an anti-cholesterol medication.

Side effects may include:

- Nausea
- Constipation/diarrhea/gas
- Rash
- Muscle aches and cramps

Ezetimide (Ezetrol)

This medication reduces the absorption of cholesterol in the intestines and is often used in combination with a "statin". Side effects include: diarrhea, gas, headache and/or liver inflammation.

Do not eat or drink grapefruit with your cholesterol medications. The fruit will dramatically increase the potency and absorption of the drugs that may seriously damage your liver and/or muscles. Ask your pharmacist about when you can have a grapefruit.

## 5. Nitrates

- Nitroglycerine
- Isordil (Isosorbide Dinitrate)

Nitrates are used as anti-anginals. They dilate the coronary arteries to increase blood flow and oxygen to the heart.

Side effects may include:

- Headaches
- Dizziness
- Light headedness
- Flushing of the skin and faintness

If prescribed, have your nitro with you at all times. Make sure your family knows where your nitro is kept. In Manitoba, it can be purchased at any pharmacy without a prescription.

Did you know...?

- Nitro may also be taken 5-10 minutes before an activity or stress that has caused angina in the past. Effects last from 10 to 30 minutes.
- Be sure to check the expiry date!
- **Do not take Viagra if you are on nitrates!**

### **How to use Nitro Spray (when you feel an angina attack):**

- Sit down and remove plastic cover from the container.
- DO NOT SHAKE. "Prime" the container with one spray into the air, away from you and others if it hasn't been used for one week.
- With the container upright and close to your mouth, press the button and spray into your mouth. DO NOT INHALE spray and AVOID SWALLOWING for 30 seconds after using the spray.
- Pain relief should occur in 1-5 minutes. If there is no relief in that time, use a second spray. If the pain persists – call 911 immediately; then take a third spray.
- Do not drive yourself to the hospital!
- Store nitro spray away from heat and direct sunlight. Do not store in the bathroom or refrigerator. Don't freeze, puncture or burn the aerosol container.

### **How to use a Nitroglycerine Transdermal Patch:**

- The nitro skin patch is a complete unit. Apply the patch to a clean, dry skin area with no hair and free of scars, cuts or irritation. Most people prefer the chest or upper arm. Application sites should be rotated.
- Nitro patch should be changed according to the schedule prescribed by your doctor.
- You will be instructed to wear the patch for 12 hours through the day or night. If you forget to remove it at the prescribed time, do so as soon as possible and continue to follow schedule.
- DO NOT CUT THE PATCH unless directed by your physician.
- Physical activity or contact with water will not affect the patch.
- If it does fall off, discard it and put a new patch on a different area.
- The residue from the original patch should be wiped off.

*If you experience angina with the patch on, it is safe to use nitro spray.*

## **6. Cardiotonics**

- Digoxin (Lanoxin)

Cardiotonics are used for heart failure. They increase the force of contractility, therefore increasing the amount of blood ejected from the heart.

“Dig” may also be prescribed for atrial flutter, atrial fibrillation and paroxysmal atrial fibrillation (PAT). The electrical impulses through the heart will be slowed, thereby decreasing heart rate.

Side effects may include:

- Loss of appetite
- Nausea
- Vomiting
- Headache
- Blurred or yellow vision
- Excessive lowering of pulse
- Rapid, irregular heart beat

*Digoxin has a narrow therapeutic range. It is a powerful drug and requires small dosages. Never take an extra pill unless directed by your doctor.*

*Note: Blood levels should be checked by your doctor on a regular basis.*

## 7. Calcium Channel Blockers

*Usually ends with "pine"*

- Nifedipine (Adalat)
- Diltiazem (Cardizem)
- Verapamil (Isoptin)
- Amlodipine (Norvasc)
- Felodipine (Plendil)

These drugs may be used as an anti-anginal, anti-hypertensive and occasionally as an anti-arrhythmic.

Calcium channel blockers will relax the blood vessel walls to increase the supply of blood and oxygen to the heart, which reduces the workload on the heart.

Side effects may include:

- Headaches
- Flushing
- Swelling of the hands and feet
- Lowering of exercise heart rate

## 8. Anti-Coagulant

- Coumadin (Warfarin)

Anti-Coagulant medications are sometimes called "blood thinners". They prevent harmful clots from forming in the heart and blood vessels and may also be used in addition to platelet inhibitors. It is recommended to have blood tests done to ensure proper dosage.

Side effects may include:

- Tissue or organ hemorrhage
- Headache
- Chest, abdominal or joint pain
- Coughing up blood
- Difficulty breathing or swallowing
- Skin rash or hair loss
- Gastrointestinal disturbances
- Bruising not due to trauma

Do not take with alcohol or cigarettes.

Do not take with aspirin or any other platelet inhibitors unless advised to do so by your doctor.

## 9. Anti-Arrhythmics

- Cordarone (Amiodarone)
- Mexilit (Mexilitine)

Anti-Arrhythmic drugs attempt to convert irregular heartbeats to a normal sinus rhythm by slowing the nerve impulses in the heart.

Amiodarone does not affect your system immediately. It takes approximately 2 weeks to become effective. It also remains in your system for about 2 weeks after you have been taken off the drug.

Side effects may include:

- Cough
- Headache
- Difficulty breathing
- Metallic taste in the mouth
- Skin becomes olive-grey in the sun
- Gastrointestinal disturbances (cramping or diarrhea)

Amiodarone may enhance the effectiveness of other drugs that slow the heart rate such as Digoxin. Caution should be used!

## 10. Diuretics

- Metolazone (Zaroxolyn)
- Furosemide (Lasix)
- Hydrochlorothiazide - Hctz (Hydrodiuril)
- Spironolactone (Aldactone)
- Triamterene/Hctz (Dyazide)

Diuretics are commonly used to treat heart failure and high blood pressure. These drugs help remove excess salt and water from the body which reduces swelling by increasing urine flow.

Side effects may include:

- Dry mouth
- Potassium depletion
- Thirst

Diuretics may severely deplete potassium (an important electrolyte) in the blood. Some people take potassium supplements to counteract this. In order to determine your potassium level, a simple blood test is required.

## CHAPTER 5: BODY MIND CONNECTION

### Stress

Stress is a natural and unavoidable part of life and can be both positive and negative. It is an individual reaction - what is stressful for one person may be pleasurable to another and boiling points can vary greatly from person to person. Having too much stress in your life can lead to a state of distress and inability to cope. Therefore, it is important to find ways to prevent or avoid stress when you can and learn coping strategies for when you can't.

Stress has to do with these 3 things:

- 1. The Situation** - Serious illness is the most challenging and stressful situations in life, for both you and the people closest to you.
- 2. Your Perception of the situation and how you approach it** - For example, trying to take it one day at a time and handle the situation one small piece at a time.
- 3. Your Resources** - What you know about the situation, who is able to help, etc.

### How Stress Affects the Body

Stress has many immediate physical effects on the body as well as the mind. When the mind decides something is stressful, the body immediately goes into "fight or flight" or panic mode. This mode is referred to as the stress response.

**This stress response causes an increase in:**

- heart rate
- breathing rate
- blood pressure and blood thickness
- levels of cholesterol in the bloodstream
- levels of glucose (sugar) in the bloodstream
- levels of platelets in the bloodstream

By increasing your heart rate, blood pressure and breathing rate, your nervous system is preparing you to be able to run away or fight. The additional cholesterol and glucose released into the bloodstream as part of the stress response provide fast sources of energy for the body to use. This is also the reason the body craves sugar, fats and nicotine when you are under stress; the end result is to have more quick energy available.

The stress response also decreases the functioning of the immune system. Consider the example of a person being chased by a bear; as the person runs away through the forest, they would most likely get cuts or injuries. While running away however, the body does not have extra energy to spend on doing a thorough and complete job of healing the wounds. Therefore, it depresses the immune system and does a quick patch-up job by releasing more platelets into the blood stream to very quickly clot the blood and form a scab.

Once the mind decides there is no longer a threat, the body is able to switch out of the stress response by activating what is referred to as the relaxation response. The relaxation response has reverse effects of the stress response, causing a decrease in heart rate, breathing rate, blood pressure and levels of cholesterol, platelets and sugar in the bloodstream. It also boosts the functioning of the immune system. Since this discovery, researchers have been studying stress management, and relaxation strategies to find out the most effective ways to kick-start the relaxation response.

*Depression and anxiety are common complications of chronic disease. Talk to us and/or your doctor if you:*

- Experience feelings of helplessness or hopelessness, major changes in your sleep, lasting sadness, difficulty concentrating or disinterest in usual activities
- Experience ongoing, uncontrollable worry, extreme irritability and edginess or panic attacks

### **Immediate Reactions to Stress**

Learning to decrease and manage your stress starts with being able to identify how you react to your stress. Stress affects our physical body, emotions, thoughts and behaviours and can even affect our spiritual side. Go through the following list of immediate reactions to stress and circle the ones that apply to you.

#### **Physical - changes in your body**

- Sweating
- Flushed
- Increased blood pressure and/or heart rate
- Shortness of breath
- Tense muscles
- Rapid breathing
- Decreased digestion
- Queasy stomach
- Rash
- Fatigue
- Headaches

#### **Emotional & Cognitive Changes in your feelings & thoughts**

- Fear
- Anger
- Nervousness
- Negative thoughts
- Questioning
- Helplessness
- Frustration
- Hopelessness
- Feeling overwhelmed
- Decreased concentration
- Mental fatigue

### **Social - Changes in your relationships**

- Withdrawal or isolation
- Being crabby, irritable
- Blaming others
- Going out more

### **Behavioural - changes in what others might notice**

- Defensiveness
- Increased smoking
- Increased/decreased eating
- Sleeping difficulties
- Inappropriate laughter
- Crying
- Reckless driving
- Increased drinking/smoking
- Excessive cleaning, shopping, etc.
- Avoidance
- Increased working/decreased productivity
- Need for increased control
- Sense of humor

### **Spiritual - changes in how it impacts you**

- Increase or decrease in awareness
- Ways of worship
- Feeling abandoned
- Feeling empty, alone
- Questioning meaning of life's purpose

### **Societal - changes in your connection to larger society or community**

- Overworking
- Being unable to work
- Overdoing it on volunteer, or family commitments
- Pulling out of those commitments entirely

## The Emotional Impact of Chronic Disease

Chronic disease can bring on many new stresses, fears and worries. For this reason, anxiety and depression are among the most common complications of any chronic disease. Breathlessness itself provokes anxiety and can make the perception of shortness of breath seem worse. The prevalence rates of anxiety range from 2-96%. The prevalence of depression is up to 42%.

### Understanding Loss and Change

Chronic disease can lead to many changes in time. Examples of some changes may include:

- Lack of independence
- Changes in eating
- Not working or involved in the same activities
- Changes relating to spouse, children, friends (not picking up or caring for grandchildren)
- Not being able to do household chores (vacuuming, shoveling, mowing the lawn, etc.)
- Not driving
- Not taking medication
- Stop smoking

Understanding these changes can help you deal with them and take charge of your life again.

### Stages of Loss

When faced with a major life event like heart disease, cardiopulmonary disease or renal disease, most people go through these stages.

#### **1. Shock/Denial**

The initial period after you are diagnosed can be so stressful you find yourself in a state of crisis at first. Being in “crisis” means that your usual ways of coping with problems are not helping very much and you feel absolutely overwhelmed. You may be thinking:

- “Not me, it can’t be true!”
- “My doctor must be wrong about this!”

You may find yourself making jokes having a denial element or wanting to continue to do everything as though there was nothing wrong. Pacing yourself when dealing with difficult news is important. Some people appear as though they are taking the news lightly at first; however, it can take time for the news to sink in.

## 2. Anger

As the shock wears off you may begin to feel anger, frustration and resentment. You may be thinking:

- “Why me?”
- “Why me, and not my friend who takes far worse care of himself/herself?”

Anger is often directed inward at yourself as well as outward at doctors or family. Remember: anger is normal; it's okay to be angry. It's not okay to take anger out on others. It's important to talk regularly with your friends and family about how you can help each other through this difficult time. This way, you will be working with each other instead of against.

## 3. Bargaining

As you grapple with what has happened you start to think about whether you need to make changes to your life.

- Many people hope being “good” for a while will fix everything.
- Sometimes bargains are made with a God.

This is a time of sorting out what changes you need to make, what you have to change and how to live life differently.

## 4. Depression

At times, all of the changes can overwhelm you. When this happens you may be hit by a very strong sense of loss, regret or fear. You may also be concerned about further losses in the future.

The depression that results from these thoughts and feelings can be lasting or come and go, giving us good days and bad days. Depression is normal, and it is normal to find it very difficult to deal with. Ongoing counseling or medication may be needed. If depression lasts more than two weeks, talk to someone and ask for help.

## 5. Acceptance

As time goes by you slowly gain perspective and begin to piece together what has happened. You also sort out what you can do about it in a way that allows you to feel sure of yourself again.

This kind of acceptance is not giving up and giving in to being sick but more a matter of having come to terms with it and being finished with certain feelings of denial, anger, rage and envy. You adjust to caring for yourself through exercise, stress management, healthy eating, good sleep, etc. Your focus turns to finding new meaning and pleasure in life again, sometimes in new and very different ways.

*Note: These stages are often experienced in a different order by different people. It is very common to feel you are bouncing around between the stages or jumping back into an earlier stage at a later point.*

## Coping with Stress

Once stress is on our plate we have to do different things to manage it. There are many strategies we can use including mental, physical and emotion related approaches. It's a good idea to use a variety of them and see what works best for you.

### Relaxation Breathing

Deep breathing can be done anytime, anywhere. It provides extra oxygen to the blood and causes the body to release endorphins, which are natural hormones that re-energize and promote relaxation.

1. Inhale slowly through your nose, expanding your abdomen before allowing air to fill your lungs.
2. Reverse the process as you exhale. Repeat the deep breaths for 2 minutes x 5 times a day.

A great way to regularly incorporate this technique is to think of when you can incorporate deep breathing (taking medication, waiting in line, before eating, upon waking).

### Progressive Muscle Relaxation

This is a technique to help relax tense muscles.

- Sit or lie down on your back in a comfortable, quiet place. Close your eyes.
- Make tight fists, hold for five seconds and then relax your hands. Breathe deeply. Do this 3 times. Pay attention to the different sensations of tension and relaxation.
- Repeat with all your muscle groups: arms, shoulders, chest, abdomen, back, hips, thighs, lower legs and feet.
- You may find it helpful to try this technique in opposite order.

### Stretching Exercises

If done correctly, stretching can promote relaxation and reduce stress. Never bounce when you stretch, it could injure your muscles. Do these exercises for 5 to 10 minutes.

### Walking/Exercise

Going for a walk can clear your mind, reduce tension and increase energy. Walking can help by providing a needed escape and it may increase the brain's production of endorphins (naturally occurring chemicals that relax and re-energize you).

### Meditation

Meditation helps settle the mind so you can think calmly throughout the day. The goal is to increase serenity not for immediate relaxation. Meditation puts you in control of your thoughts by forcing you to be in the moment and observe your thought processes.

In the early stages, meditate for 10 to 15 minutes once or twice a day. Increase this to 20 minutes no more than twice a day. Avoid meditating just before going to bed or you'll be too energized to sleep.

**There are several meditation techniques; here is one example:**

1. Choose a quiet place where you won't be interrupted.
2. Take time to relax; don't rush it.
3. When you are thoroughly relaxed and breathing slowly and evenly, close your eyes. Slowly repeat a pleasant-sounding word (for example, peace, health, calm, etc.) over and over in your mind as you breathe in and out. Continue in this state for a few minutes.
4. To come back, begin saying your word out loud, deliberately and slowly. Pay attention to your breathing; be aware of your body and your posture. Open your eyes and look around the room. After a minute or so, stand and stretch.

With practice you may eventually reach the point when you'll feel detached from your body and your physical surroundings while meditating. The world will fade from your awareness; you'll be in touch with your inner self, deeply relaxed and thoroughly energized.

## Social and Spiritual

Social relationships with people and pets are an important source of comfort – spend more time with them. Positive and healthy relationships are very important for our well being.

Spirituality involves getting in touch with yourself to find meaning in your life. Tending to your spirituality is an important way of dealing with stress, particularly if you experience a sense of loss in direction or meaning. After being diagnosed with a chronic disease is a good time to determine what is really important and what your priorities are. Spirituality is not limited to religion. Take some time to connect with yourself and nature.

## Lowering Stress or Anxiety

**Self-assertion** – Do a realistic review of the situation, decide on a course of action and carry it out. Assert yourself and take charge of your life.

**Sleep** – Cultivate methods to enable yourself to get enough good sleep. Wind down before you go to bed and remember to keep your bed for sleeping only (see Sleep Hygiene on page 41 in the Appendix for information on how to improve sleep).

**Exercise** – Exercise regularly.

**Relaxation** – Learn physical and mental relaxation. Notice when you are anxious and tense, and employ your relaxation techniques.

**Quiet time** – Cultivate and use “quiet time” to review your situation and compose yourself.

**Friends** – Talk to one or two friends a day for support and encouragement and to renew your self-confidence and morale.

**Consultation** – Help yourself by seeking consultation with peers, instructors or professional counselors.

## Positive Thinking

**Face Anxiety** – It's better to acknowledge your anxiety than hide and choke it back. This is normal behaviour that may be the basis for motivation and problem-solving. Do something about any excesses and then go on with your tasks and life.

**Success Reviews** – Review your accomplishments and positive qualities. Savour them and build up your self-confidence. You've had hurdles before and you will give this one your best.

**Positive Self-Talk** – When you feel down and worried, stop yourself. Switch to a task or positive activity (see Positive Self-Talk on page 40 in the Appendix).

**Positive Imagery** – Cultivate and collect positive images of successful situations and peaceful and relaxing settings, and use them to decrease anxiety.

**Success Steps** – Focus on small, achievable tasks and see them as "success steps".

**Self-reinforcement** – Congratulate yourself and give yourself a reward for success steps and keeping on track.

**Self-acceptance** – You're a really good person - not perfect, but who is? You are your own person; you are okay.

Once you choose a strategy or coping method, ask yourself:

1. Is this an appropriate thing to do in this situation? (Deep breathing with your eyes closed while driving is not good!)
2. Is this a positive way of coping? Not everything we do to relieve stress is good for us. Drugs, smoking and alcohol are coping strategies that will cause additional problems. Also, if you use anything in excess, even something positive, it can have negative effects (e.g. exercise or dieting).
3. Is this going to help in the long run? We don't always need a long-term solution, however, if you choose a short-term solution, it is important to decide whether it will be enough.

## POSITIVE SELF-TALK

All day long we talk to ourselves in our own heads about how we see ourselves and the situations we are in. When we give ourselves negative messages about who we are and how we're doing, we're practicing negative self-talk. When we give ourselves positive messages we are practicing positive self-talk. The messages we give ourselves are very powerful and have a strong influence on how we feel and act. In order to make your self-talk positive, practice the following 4 steps:

### 1. Recognize negative self-talk

Listen to yourself. Practice paying attention to your self-talk so you can catch the negative thoughts when they come. Many people repeat the same or similar negative message to themselves as a habit. Once these habits develop, it can be like a tape that plays in your head. When something goes wrong it is a trigger, like someone pressing play on the tape player, and the negative message starts to play.

### 2. STOP yourself

Once you catch yourself in negative self-talk, allow yourself to stop for a moment. Take a deep breath or tighten all your muscles at once and release them. This cues the mind and body to relax.

### 3. Re-evaluate negative thinking

Realize it is not helpful to engage in blaming and shaming ourselves. This only makes it harder for us to rise up, move forward and make improvements. A more constructive approach is to start with the positives. This often starts with reminding ourselves "It's not the end of the world" and "I'm not a bad person" or "I'm allowed to make mistakes in life and it's not fair to beat myself up over them".

### 4. Replace negative self-talk with positive self-talk

End off with something good about yourself, such as "I learned something from this experience", "I am a good person who tries hard in life" or "I've handled challenges in the past and I will give this one my best".

## Making Positive Thinking a Habit

Here are other strategies:

**List Your Gratitudes** – Before bed, list of at least 3-5 things you're grateful for and that went well today.

**List Your Accomplishments** – Make another list of at least 3-5 things you did well today.

## SLEEP HYGIENE

Trouble sleeping? Interrupted sleep is a common side effect of cardiac medications. It is also a common side effect of being under stress. The following list of tips, will help get your sleep back on track.

**Relax.** Basic meditation, relaxation and breathing techniques are very soothing and can help you relax before sleep. Relaxation can also include reading something pleasant or taking a bath. Keep yourself mentally stimulated during the day but limit watching television and using the phone before bed.

**Develop your bedtime ritual.** In order to get your body ready for sleep, it is helpful to give it cues that it will soon be bedtime. Develop a routine of simple, calming activities like listening to music, drinking a cup of warm milk or caffeine-free tea or doing a relaxation exercise before bed.

**Don't Lie Awake in Bed.** Laying in bed worrying about falling asleep is more likely to keep you up. If you can't sleep after lying in bed for 20 minutes, get up and do something boring. Read the warranty on your refrigerator or do a relaxation exercise. Keep the lights low if possible. Bright light gives your brain the cue that it's time to wake up.

**Go to bed and get up at the same time every day.** This includes weekends and vacations. This may mean getting less sleep for a few days, as you wake up to the alarm instead of sleeping in after a "bad night". The benefit is that your body's cycle of sleeping and waking will become readjusted as you retrain your body to sleep at night.

**Avoid naps.** You will be more likely to be tired at bedtime if you avoid sleeping during the day. If you can't make it through the day without napping, nap for half an hour or less before 3 pm. A nap is only recommended if you work night shifts.

**Exercise.** Regular exercise improves sleep. In order not to interfere with sleep, however, do not exercise within 4-5 hours of bedtime.

**Avoid Alcohol, Nicotine and Caffeine at least 4-6 hours before bed.** Nicotine and caffeine are both stimulants that keep you awake. Quit smoking for best results. Alcohol is a sedative and may make you feel sleepy but once this effect wears off, sleep becomes erratic and broken up.

**Eat a light snack before bedtime.** Eating a heavy meal before bed can cause indigestion which can interfere with sleep. Many sleep researchers recommend not eating or drinking anything within 2 hours of bedtime, however, if an empty stomach is waking you up, try a warm glass of milk. Milk products contain tryptophan which is a natural sleep inducer.

**Use the Bedroom for Just Two Things.** If you watch television, read the newspaper, argue or pay bills in the bedroom, you set up an expectation in your mind that the bedroom is for many different activities. Keep your bedroom for sleeping and sex.

**Take a warm bath an hour and a half before bed.** A warm bath is very soothing. It also raises your

body temperature. When your body temperature starts to return back to normal, it leaves you feeling sleepy.

**Keep your bed and bedroom cool, quiet and comfortable.** A cooler room with enough blankets to stay warm is recommended. If you are woken by early morning light, get a blackout shade or wear a slumber mask. If noise wakes you, try earplugs or get a white noise machine or a fan that will block out other sounds. If pets are waking you, set up a separate place for them at night other than your bedroom. Decorate your room in a way that is peaceful and relaxing.

**Learn to value your sleep.** Making changes to your schedule and your routines in order to sleep better requires adjustments. In the long run, these adjustments are worthwhile because of how much better we feel when we sleep well. Good sleep also boosts the immune system, and provides “down time” for the body to metabolize stress hormones. If necessary, speak with your doctor or request referral to a sleep specialist.

*References:*

[sleep.stanford.edu/sleep-disorders/  
sleep-deprivation.com](http://sleep.stanford.edu/sleep-disorders/sleep-deprivation.com)

## CHAPTER 6: COMMUNICATION WITH HEALTH CARE PROVIDERS

### Communication Skills

In general, as well as when managing a chronic health condition, it is important to use good communication skills when seeking information, letting others know about your health and asking others to help you. In some situations the topic needing to be addressed can be challenging to approach. If we learn to use good communication skills it can make interacting with others more effective and help us avoid common communication problems and misunderstandings.

One example of a communication skill that can be helpful when expressing feelings is “I messages”. Using “I messages” instead of “you messages” can help an individual express themselves without placing blame or creating a defensive atmosphere.

“I messages” put your emotion into what you want to tell someone to let them know that you didn’t like what happened, but also communicates that you are willing to listen to what they have to say.

“You messages” tend to place blame on the other party which can make them defensive and unwilling to continue the conversation or solve the problem.

- **“You Message”** Example:

Partner 1: You never show me affection anymore!

Partner 2: I have other things on my mind right now. You should show me more affection.

Partner 1: Why does everything have to be about you? I shouldn’t be the only one in this relationship putting in an effort.

Partner 2: All about me? All I do is think about you!

Partner 1: This conversation hasn’t helped anything!

- **“I Message”** Example:

Partner 1: I miss feeling close to you.

Partner 2: I have a lot going on right now with all of the doctors appointments and tests. I feel drained by the end of the day.

Partner 1: I didn’t realize how much stress you had about the situation. I feel having affection from you helps me feel more connected to you and I miss it.

Partner 2: I understand and I miss the connection as well. I’m just unsure of how to give you what you need right now.

Partner 1: What if we plan to set aside 15 minutes each day to be with one another? We can talk, cuddle or just sit with each other to help us reconnect.

Partner 2: I think that would be a good idea. I feel much better about things after talking with you.

## Steps to Good Communication

- 1. Identify the Problem:** Let the other person know what the problem is and how you feel the situation has affected you.
- 2. Express Yourself:** Use "I" messages to express your concerns and emotions in non-blaming ways. Make feeling statements such as: "When I speak to my doctor and they use technical speech, I feel frustrated and confused about my health status." These statements can be helpful as an alternative to "I messages".
- 3. Listen:** In some situations if we are feeling scared or overwhelmed, we don't really hear what others are telling us. Good listening is just as important for good communication as expressing yourself. Try pausing for a few seconds after someone has finished speaking to you before jumping in with a response.
- 4. Clarify:** Repeat what you heard using your own words. Ask for clarification. Can you summarize what they have said? Do you know what concerns they have? If not, you may need to listen more closely to what they have to say or ask questions that can help you understand what they are thinking or feeling. For example, "It seems you are afraid to use weights in the gym. Can you tell me what your concerns are?"

## Identifying Information

Technology has made accessing information about chronic disease easier, however, you have to be careful where the information is coming from to ensure the content is accurate.

Below are some tips to help determine whether the information you are reading is credible.

1. Are you reading information from a source you do not recognize? Is there an absence of an author or their professional training?
2. Are there limited references listed for the information being discussed?
3. Is this the only author making this claim?
4. Are the claims exaggerated? Does it promote great fear or does it sound like it will cure everything?
5. Does the article promote a book, supplement, gadget or aid that the author is selling?
6. Is the information based on only one person's story?
7. Do the claims sound too good to be true?

*If you answered yes to any of the above questions, beware  
of the accuracy of the information you read!*

## CHAPTER 7: HEALTH CARE DIRECTIVES

A Health Care Directive is a document in which you state your specific health care wishes. This document will be followed by your health care providers and support system (family, friends, etc.) if you are ever unable to express them yourself. Having this document in place, regardless of age or current health status, allows you to maintain control over your health. Health care directives can be made at any time and are not made only in end-of-life situations.

It may not always be possible to make your wishes known to your health care providers or hospital personnel, therefore, having advanced preparation ensures your wishes will be carried out. The Health Care Directive should include your preferences about what type of health care interventions you wish to have.

This type of document also allows you to identify a proxy or individual who may be given the right to make decisions for you or give direction to health care providers on your behalf. This can be a family member or other trusted individual.

The following things need to be done in order for the Health Care Directive to be complete and effective:

1. Decide what your wishes are and record them in written form
2. Discuss your wishes with your family and trusted friends
3. Discuss your Health Care Directive with your health care providers
4. Have the document signed and witnessed
5. Ensure the document is part of your medical records
6. Give a copy of the completed form to your proxy

### Health Care Directives in Manitoba – FAQs

Excerpted from [www.gov.mb.ca/health/livingwill.html](http://www.gov.mb.ca/health/livingwill.html)

#### **What is the purpose of a health care directive?**

- As a Manitoba citizen you have the right to accept or refuse medical treatment at any time. The Health Care Directives Act allows you to express your wishes about the amount and type of health care and treatment you want to receive should you become unable to speak or otherwise communicate this yourself. It also allows you to give another person the power to make medical decisions for you should you be unable to make them yourself.

#### **Why should I fill out the form?**

- Due to accident or illness, you may become unable to say or show what treatment you would like, and under what conditions. If you have signed a directive, those close to you and the health care professionals treating you are relieved of the burden of guessing what your wishes might be.

### **How do I make a Health Care Directive?**

- The Manitoba government has prepared a form for your convenience (see page 32). The form serves as a guide for providing the appropriate information. However, any paper signed, dated, and provides the same information may be used. A directive may be made by anyone capable of making a health care decision and understanding the consequences of that decision.

### **Who do I talk to about these decisions?**

- It is strongly recommended you talk to your doctor before completing the directive. This will ensure your instructions are clear and easily understood by those who provide treatment. Your choices should then be clearly typed or printed.

### **What is “proxy”?**

- A proxy is someone you choose and name in your directive to act for you in the event you are not able to make such judgments and speak on your own behalf. Because it is not possible to anticipate every set of circumstances, your proxy has the power to make health care decisions for you based on what you have told your proxy about your wishes and the information in your directive.

### **Who do I choose as my proxy?**

- The choices you make in a directive are very personal. The person(s) you choose to represent you should be close friends or relatives who are willing to accept this responsibility. You should discuss your wishes openly and in detail with them. It is wise to name more than one proxy in case one is not available when needed. If you designate two proxies, you must decide how you want them to work, either independently or together as a team. If you decide the two proxies should act jointly, they will act together on your behalf. If you decide they should work consecutively, the second proxy will be contacted if the first is not available or is unwilling to make the required decision at the required time. It is important to make sure your proxy (or proxies) understands what is expected and is willing to speak and act for you.

### **Can I change my mind about my directive?**

- A Health Care Directive should be a record of your current wishes. If at any time you wish to change the content or the proxies you have listed, all copies of your old directive should be destroyed and a new directive written.

### **What is the effect of a Health Care Directive?**

- The wishes you express in your directive are binding on your friends, relatives and health care professionals (unless they are not consistent with accepted health care practices) and will be honoured by the courts. However, health care professionals treating you are not obliged to search for or ask about a signed directive. It is important that family, friends, your doctor and your proxy know you have a directive and where it can be found.

*For more information about Advanced Health Care Directives go to:  
[www.gov.mb.ca/health/livingwill.html](http://www.gov.mb.ca/health/livingwill.html) or your regional health authority*

# Health Care Directive

Please type or print legibly



## This is the Health Care Directive of:

Name \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_  
Province \_\_\_\_\_ Postal Code \_\_\_\_\_ Telephone ( ) \_\_\_\_\_

### Part 1 – Designation of a Health Care Proxy

You may name one or more persons who will have the power to make decisions about your medical treatment when you lack the ability to make those decisions yourself. If you do not wish to name a proxy, you may skip this part.

I hereby designate the following person(s) as my Health Care Proxy:

#### Proxy 1

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
Province \_\_\_\_\_ Postal Code \_\_\_\_\_  
Telephone ( ) \_\_\_\_\_

#### Proxy 2

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
Province \_\_\_\_\_ Postal Code \_\_\_\_\_  
Telephone ( ) \_\_\_\_\_

(Check ☒ one choice **only**.) For an explanation of “consecutively” and “jointly” please see the reverse side of this form).

#### If I have named more than one proxy,

I wish them to act:

☐ consecutively OR ☐ jointly

My Health Care Proxy may make medical decisions on my behalf when I lack the capacity to do so for myself (check ☒ one choice **only**):

☐ With no restrictions

☐ With restrictions as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Part 2 – Treatment Instructions

In this part, you may set out your instructions concerning medical treatment that you do or do not wish to receive and the circumstances in which you do or do not wish to receive that treatment. REMEMBER – your instructions can only be carried out if they are set out clearly and precisely. If you do not wish to provide any treatment instructions, you may skip this part.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Part 3 – Signature and Date

You must sign and date this Health Care Directive. No witness is required.

Signature \_\_\_\_\_

Date \_\_\_\_\_

If you are unable to sign yourself, a substitute may sign on your behalf. The substitute must sign in your presence and in the presence of a witness. The proxy or the proxy's spouse cannot be the substitute or witness.

Name of substitute: \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Name of witness: \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

MG-3598 (Rev. 05/04)

## CHAPTER 8: RELAPSE PREVENTION AND RECOVERY

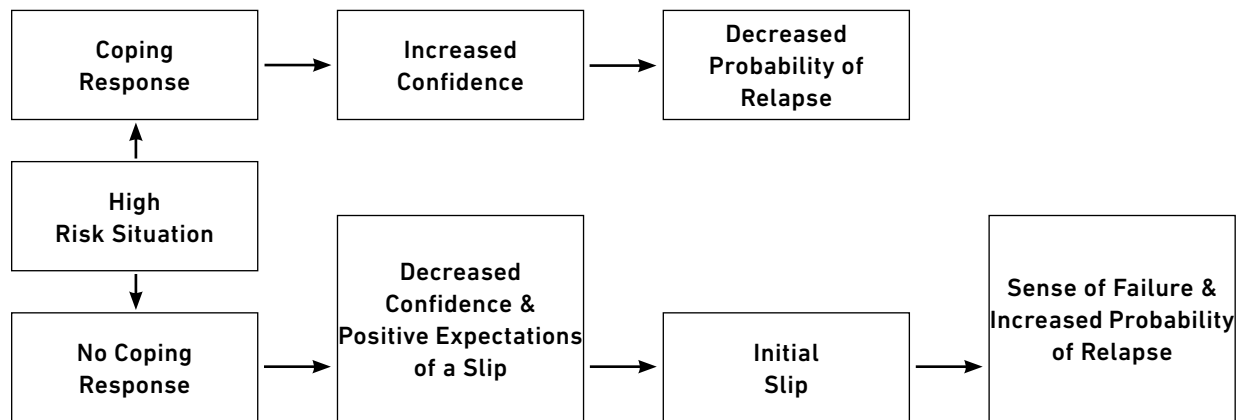
When embarking on healthy changes, no one wants to think about slipping, relapsing or just giving up entirely, especially when you may be starting to feel stronger and more energetic. You may be surprised by your recovery so far. As unpopular and unconventional as it may seem, now is the most appropriate time to look ahead and begin planning. It is important to be aware of and address the situations which may put you at risk (for example; results less than expected, other priorities, social pressures, injury/illness, etc). The most effective strategies are: anticipating barriers, planning alternative ways of coping (see work book for Pot holes and Bumps exercise) and keeping your focus and attitude on long term health and wellbeing.

### **To prevent a relapse be aware of:**

- a) High Risk Situations - Identify situations that might make it extra hard to stick to your behavior changes. Think about and plan how you may overcome obstacles and challenging situations, some which can be anticipated and others that may come by surprise.
- b) Decreased Vigilance - Over time our level of attention to our changes can decrease. In most situations this is not a problem as the changes have become routine. In High Risk Situations, however, you will need to pay extra attention and keep your guard up.
- c) Apparently Irrelevant Decisions - Watch out for those little moments in which you make small choices that could lead to breaking your goals such as when you make your schedule without planning exercise time or time to prepare healthy foods ("Just this one won't hurt...").
- d) Positive Expectations of a Slip - When you notice yourself imagining how good it would feel to have that extra dessert or skip your exercise routine, switch to thinking about the rewards you will get for sticking to your goals.

**Remember:** Everyone goes through a slip once in a while and everyone experiences periods of relapse. The key to getting out of relapse is **not getting down on yourself about it**. This is a set back, not a failure! Slips and relapses are normal and keeping your guard up allows you to get back on track as soon as possible. If you have been off track for a while, simply go back through the preparation steps to get yourself ready to start again. We can learn from our experiences and incorporate new learning as time goes by.

## The Relapse Process



## CHAPTER 9: SUPPORT THE SUPPORTERS

### The Spouse and Family of a Patient

When someone experiences a health crisis, it impacts on others. Whether the condition was known or not, routines, roles and established patterns can be totally upset. Families and loved ones of a patient also experience trauma. Being told someone you care for has a serious health problem can be very upsetting. Often the needs of families and loved ones go unnoticed or undervalued. You may have questions but:

- are unsure who to ask
- find it challenging taking in all the information
- don't want to share them with your loved one

### Your Own Journey

You too are on a journey of recovery and healing. Your journey might be **exactly parallel** to your loved one. Then again, it might be **radically different**, even though you love them (and have been married for 47 years!!!) Everyone's journey is unique and every situation is different. It is very common to have a multitude of diverse experiences and perspectives in one family ranging from anger, fear, isolation, disbelief, doubt, depression, betrayal, thankfulness, withdrawal, guilt, and many others.

### Time Crunch!

There may be several new demands on you and your time. Sometimes supporters need to take time off work, others can't. Caring for the home and possibly children while your loved one is ill can add tremendous stress. There may be the need to communicate with others and share information. There will never be more than 24 hours in a day, so delegating or letting things go for a while may be necessary. This may be the time to call upon friends/family or hire help. It can be overwhelming to think of all that needs to be done and the uncertainty ahead.

### New Reality

There is a myth that everything will be the same. The truth is; **nothing will ever be the same**. Life will be different because of your new reality. The road ahead may include new food choices, a rigid medication regime, several appointments with doctors and tests and new activities, to name a few. Routines are disrupted and often new routines develop.

## Identity Changes

This can be a time of significant change within you. Do you relate to your loved one as their nurse, becoming an expert on side effects of medication and communicating with the doctors? Maybe your identity is of mothering; all of your attention devoted to their care. Maybe you feel involved by being a chef and preparing a whole new repertoire of healthy foods. Being a partner and supporter has many different roles. Coming to terms with change and uncertainty can be the most difficult part of supporting them.

## Strong Feelings & Communication

Feelings are your reaction to the world around you. In a crisis, it is natural to put off dealing with your feelings. Over time, some emotions become even more intense and this can be difficult between you and the patient. Managing these emotions can take a lot of energy and strain the relationship. Caring for yourself and your relationships and creating a new future often involves understanding and expressing your feelings. Carefully choosing when and how to express yourself is important. Remember that your loved one may have a different view of things than you. Here are some guidelines to keep in mind.

DO	DON'T
Say how you feel	Withdraw because you fear you will stress your loved one
Remember your loved one has similar concerns	Believe the myth that communication is harmful
Express your anger in a safe and appropriate manner	Believe your relationship is too fragile to bare your feelings
Try to understand your loved one's individual style of expression	Be scared off by differences between you and your loved one
Respect your own needs	Forget that unspoken feelings "come out sideways"
Focus on loving each other	Avoid talking about important concerns
Enlist the help of a friend if your reach an impasse	Forget that communication can be difficult
Honour individual differences	Mistake disagreement for disapproval

## Telling your Tale

Another part of healing is sharing your story, beyond the events that happened. When you share your experiences with others, your story is validated and it helps work through the grief. Some of the best support for you is from someone who is going through a similar experience, as they are uniquely capable of relating to your feelings.

## Support

A challenging part on the road to recovery is learning how to support your loved one. It is not uncommon for some people to want to do everything for them, where others view their role as helping the patient resume all their roles and responsibilities as soon as possible! Somewhere in between is probably the best stance. Overprotection may reflect more of your fears than the patient's and they may resent being smothered – even if it is out of love! This is a time for open communication, patience and deep breathing as you heal the wound, adapt to new, ever-changing family realities and rebuild your relationship together.

## Intimacy

Acute illnesses and chronic diseases can pose challenges to express intimacy. Recovery provides an opportunity to talk about your sexuality and cultivate sexual expression with your mate. ALL couples have questions about sex and often professionals are too busy or uncomfortable to be very helpful. Take responsibility for raising the subject with your doctor or health care provider.

There are many misconceptions about sex and chronic disease which contribute to fear, apprehension and disappointment.

- Sexual activity is harmful for the patient - See page 13 for further information about concerns and when to resume activity. Normal sexual activity is often resumed within 3 months, for many patients.
- Decreased interest and impaired functioning - In general, there is a temporary decrease in sexual drive after an acute event, often from depression, fatigue and side effects of medication. Over time they dissipate, and if not, they can be treated.
- Disease signifies the end of normal activity - Like all physical activity, sexual participation should be resumed gradually during recovery after an event. When a condition persists it may be necessary to explore new ways of relating.
- Masculinity is based upon sexual prowess - This misconception desperately needs revision. Both the patient and the supporter's self image can be challenged with disease and their view as sexual beings. Illness and disease can be an opportunity to alter your body image and accept a different, sometimes a more open reality.
- Sex is love - There is a significant difference between the two! Regardless of how you express your sexuality, what is of true value is expressing your love and connecting meaningfully with your partner. A willingness to open your hearts and minds can usher in new expressions of love right for the both of you.

The healing of intimacy may be challenging and uncomfortable. Trust that has been eroded is difficult to repair. With illness, there can be a sense of betrayal by the body. Making peace with your new reality can be an exciting and rewarding experience though.

Open communication and a willingness to consult a doctor, should prolonged difficulties persist, are key to re-establishing a loving and intimate relationship. Communication doesn't solve all problems, but problems with unmet needs and suppressed conflicts can grow out of proportion. After an acute illness, many couples find themselves closer than during other periods in their relationship.

**Some suggestions for healing the connection include:**

- Sharing your feelings with each other
- Cherishing your time together
- Giving yourself permission to be romantic
- Experimenting with new ways to express your love
- Letting yourself laugh and have fun
- Celebrating being alive and together

*Mark new milestone, grieve losses and celebrate family each precious day of your life." Rachael Freed*

Adapted from:

[Heartmates: A Guide for the Spouse and Family of the Heart Patient, 2002 edition.](#)

[Rachael Freed. Fairview Press.](#)

[Sex and Heart Disease, 2001 revised edition. American Heart Association.](#)

## 10 HEALTHY HINTS FOR PARTNERS OF PATIENTS

- 1. Eat Well!** Regular, nutritious meals are a must for recovery. A healthy diet is prevention for the family and maintenance for the patient. Plan changes together ... one step at a time. Moderation is the key.
- 2. Get adequate sleep!** Rest frequently and take short naps to compensate for fitful or disrupted sleep at night. Respect the pace that your energy returns. Don't count how many hours you've slept ... let how you feel be your guide. New sleep patterns will become normal with time.
- 3. Walk every day!** Your spirit is refreshed by the warmth of the sun and the earth underfoot. Walking with your loved one is a special activity you can do together. Regular and moderate exercise is essential for you to maintain good health. Check with your doctor before starting a new exercise program.
- 4. Relax!** Breathe fully and deeply, listen to beautiful music, laugh aloud and find something to feel grateful about each day as you journey through recovery. Cultivate a positive attitude about the stresses you face. Have fun ... you deserve to take time every day to feed your soul.
- 5. Get needed information!** Ask all the questions you need to understand your new reality as a health partner. Stay informed to reduce your anxiety. Give your mind time to return to its normal thinking and concentration levels. Be open to a new perspective ... don't expect yourself to be perfect.
- 6. Tell your story!** Find a friend who will listen to your experiences and secrets. Expressing aloud as well as on paper can clarify your reality, order the chaos and reduce loneliness. Remembering and sharing is one normal method of working through the grief that accompanies loss.
- 7. Accept your feelings!** Your feelings are an indication of how deeply you've been affected by your loved one's illness. Sadness, fear and anger are natural responses to hurt and loss. Tears provide a welcome cleansing. Accept your emotions ... they are the path to gratitude, compassion and forgiveness of self and mate.
- 8. Touch one another!** Express affection in ways right for the two of you. Hold hands while out walking - share a kiss in the kitchen - cuddle at night. Everyone needs love and support, particularly after the separation of a crisis and hospitalization. Rebuild the trust of your relationship.
- 9. Get Support!** No one can heal all alone. Everyone needs and deserves support and encouragement to grieve losses and heal the wounds from an unexpected crisis. It's selfish to turn down loving help from caring friends and family.
- 10. Celebrate!** Each milestone passed, every measurable success during recovery is cause for celebration: a special hug, a funny card. Recognizing progress is progress ... enjoy each precious day you have together.

## CHAPTER 10: RISK FACTORS

Cardiovascular disease (CVD) is the leading cause of death and a major cause of disability and illness in Canada. A significant amount of the risk for CVD is rooted in our lifestyle.

With each risk factor you have, the risk of developing heart disease increases. In Canada, 9 out of 10 people have at least 1 risk factor for heart disease and 3 out of 10 have 3 or more.

It is important to modify risk factors that are within your control. Risk factors are divided into modifiable and non-modifiable: those we can and can't change.

### Modifiable Risk Factors (those we can change)

- Smoking
- High Cholesterol
- High Blood Pressure
- Sedentary Lifestyle
- Obesity
- Stress
- Diabetes
- Excessive Alcohol Consumption

### Non-Modifiable Risk Factors (those we cannot change)

- Age
- Gender
- Race
- Heredity/Genetics

## Modifiable Risk Factors

### 1. Smoking

Smoking is the most preventable cause of premature death. For a smoker, the risk of having a heart attack is almost triple that of a non-smoker.

Smoking can:

- Increase in blood pressure of 5 – 10 mm Hg by causing the blood vessels to constrict
- Increase the heart rate by 10 – 15 beats per minute

Smoking irritates the lining of the blood vessel walls. This causes blood to clot faster by triggering an increase in platelets in the blood stream. These platelets then stick to the artery walls causing atherosclerosis.

Smoking also decreases your good cholesterol (HDL) and the blood's ability to pick up oxygen in the lungs, therefore making breathing more difficult. It can also contribute to various forms of cancer.

Smoking causes up to a 30% increase in the risk of death from coronary artery disease in non-smokers exposed to second-hand smoke.

For help with quitting, contact 204-632-3946 or see the Appendix for more resources, including more benefits of quitting, tips to prepare to quit and smoking recovery symptoms.

Is smoking a risk factor for you?     ☐ Yes                    ☐ No

What can you do to decrease your risk?

- Cut down
- Quit smoking
- Decrease second-hand smoke

## 2. Cholesterol

Cholesterol is a waxy-like fatty substance. It is required by the body for the production of hormones and the repair of cells. Most of the cholesterol in your body is produced by the liver. Blood levels are affected by how much the liver produces, the types of food and quantity of fat in the foods we eat. High cholesterol levels have been linked to atherosclerosis.

Over your lifetime, the lining of the arteries gets irritated, creating a rough pathway. This allows cholesterol and other particles to 'catch and stick', gradually narrowing the inside of the artery, resulting in decreased blood flow to the affected part of your body.

There are different types of cholesterol:

- LDL (low density lipoprotein) or "bad cholesterol" collects on the inside of artery walls causing plaque formation (atherosclerosis).
- HDL (high density lipoprotein) or "good cholesterol" removes the bad cholesterol from the blood.
- Triglycerides are a type of fat in the blood that provide energy to the body. Unused molecules are stored in fat cells. High levels can contribute to atherosclerosis. High levels of alcohol, sugar or fat intake tend to increase triglycerides.

Are your numbers in the healthy range?     ☐ Yes                    ☐ No

Target cholesterol levels for people with coronary artery disease (fasting):

Total cholesterol.....less than 5.2

HDL (Men)..... greater than 1.0

HDL (Women)..... greater than 1.3

LDL..... less than 2.0

Triglycerides..... less than 1.7

Ratio.....less than 4.0

My cholesterol levels:

Date: \_\_\_\_\_

Total cholesterol \_\_\_\_\_

HDL \_\_\_\_\_

LDL \_\_\_\_\_

Triglycerides \_\_\_\_\_

Ratio \_\_\_\_\_

Are your numbers in the healthy range? ☐ Yes ☐ No

What can you do to decrease your risk?

- Diet changes
- Exercise
- Medications
- Quit smoking

For every 1% reduction in your LDL cholesterol levels, your heart attack risk decreases 2-3%. With diet therapy, LDL cholesterol levels can decrease up to 10%.

### 3. High Blood Pressure (Hypertension)

Blood pressure is the force of the moving blood on blood vessel walls. With high blood pressure, the force inside the artery walls is greater causing the heart to work harder, as it has to pump against a high force. High pressure inside the arteries also causes irritation to the delicate lining, attracting plaque and narrowing the inside of the artery (atherosclerosis). Long-term high blood pressure may lead to damage of the heart, brain and kidneys.

There are few signs or symptoms for high blood pressure. The best way to find out is to have your blood pressure taken by your physician, nurse or other health professional. Up to 5 high readings are required to diagnose high blood pressure.

The exact cause of hypertension has not been determined, but it has been attributed to a diet high in salt and alcohol, obesity, smoking, stress and/or heredity.

To manage blood pressure:

- Take medications as prescribed
- Work towards a healthy weight
- Exercise regularly
- Limit alcohol
- Decrease salt intake

My blood pressure is \_\_\_\_\_

Is your blood pressure under control?

☐ Yes

☐ No

What can you do to decrease your risk?

- Diet changes
- Exercise
- Medications
- Quit smoking
- Stress management

#### 4. Sedentary Lifestyle

Regular physical activity contributes to a healthy body weight and a general feeling of well-being. Getting active does not mean you have to spend a lot of time exercising. It is recommended you participate in cardiovascular activity, at a moderate intensity, for a minimum of 150 minutes per week (a minimum of ten minutes per session).

Some benefits of exercise include:

- Decreased body weight
- Decreased blood pressure
- Decreased LDL
- Increased HDL
- Controlled blood sugars

If you exercise regularly, your heart attack risk is 45% lower than those who lead sedentary lives.

New England Journal of Medicine

The risk of heart disease from sedentary lifestyle is only slightly lower than the risk associated with smoking.

Family Health, Fall 1998

1 hour watching TV (sedentary) = lower life span by 22 minutes (the same as smoking 2 cigarettes)

British Journal of Sports Medicine, 2008

Do you exercise to decrease your risk?

☐ Yes

☐ No

My current physical activity is: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 5. Obesity

Increased body weight puts you at risk of developing major weight related health problems such as diabetes, cancer, heart disease and stroke.

Excess weight requires the heart to work harder to supply the body with blood, oxygen and nutrients, resulting in an increase in heart rate and blood pressure.

Storing fat around your stomach is referred to as “android”, apple-shaped or male pattern obesity. This fat tends to be stored deep around the internal organs, including the heart, and is associated with greater risk for health problems. Fat stored around the hips is called “gynoid”, pear-shaped or female pattern obesity.

Ideal waist measurements for good health are:

Men: less than 102 cm

Women: less than 88 cm

Did you know...?

If you are overweight, even a small weight loss and decrease in waist size can make a big difference in your health. Losing only 10% of your body weight can dramatically reduce your risk factors and improve your health. It is better to have a fat fanny than a bulging belly!

My waist measurement is \_\_\_\_\_

My current weight is \_\_\_\_\_

Are my measurements in a healthy range? ☐ Yes ☐ No

What can you do to decrease your risk?

- Diet changes
- Exercise

## 6. Stress

Many people who have had a heart attack identify stress as a risk factor. Stress has immediate physical effects on the body and the mind. When the mind decides something is stressful, the body immediately goes into the “fight or flight” response.

This mode is sometimes referred to as the stress response. This stress response causes an increase in heart rate, breathing, blood pressure, blood thickness, cholesterol levels and glucose (sugar) in the blood. It decreases the functioning of the immune system and increases the craving for sugar, nicotine and fats. The potential for atherosclerosis speeds up because the extra cholesterol released into the bloodstream sticks to the artery walls. When blood pressure is frequently elevated it irritates the lining of the artery walls, making it even easier for the cholesterol to stick.

The body also has a relaxation response. There are many ways to decrease the stress in your life and turn on the relaxation response. As a start try to:

- Talk it out
- Go for a walk
- Set priorities and schedule your time
- Relax with a good hobby/book/music/movie
- Take a course for fun and self-improvement
- Take some deep breaths

In order to learn how to use these strategies or for more ways to relax, see the Appendix or contact your Case Manager to book an appointment with the Health Coach or Psychologist.

What can you do to decrease your risk?

- Relax
- Exercise
- Meditate
- Say "No"

## 7. Diabetes

Diabetes is a disease in which a person has high glucose (blood sugar) levels either because the body does not produce enough insulin or because cells do not respond to the insulin that is produced. Diabetes is diagnosed with blood sugar testing.

There are 2 types of diabetes:

Type 1: Your body does not produce insulin

Type 2: Your body can't use the insulin it makes or does not produce enough

To control your blood sugars, you need to:

Type 1: Take insulin

Type 2: Lifestyle changes, oral medications and/or insulin

Recommended Blood Sugar (Glucose) Targets			
	**A1C	Fasting Blood Glucose / Glucose before meals (mmol/L)	Blood Glucose 2 hours after eating (mmol/L)
Diabetics	< or = 7%	4 - 7	5 - 10
Non-diabetics (if < or = 6% can be achieved safely)	< or = 6%	4 - 6	5 - 8

\*\*A1C is an average of your blood sugar over a three (3) month period.

Did you know that lowering your A1C by 1% could reduce your risk of diabetes complications by up to 35%?  
United Kingdom Prospective Diabetes Study, 2001

Type 2 diabetes is largely preventable by maintaining a healthy body weight, exercising and making appropriate food choices. When you have diabetes, blood sugars can be controlled with regular checkups, treatment with diet, weight control, medications and/or insulin.

Symptoms of Type 2 Diabetes:

- Increased thirst, hunger and frequency of urination
- Blurred vision
- Extreme fatigue or lack of energy
- Tingling and numbness, especially in hands and feet
- Skin infections that are slow to heal
- Multiple vaginal infections
- Impotence

High blood glucose levels increase your risk of heart disease.

My blood sugars are: \_\_\_\_\_ My A1C is: \_\_\_\_\_

Do your blood sugars put you at risk? ☐ Yes ☐ No

What can you do to decrease your risk?

- Learn how to manage food choices
- Exercise
- Quit smoking
- Stress management
- Control blood sugars

## 8. Alcohol

Moderate alcohol use is described as one (1) drink [equal to 1 bottle of beer, 6 oz. of wine or 1.5 oz. of spirits] per day for women and two (2) drinks per day for men: not to exceed nine (9) drinks per week for women and fourteen (14) drinks per week for men.

Those who drink excessive amounts of alcohol may develop heart muscle damage, which may lead to an enlarged heart.

Research supports a relationship between heavy drinking and high blood pressure.

Binge drinking is related to cardiac rhythm disturbances.

Do you drink more than you should? ☐ Yes ☐ No

What can you do to decrease your risk?

- Drink recommended amount of alcohol or less

### To Lower Your Risk

There are many lifestyle options to lower your risk(s). If you discovered you have some risk factors to change, what is one small goal you can set for yourself?

One thing I would like to change is...

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## Non-Modifiable Risk Factors

### 1. Heredity/Genetics

- Your risk increases if close family members – parents or siblings develop heart disease before the age of 55, or in the case of female relatives, before menopause.
- You cannot change your family genes, so it is important to take steps to minimize the effects of the modifiable risk factors.

### 2. Age and Gender

- Although more men are typically affected by heart disease, women are not far behind. Estrogen has a protective effect against heart disease for most women, however, after menopause, estrogen levels drop and the risk for developing heart disease increases.
- ***In general, women are affected about 10 years later than men.*** The risk for men increases over the age of 45, and for women, over the age of 55.

*Heart disease is the #1 killer of women and is more deadly than all forms of cancer combined.*

Heart Disease & Stroke 2012, Statistical Update

### 3. Race

- People of Afro-Canadian and Asian decent are at high risk for developing high blood pressure. First Nations people have a tendency towards diabetes. Both high blood pressure and diabetes are major risk factors for CVD.

## IT'S NEVER TOO LATE TO QUIT SMOKING

**30 minutes** after you quit: your blood pressure, heart rate and temperature of hands and feet become normal.

**8 hours** after you quit: carbon monoxide and oxygen levels in the blood return to normal.

**24 hours** after you quit: risks for heart attack and stroke decrease significantly.

**48 hours** after you quit: nerve endings in your mouth and nose re-grow.

**72 hours** after you quit: bronchial tubes relax and breathing is easier.

**1 week** after you quit: nicotine is flushed from your body.

**2 weeks** after you quit: circulation, breathing and lung function improve.

**1 month** after you quit: coughing, sinus congestion and shortness of breath decrease.

**1 year** after you quit: risk of heart attack is cut in half!

**5 years** after you quit: risk of stroke drops to normal; risk of lung cancer decreases by half.

**10 years** after you quit: risk of most types of cancer drops to normal.

**15 years** after you quit: risk of dying is similar to that of someone who has never smoked.

### Tips to Prepare to Stop Smoking

1. Avoid smoking in places where you spend a lot of time (e.g. home, car).
2. Get rid of all smoking materials, including cigarettes, lighters and ashtrays. Do not cheat yourself - you want to make sure you stop, not make it easier to relapse.
3. Change your daily routines
  - breakfast, then shower
  - eat lunch then go for a brisk 20 minute walk
  - change chairs while watching TV and eating meals at home
  - snack on different food
  - avoid alcohol and caffeine
4. Exercise at least 15-20 minutes a day and progress to 30-60 minutes per day when able.
5. Put up reminder signs at home, in your car and at work
  - keep focused on your goal of quitting
  - list your important personal reasons for quitting
  - list the dangers of smoking
6. Put aside the money you will save.
7. Reward yourself for milestones.
8. Plan ahead for trigger situations and how you will handle them
  - driving
  - after meals
  - bars, restaurants
  - socializing with friends

9. Choose a support person and solicit their help.
10. Tell everyone you have stopped smoking. Make it hard to return to smoking.
11. Avoid smokers.

## Smoking Recovery Symptoms

People can experience a wide range of physical and emotional reactions when they quit smoking. These are commonly called withdrawal symptoms, but they are also your recovery symptoms: the signs that your body is adjusting to life without nicotine. Recovery symptoms begin about 1 or 2 hours after your last cigarette and are most intense for the 3 days that follow quitting. It takes several months to flush the nicotine out of your entire system.

Stopping or reducing nicotine intake causes at least 5 of the following recovery symptoms within 24 hours:

- 1) **Coughing** – When you quit smoking the cilia, or little hairs lining your breathing passages, return to their normal function and clear the mucus out. Coughing is part of this process.
- 2) **Mouth Sores/Bad Taste/Sore Throat** – The mouth and throat are somewhat numbed by smoking. When you quit you can feel the damage smoking did. It may also be due to the body chemicals used to counteract the effects of the toxins in cigarette smoke. Use an oral pain reliever for sores or see a doctor or dentist. Use mouthwash or breath mints for the bad taste.
- 3) **Headaches** – Blood vessels dilate due to withdrawal from nicotine which may cause headaches during the first few days. Deep breathing is a good coping strategy when this happens.
- 4) **Dizziness** – Smokers metabolize caffeine differently from non-smokers which means a smoker needs to drink more coffee than a non-smoker to get the same effect. As a result, if you don't lower your caffeine intake when you quit, you can suffer from headaches, dizziness or nervousness. Sit down and rest until it passes.
- 5) **Tiredness** – Nicotine is a stimulant, so when you quit smoking you may find you feel more tired than usual. An extra hour of sleep each night and exercise can help. In time you will have more energy.
- 6) **Lack of Concentration** – The “hit” of nicotine on your brain, plus the psychological association between smoking and work often means you light up to focus on a task. When you quit it might seem as if you're not as alert. Try deep breathing and avoid alcohol and caffeine.
- 7) **Restlessness** – When you quit you become sensitive to the nicotine remaining in your body. This might make you feel on edge for a while. Drink water, swim, and walk to flush the nicotine out of your body.
- 8) **Constipation or Diarrhea** – Smoking can alter the normal functioning of your bowels. When you quit you may experience some disturbances. Prunes, dried fruit or bran can get rid of constipation. Avoid caffeine to prevent diarrhea.

- 9) **Sleep Disturbances and Dreaming** – These are also a temporary part of your body's adjustment to the loss of nicotine. Deep breathing and relaxation exercises can help you achieve a more restful sleep.
- 10) **Sense of Loss** – Quitting an activity that has been a major part of your life can make you feel very sad. You may feel you're missing something. This sense of loss will pass with time. Try to stay busy.
- 11) **Sugar Craving** – Many ex-smokers experience strong cravings for sugar and sweets. Some researchers say it's because you can taste better. Some say nicotine causes glucose stored in the liver to be released into the bloodstream. It's a good idea to keep lots of healthy foods handy so you won't be tempted into swapping your cigarettes for sugar. Drinking lots of water and exercising can help.

## Second-Hand Smoke: A First-Hand Health Hazard

It's not only smoking that is dangerous to a person's health. Second hand smoke, or the smoke exhaled by smokers and rising from a burning cigarette, also has dangerous health effects. This is particularly the case for those living with smokers, who are exposed to second-hand smoke frequently.

### Consider these facts:

- Two-thirds of smoke from a cigarette is not inhaled by the smoker, but enters the air around the smoker.
- Second-hand smoke has at least twice the nicotine and tar as the smoke inhaled by the smoker.
- Regular exposure to second-hand smoke increases a person's chances of contracting lung disease by 25 percent and heart disease by 10 percent.
- Second-hand smoke aggravates symptoms in people with allergies and asthma, and can cause eye, nose and throat irritations, headaches, dizziness, nausea, coughing, and wheezing in otherwise healthy people.
- Infants and children exposed to second-hand smoke are more likely to suffer chronic respiratory illness, impaired lung function, middle ear infections, food allergies and can even succumb to sudden infant death syndrome.

Visit [www.gosmokefree.ca](http://www.gosmokefree.ca) for more information

## CHAPTER 11: CARDIOVASCULAR SYSTEM

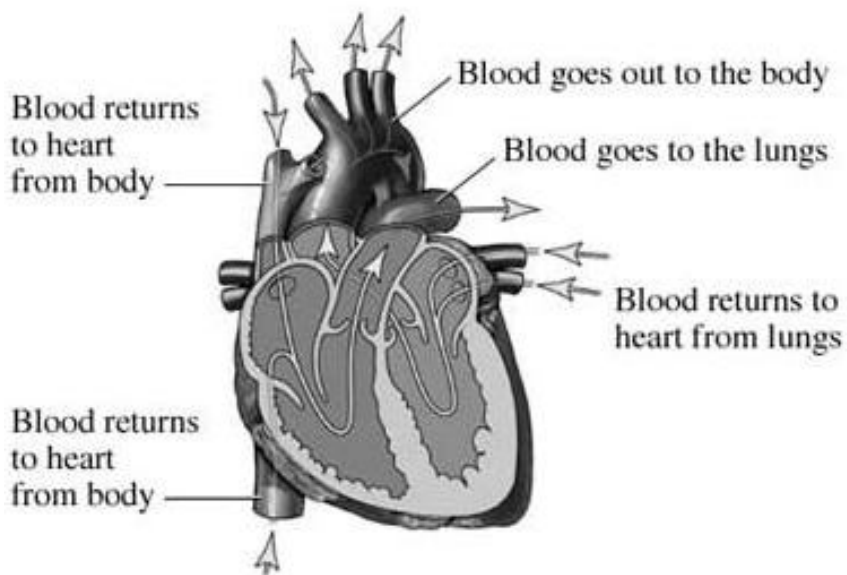
### Cardiovascular System

- Consists of the heart, blood vessels and blood
- The heart serves as the pump
- Blood vessels act as delivery routes throughout the body
- Blood is the carrier of oxygen, nutrients and other products essential to living tissue

### Heart Anatomy

The heart is a strong, four-chambered, hollow, muscular organ about the size of one's fist. It weighs anywhere from 7 – 15 ounces and lies in the center of the chest, tilted slightly to the left.

Picture the structure of the heart as a two-storey duplex. The heart is divided into two halves by a wall or septum. Each side has 2 chambers: a top and a bottom, with a valve in between. The smaller chambers are on top. They are called the right and left atria. The bottom chambers are larger and are called the right and left ventricles.



## The Pumping Station

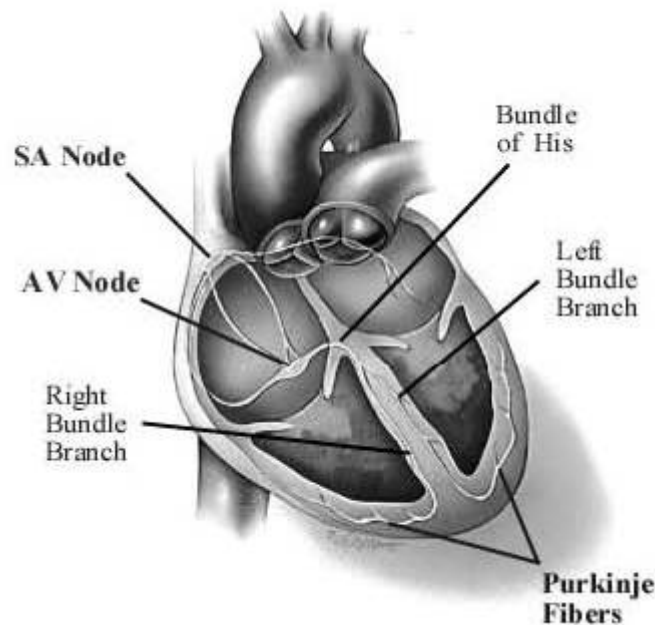
The right atrium receives unoxygenated blood from the body. The blood is then squeezed into the right ventricle. From here, it is pumped to the lungs where it picks up oxygen. This blood returns to the left atrium and is squeezed into the left ventricle. The left ventricle then pumps the blood to all parts of the body. This process is a coordinated continuous cycle.

## Electrical System

The electrical impulse, which starts the heartbeat, begins in the Sinoatrial Node (SA), located in the right atrium. This is also known as the pacemaker of the heart. The impulse travels across both atria, causing them to contract.

From there, it travels to the AtrioVentricular Node (AV) then on to the Bundle of HIS, and eventually divides into the Purkinje Fibres, causing the ventricles to contract. The contraction is followed by a moment of relaxation, as the ventricles fill with blood in anticipation of the next impulse.

The SA Node will cause the heart to contract 60 – 100 beats per minute (normal heart rate). If the SA Node is not working correctly, then the AV Node can take over the job, but only stimulates at 40 – 60 beats per minute. If both nodes fail, the Purkinje Fibers can pace the heart, but at a rate of 20 – 40 beats per minute.

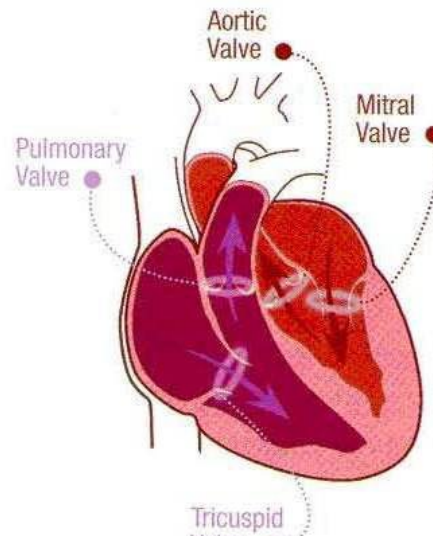


## Valves

Four valves control blood flow through the chambers of the heart. When working properly, the valves allow blood to flow in only one direction. They open to let blood through and close to prevent blood from flowing back the way it came. Pressure changes behind and in front of the valves allow them to open their flaps like doors.

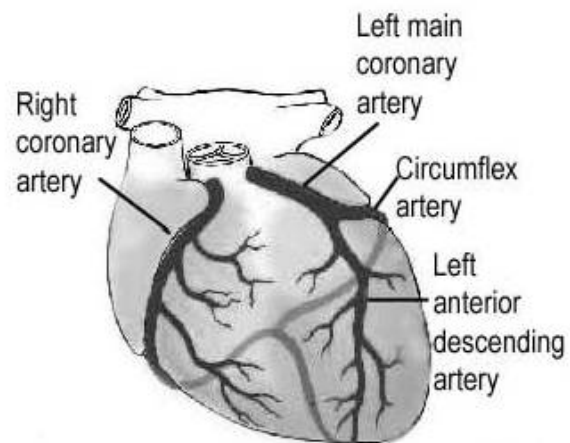
There are 4 valves in the heart:

- 1) **Tricuspid Valve:** Has 3 leaflets and separates the right atrium and right ventricle.
- 2) **Mitral Valve:** Has 2 leaflets and separates the left atrium and left ventricle.
- 3) **Pulmonary Valve:** Has 3 leaflets shaped like half moons and is located between the right ventricle and the pulmonary artery, leading to the lungs.
- 4) **Aortic Valve:** Has 3 leaflets shaped like half moons and is located between the left ventricle and the aorta, leading to the body.



## Coronary Blood Supply

The heart has its own blood supply through coronary arteries, which run over the surface of the heart. These blood vessels are the first to receive blood from the aorta. There are two main coronary arteries which divide into smaller branches over the heart; the right coronary artery and the left coronary artery.



## CHAPTER 12: CARDIOVASCULAR DISEASES

### Atherosclerosis

Also known as “hardening of the arteries”. It is a process where the inner walls of the arteries become irritated and roughened, collect plaque and become narrowed. This process can affect any of the arteries in the body. When the arteries of the heart become narrow, the supply of blood and oxygen to the heart muscle decreases. If the supply does not meet the demand of the heart, angina develops.

### Angina

Refers to symptoms that occur when your heart muscle temporarily does not get enough blood and oxygen. This discomfort may feel like burning, squeezing, heaviness, or pressure in the chest area, neck, jaw, shoulders, arms or back. A choking sensation and unusual tiredness with every day activities may also be angina. Symptoms of angina usually stop with rest and/or nitroglycerin.

Symptoms usually occur with the 4 E's:

- Exposure to extreme hot or cold temperatures
- Emotional stress
- Eating a large meal
- Exertion

If you experience angina, stop and rest and take one nitro. If the pain is still there after 5 minutes, take a second nitro. If the pain persists after 5 more minutes, call 911 immediately, then take a third nitro spray.

The term unstable angina refers to angina that has changed from its normal pattern or occurs without reason.

See your doctor right away if your angina:

- Occurs more often or becomes more severe or longer in length
- Occurs with less exertion or when resting
- Wakes you up at night
- Is not relieved as quickly or at all with nitro
- Requires you to take nitro more often

## Heart Attack (Myocardial Infarction)

When a coronary artery becomes blocked or spasms, the area beyond the blockage or spasm does not receive blood or oxygen. After an artery has been blocked for 20 minutes, heart cells start to die. This is called a heart attack or a myocardial infarction (MI).

Once a heart attack occurs, the healing process begins. The damaged heart cells do not regenerate but are replaced with inactive, non contracting scar tissue. This process can take up to 6 weeks.

Symptoms can occur at anytime even when the heart is not working hard: with rest or during activity. Symptoms are similar to angina, however can be more severe and will not go away.

They include discomfort or pain in the chest, neck, jaw, shoulders, arms or back. It may feel like burning, squeezing, heaviness or pressure, and may radiate to the arm(s). Feelings of indigestion, nausea and vomiting may occur. Profuse sweating, cool clammy skin, shortness of breath, along with feelings of anxiety and denial of the problem are common.

Symptoms for women can be different and may include, but are not limited to: overwhelming fatigue, palpitations without chest discomfort, back discomfort (between the shoulder blades), tingling in the arms and fingers and possibly abdominal discomfort or pain.

### What should I do?

- Rest and take nitro as instructed
- Call 911, if pain/discomfort does not subside. **DO NOT DRIVE YOURSELF!**
- Chew 2 baby aspirins, or one regular aspirin, unless you are asthmatic or allergic to aspirin

What is collateral circulation? Over time, your heart may respond to a decrease in blood supply by creating alternate routes. These alternate blood vessels are referred to as collateral circulation. Everyone has potential collateral vessels, at least in microscopic form. These vessels normally aren't open, however, may grow and enlarge in some people with coronary artery disease. These new vessels help supply the heart muscle with blood and oxygen in the deprived areas.

**Acute Coronary Syndrome (ACS)** is an umbrella term covering various conditions due to ischemia (or decreased blood flow) to the heart muscle. You may hear your doctor use this term if you have been diagnosed with angina or a heart attack.

## Heart Failure (HF)

HF occurs when the heart beat or contraction is weakened. As a result, blood that should be pumped out of the heart backs up into the lungs and/or other parts of the body. This is a failure of the pumping action of the heart.

HF may be caused by a variety of cardiovascular problems such as:

- Blocked coronary vessels with or without heart attack(s)
- Abnormal heart rhythms
- Enlarged heart muscle (cardiomyopathy)
- Long standing high blood pressure
- Heart valve problems
- Congenital heart disease
- Exposure to toxic substances (including excessive alcohol use)

**Right Sided Heart Failure:** When the right ventricle is not pumping properly, blood will back up into the veins leading to swelling in the feet, ankles and legs and pain/tenderness over the liver area.

**Left Sided Heart Failure:** When the left ventricle is not pumping properly, blood will back up into the tissues of the lungs (fluid on the lungs) leading to shortness of breath and spells of waking up breathless at night.

When the heart is not pumping properly and blood is backing up, there is not enough blood sent to the kidneys. They try to make up for the decrease by retaining fluid, however, this increases the amount of blood the heart has to pump, and as a result, the heart failure is made worse.

Symptoms may be subtle to severe and may include:

- Shortness of breath
- Inability to lie flat due to shortness of breath (requiring more than 2 pillows)
- Fatigue and/or weakness
- Swelling of hands, feet and abdomen
- Rapid weight gain
- Chronic cough, wheezing
- Lack of appetite/nausea
- Possible palpitations/irregular heartbeats

**Treatment:** Medical treatment can prevent further damage and minimize pump failure. The use of diuretics (water pill), ace inhibitors/ARBs (open up the arteries) and digoxin (strengthens the heart contraction) are generally the drugs of choice.

Lifestyle changes can often help relieve symptoms and prevent the disease from getting worse:

- Restricting salt intake
- Limiting alcohol and fluids
- Exercising in moderation
- Weigh yourself daily and notify your doctor if there is a 3 lb. or more weight gain in 24 hours

## Valve Problems

Some people are born with malfunctioning valves that need to be repaired at birth or later in life. Some develop disease in the valves with advancing age, infection or long-standing high blood pressure.

Stenosis is when the valve leaflets thicken, stiffen or fuse together. They may not open wide enough. Because the opening is smaller, only a small amount of blood can flow through the valve. As a result, the heart must work harder to pump blood through the body.

Insufficiency is when a valve doesn't close properly; blood may leak backward. This is also called regurgitation. If too much blood flows backward, only a small amount is left to travel to your body. Your heart will respond by working harder.

When doctors listen to your heart, they are listening to the valves opening and closing, or the "lub-dub" sounds. If a murmur is heard, there is a "swish" sound. This may indicate a valve is not functioning properly. Some murmurs are not dangerous.

**Symptoms:** Vary depending on the severity and type of valve problem. Some people have no symptoms at all. Common symptoms include: chest pain, excessive fatigue, swollen ankles/feet/wrists/stomach, heart palpitations and shortness of breath.

**Treatment:** There are combinations of medications to relieve symptoms, but lifestyle changes, which reduce risk factors, are also very important. If the valve problem is significant, surgery may be required to repair or replace the affected valve(s).

There are 2 types of valve replacements: mechanical and tissue.



1. Mechanical valves are made of metal or plastic, which may cause a clicking sound and tend to be longer lasting. They can promote the formation of blood clots, so blood thinners must be taken for life.



2. Tissue valves come from human or animal donors (usually a pig or cow), have no unusual noises and are tolerated better by the body, but on average last 10 to 15 years. Blood thinners are not required.

## Arrhythmia (Irregular Heart Beats)

Normally, our heart beats in a rhythmical fashion about 60 to 70 beats per minute. The heart rate will increase with exertion and decrease while asleep. The heart relies on an electrical system to control the rate and rhythm of the heart beat.

Occasionally, with heart disease, the rate or rhythm may become irregular. One example is atrial fibrillation, which is the most common abnormal rhythm seen. It causes rapid and uneven contractions in the upper chambers of the heart, making the lower chambers beat irregularly.

The irregular contractions cause blood to pool in the upper chambers of the heart. This increases the risk of blood clots forming. The danger is a blood clot may break free, travel to the brain and cause a stroke, or to the heart and cause a heart attack.

Medications are prescribed to try and slow the rate of the heart and correct the rhythm. If the irregularity does not correct, medications may have to be taken long term. In that case, people will also be on blood thinners to prevent clots from forming.

If you have atrial fibrillation, you may find it difficult to count your heart beats when taking your pulse. They will not be consistent or regular as pauses and/or several beats running together will be felt.

Other problems with the electrical system may cause the heart to beat too slowly. In some cases, a pacemaker may be required if the heart rate is too slow for the heart to function properly.

In other cases, the heart may beat too fast and be ineffective. An internal cardioverter-defibrillator (ICD) may be placed in the same fashion as the pacemaker and may even be part of the pacemaker. The ICD will give a shock to the heart if it is beating too fast and return it to normal rhythm.

## Intermittent Claudication (Peripheral Vascular Disease)

Atherosclerosis can occur in any of the arteries in the body. When plaque causes narrowing in the blood vessels of the legs, blood flow is decreased. Pain is felt with walking, because the working calf muscles are not receiving the oxygen supply they need. This is called intermittent claudication.

If you suffer with intermittent claudication, there are several things you can do to minimize it:

1. When walking, as the calf pain starts to become intolerable, stop and rest until it subsides; then begin walking again. You will discover over time, you will be able walk longer distances with less pain.
2. To prevent the blood vessel narrowing from getting worse: stop smoking, exercise regularly, and lower your weight, blood pressure and cholesterol.

## CHAPTER 13: COMMON DIAGNOSTIC TESTS

### EKG (Electrocardiogram)

An EKG produces a graphic record of the electrical current generated by the beating heart. It's a simple test used to look at your heart's rhythm, size, evaluate the effectiveness of medications, check pacemaker performance and help in the diagnosis of a heart attack. Electrodes are placed on your chest and a tracing is taken of the electrical activity of your heart. It can be used alone or with other tests.



### Holter Monitor

This test records the heart's electrical activity for 24 hours. Electrodes are worn and record the electrical impulses of your heart. This information is sent to a recorder, which is carried during the test. At the same time, you are asked to write down all of your daily activities, so the doctor can analyze the EKG tape with reference to these activities.

### Stress Test (GXT; Graded Exercise Test)

The GXT evaluates the heart's ability to tolerate increased physical stress, while walking on a treadmill or riding a stationary bicycle, and being monitored by an EKG. As you work harder, your heart beats faster and the doctor will watch the monitor to see how your heart tolerates the faster rate. Unless there are complications, you will continue with the GXT until your target heart rate is reached, you become fatigued or experience heart symptoms. Following this test, you will be given an exercise prescription based on the results.

### MIBI Test

This is a two part nuclear medicine test, assessing the blood flow to the heart muscle at rest, then with exercise. You are injected with a mildly radioactive substance, which is quickly absorbed by the healthy heart cells but not by the damaged ones. A camera scans your chest on both days, taking pictures of the heart to identify areas of damage and/or decreased blood flow.

## MUGA (Multiple Gated Acquisition Scan)

A MUGA scan determines how well the ventricles are contracting. It also estimates the amount of blood ejected from the heart with each contraction. This is called the ejection fraction. You are injected with a mildly radioactive substance that travels through the left ventricle. Several pictures of the heart are taken at different angles to indicate how the heart is pumping. A normal ejection fraction is between 60 – 70%.

## Echocardiogram (Ultrasound)

During this test, sound waves are used to evaluate the structure of the heart. A gel is placed on the chest and a transducer or wand passes over the heart area. It will detect an enlarged heart, valve problems and excess fluid in the sac around the heart. It also measures heart chamber size and wall motion. This test also determines an ejection fraction.

## Angiogram

This is a procedure using a catheter, which is threaded through an artery in the groin or arm to the heart. A dye is injected through the catheter, which shows up on x-ray. This allows the doctor to view the coronary arteries and detect narrowing and blockages.

## Angioplasty (PTCA)\*

\*Percutaneous (through the skin), Transluminal (passing through a cavity within a tube), Coronary (arteries that supply the heart with blood), Angioplasty (surgical repair of blood vessels)

A catheter is fed through an artery in the groin or arm to the heart and into a narrowed coronary artery. During an angioplasty, the catheter has a tiny balloon at its tip. Once in place, the balloon is inflated to push the blockage against the arterial wall. This opens the artery and allows blood to flow through.

A stent is a mesh tube, usually made of stainless steel, left inside the coronary artery after an angioplasty. The catheter, with a tiny balloon at its tip, has the stent overlapping the balloon. Once the balloon is inflated, the stent expands and stays in place. Having the stent in place has proven to be more successful in keeping the artery open.

## Coronary Artery By-Pass Graft (CABG)

When a blocked coronary artery cannot be fixed with angioplasty, or there are too many blockages, a by-pass may be performed. The surgeon will take an artery or vein from the leg, arm or inside the chest. The breast bone is cut open to expose the heart. The surgeon sews on the grafts to redirect blood to bypass the diseased or blocked arteries.

## CHAPTER 14: HEALTHY EATING

### Healthy Eating Tips

A healthy eating pattern is vital for good health. Healthy eating involves several choices to be made by you and your family.

#### 1. Enjoy a variety of foods

Try something new! Eat as many different kinds of food as you can. A variety of foods will help:

- boost your immune system
- provide essential vitamins and minerals
- provide antioxidants that can prevent cancer and heart disease
- maintain a healthy body weight

#### 2. Plan to eat 3 times a day, 4-6 hours apart

- Eat smaller meals more frequently (i.e. 3 meals, 3 snacks)
- Space your meals throughout the day to help control appetite, lower LDL and lower blood sugar

#### 3. Create meals that include foods from 3-4 food groups from Canada's Food Guide

- A meal with grains, fruits and vegetables, milk products and meats and alternatives gives you energy and balance.

#### 4. The amount of fat you eat everyday can affect your heart health.

Fat helps us absorb the fat-soluble vitamins A, D, E, and K. Fat can also give food taste, texture and provide a feeling of fullness and satisfaction after eating. Although you do not need a lot of fat from foods, you do need some. Certain fats are essential to life and can only be obtained through your diet. These fats are important for growth and development.

Too much fat can be harmful...

- A diet high in fat has been linked to a higher risk of serious health problems, such as heart disease, obesity, and some cancers.

Did you know...?

- Canadians consume 38% of their total daily calories from fat
- The Heart and Stroke Foundation of Canada recommends that we should consume less than 30% calories from fat on a daily basis
- To put 30% of total calories into perspective:

The average person consuming 1600-1800 kcals per day should reduce their daily fat intake to about 50-60 grams of fat or less.

The average person consuming 1900-2200 kcals per day should reduce their daily fat intake to about 65 –75 grams of fat or less.

Where do we find fat in foods?

- Fats and oil (butter, margarine, lard, shortening, mayonnaise, salad dressings)
- Prepared foods (fast-foods, snack-foods, baked goods made with fat like shortening, oil, or lard)
- Nuts and seeds
- Milk products such as milk, cheese, cream, yogurt (except lower-fat and skim milk products)
- Meat, poultry, fish

Although reducing the amount of fat in your day is important, you shouldn't eliminate all of it!

## To Lower Your Fat Intake

- Choose lower-fat dairy products such as milk, yogurt, and cottage cheese containing 2% M.F. or less.
- Eat smaller amounts of lean meat, poultry and fish (See Portion Control: Handy for Health on page 47 in the Chronic Disease Manual to guide you with food portions).
- Prepare and cook food using as little added fat as possible.
- Bake, broil, grill or barbecue meats to reduce the fat.
- Choose desserts like fruit or low-fat frozen yogurt instead of rich desserts like ice cream and pastries.
- When eating out, ask for sauces, dressings and oil on the side...so YOU can control how much you have.

Tip: To reduce fat in cooking, use an oil spray in cookware instead of butter, oil or margarine or use a non-stick pan.

## 5. There are different types of fats found in foods

Even though the number one thing to remember is to reduce the amount of fat in your diet, it's also important to choose the right types of fats.

## Introducing the Good, the Bad and the Ugly

### **The Good: Unsaturated Fats**

- Plant based products
- Usually liquid at room temperature
- Using small amounts of unsaturated fats can help to lower blood cholesterol (See Wise Fat Choices on page 38 in the Appendix for suggested amounts)

There are 2 types of unsaturated fats:

### **Monounsaturated Fats (Omega 9)**

- Monounsaturated fats are the recommended fat of choice because they lower LDL (good) cholesterol and may help to increase HDL (good) cholesterol.
- Include small amounts of these in your diet: olive oil, canola oil, peanut oil, almonds, avocado and non-hydrogenated margarines from canola and/or olive oil.

Are all nuts healthy to eat?

Yes, but don't go nuts over ALL nuts...almonds and walnuts are the preferred nuts of choice because some nuts such as hazelnuts, pecans, pistachios and peanuts contain higher amounts of saturated fat (bad). Remember, portion control is very important (limit to ½ cup per day).

### **Polyunsaturated Fats**

- There are many different kinds of polyunsaturated fats found in foods. Each type has a different action in our body.
- Which type works the best?...Omega 3 Fats! Why?...They can lower LDL and can also lower Triglycerides (TG)
- Sources of Omega 3 Fat:

-Tuna	-Ground Flax Seed	-Halibut
-Canola Oil	-Omega 3 Liquid Pro Eggs	-Trout
-Wheat Germ	-Flax Seed Oil	-Sardines
-Mackerel	-Walnuts	
-Pollock	-Salmon	
- For further ways to lower your Triglycerides see page 45 in the Appendix.
- Other Polyunsaturated fats act only to lower LDL.
- Sources of Omega 6 Fat:

-Safflower Oil	-Sunflower Oil
-Corn Oil	-Non-hydrogenated margarines made from these oils

### Move to a Mediterranean Way of Eating!

People in Mediterranean countries have a lower incidence of heart disease and are less likely to die from heart disease than people in North America. One of the reasons for this may be the type of food eaten in this culture.

- Lots of fruits and vegetables, legumes and grains
- Olive oil as the main source of fat
- Lean red meat eaten only a few times a month (or more often in very small portions)
- Low to moderate consumption on other foods from animal sources such as fish, poultry, and dairy (especially cheese and yogurt)

### The Bad: Saturated Fats

- Are solid at room temperature
- Include all animal foods and tropical fats
- These fats will raise your LDL
- Limit your intake to 15 grams of saturated fat per day
- Sources of saturated fats:

Meat	Cocoa Butter	Palm Kernel Oil
Cheese	Poultry	Milk
Lard	Cream	Butter
Palm Oil	Hard Margarine	Coconut Oil

### The Ugly: Trans Fats

- A fat formed by hydrogenation. This is an industrial process where hydrogen is added to harden liquid fat (oil), the oil changes into a solid fat (hard margarine).
- Trans fats hit you with a double whammy:
  - They raise LDL more than saturated fats
  - They lower HDL (the good cholesterol that hauls away excess cholesterol)
- Trans fats are formed from the process of hydrogenation.
- Be on the alert for Trans Fat! Look out for these words on ingredient lists:
  - Shortening
  - Hydrogenated Margarine
  - Hydrogenated Vegetable Oil
  - Partially Hydrogenated Vegetable Oil
- Be wary of restaurant foods prepared with these fats. For restaurant tips, see How to Make Healthy Restaurant Choices on page 49 in the Chronic Disease Manual.

Remember: the most effective ways to lower blood cholesterol are to:

- Attain a healthy weight
- Be physically active
- Lower total fat intake
- Lower saturated fat intake and trans fat intake

Keep dietary cholesterol intake under control.

(Dietary cholesterol is different than blood cholesterol)

A high intake of dietary cholesterol can increase blood cholesterol. High blood cholesterol can lead to hardening of the arteries and can raise your risk of having a heart attack. Limit cholesterol intake to less than 200 mg. per day.

Sources of cholesterol in foods are:

- Egg Yolks
- Liver
- Meat intake greater than 6 ounces (180 grams) per day

## 6. Boost your fibre intake

If you are planning to increase the fibre in your diet, go slowly! A gradual increase in the amount of fibre you eat will give the bacteria in your intestines time to adjust to the change. If you add too much fibre to your diet too fast, you may have symptoms such as gas, diarrhea, cramps and bloating. You will also need to drink 6 to 8 cups (1.5 to 2 litres) of fluid each day for the fibre to work.

**The nutrition recommendations for Canadians do not specify the exact amount of fibre we need to eat. It is generally recommended however that adults aim for 25-35 grams of fibre per day.**

### **Add More Fibre to Your Day**

- Eat at least 5 servings of whole grain products every day
- Use whole-wheat bread when making toast or sandwiches
- Add 1-2 tablespoons of bran or a very high fibre cereal such as Bran Buds® to your favourite cereal in the morning
- Eat the peels of your vegetables and fruits whenever possible
- Eat fruit instead of drinking juice
- Add barley, peas or lentils to soups and casseroles or sauces
- Compare food labels to find out which products are highest in fibre (high fibre foods have more than 5 grams of fibre per serving)

## 7. Use salt or sodium sparingly

Sodium...You Need Some!

- Sodium is a mineral that occurs naturally in food
- It helps to maintain proper fluid balance
- It helps to regulate your blood pressure
- It transmits nerve impulses
- It helps your muscles relax, including your heart muscle

### How Much Is Enough?

- Most Canadian adults only need 1200-1500 mg of sodium each day
- Consult your dietitian about your specific needs

### Link to High Blood Pressure

- High blood pressure is a major risk factor for heart disease and stroke. It is determined by many factors including family history, being overweight, physical inactivity, alcohol intake and smoking.
- Why is there so much attention on sodium? Most people are not affected by excess dietary sodium – their bodies just get rid of the extra - but 1 in 3 people have blood pressure that is sodium sensitive. For these individuals, too much sodium in their diet contributes to high blood pressure.
- There's no way to predict who may have blood pressure that is sodium-sensitive.

### Ways to Reduce the Sodium in Your Diet

- Take the salt shaker off the table
- Limit your use of salt in cooking
- Use fresh or frozen foods more often
- Avoid canned and “pickled” vegetables
- Limit convenience foods such as dried and canned soups and mixes, TV dinners, casserole mixes, meat and poultry coating mixes, potato chips, Cheezies and salted nuts
- Watch out for salt-preserved foods (smoked, salted, cured or corned products) like smoked salmon, bacon, ham, corned beef and pepperoni-like luncheon meats
- Experiment with other spices and flavouring instead of ones that contain “salt” like onion salt, garlic salt, celery salt, etc.

Lifestyle Change	Top Number	Bottom Number
Regular Aerobic Exercise	-5	-4
Dash Diet	-11	-5.5
Weight Loss (3%-9%)	-3	-3
Reduced Salt	-5	-3
Alcohol Smoking	-4 Each Cig is equal to +10	-2.5 ? arteries

## 8. Limit intake of caffeine to 400 mg per day

- High caffeine intake may affect heart rate, anxiety levels and/or sleeping patterns

Caffeine Content of Common beverages	
Coffee: per 175 ml cup	
Automatic percolated	72-144 mg
Filter Drip	108-180 mg
Instant Regular	60-90 mg
Ground Beans	66-78 mg
Instant Decaffeinated	< 6 mg
Tea: per 175 ml cup (depends upon amount of steeping)	
Weak	18-24 mg
Strong	78-108 mg
Soft Drinks	
1 can	28-64 mg

## 9. Plant Sterols have the ability to lower your LDL by 10%

- Recommended level 2 grams/day.
- Fortified plant sterol foods or supplements are the only way to get your daily required amount
- Some calorie reduced margines have plant sterols added
- Some fruit juice have plant sterols added
- Check the product label for the terms; phytosterol, plant sterol, or sterol esters
- Plant sterols are not advised for children or pregnant women

## TRIGLYCERIDES

### How to Reduce Fat When Cooking

- Triglycerides are a “storage form of fat”
- Triglycerides are produced by the body in the conversion of excess calories into fat
- High triglyceride levels in combination with other cardiac risk factors increase the risk of Coronary Artery Disease
- Sugars and alcohol contribute to more triglycerides
- High triglyceride levels are often associated with obesity, uncontrolled diabetes and excessive alcohol consumption

**Recommended Triglyceride Level: < 1.7 mmol/L**

### What do you do if you have high triglyceride levels?

- Achieve and maintain a healthy body weight
- Choose foods low in saturated fat and dietary cholesterol
- Add foods rich in Omega 3 fat, such as salmon, mackerel, tuna, or Omega 3 Liquid Pro Eggs, at least 3 times per week
- Choose 30% or fewer calories from fat per day
- If you smoke...quit!
- Increase your physical activity (pending advice of the Cardiac Rehabilitation Team and your physician)
- If you don't drink, don't start; If you drink alcohol, follow moderate guidelines:
  - For women: no more than 1 drink per day, to a maximum of 9 drinks in one week
  - For men: no more than 2 drinks per day, to a maximum of 14 drinks in one week
  - One drink equals: 1.5 oz. of spirits, 12 oz. of beer, 5 oz. of wine
- Limit sugar intake
- If you have diabetes, make sure your blood sugars are controlled
- Increase fibre intake to a minimum of 25 grams per day
- Distribute food intake evenly throughout the day
- If you are having concerns about food choices, you can schedule an appointment with a dietitian; For more details stop by the Front Desk or call (204) 632-3910

## PORTION CONTROL: HANDY FOR HEALTH

*Adapted from the Winnipeg Regional Health Authority Resource*

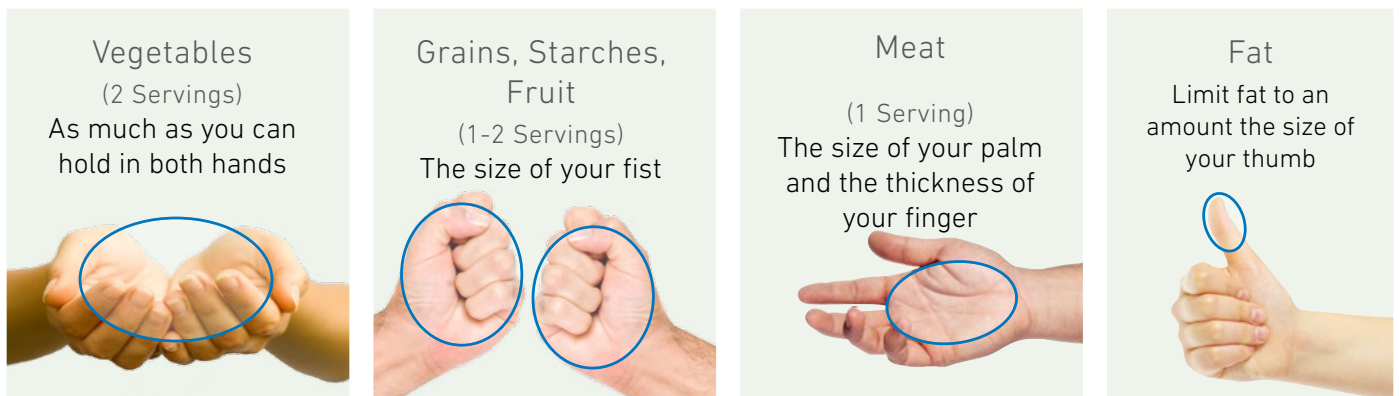
**Watching your portion sizes is the key to management for health.**

Using portion control will:

- prevent overeating and weight gain
- help with weight loss
- help with weight maintenance
- help you to choose at least 3 of the 4 food groups found in Eating Well with Canada's Food Guide

**Your hands can be very useful in choosing appropriate portions.**

When planning a meal, use the following portion sizes as a guide:



**You can also try using the plate portion method:**

### **Vegetables:**

Vegetables provide lots of nutrients and few calories. Try filling  $\frac{1}{2}$  your plate with 2 kinds of vegetables.

### **Grains & Starches:**

Grain and starch provide energy and fibre. Fill  $\frac{1}{4}$  of your plate with potatoes, rice, pasta, bread or cereal.

### **Meat & Alternatives:**

These foods are a great source of protein. Remember beans and lentils also provide fibre. Fill  $\frac{1}{4}$  of your plate with fish, lean meat, chicken, beans and lentils.



## LOW FAT COOKING

### How to Reduce Fat When Cooking

1. Sauté or stir-fry vegetables, use water, fruit juice or broth instead of oil, margarine or shortening (try softening the vegetables in the microwave before adding them to the recipe).
2. Use vegetable oil spray on pans, pots, grills or cookie sheets.
3. Use a non-stick pan to brown ground meats; drain any fat or juices on a paper towel or strain before adding remaining ingredients.
4. Try broiling, poaching, baking, steaming, roasting, micro-waving or barbecuing instead of frying.
5. When roasting meats, place them on a rack to allow fat to drip from meat while cooking.
6. Remove the skin from chicken and meat before cooking (and definitely before eating).
7. Chill soups, stews, gravies and canned soups so you will be able to remove hardened fat from the surface.
8. For same day soup or stew, fill slotted spoon with ice-cubes. Submerge spoon ½ inch below surface of soup. The fat will harden and stick to the ice-cubes. Throw ice-cubes away. Repeat process with fresh ice-cubes.
9. When marinating meat, reduce the oil in the marinade; it is the acid in the marinade that tenderizes the meat (e.g. lime juice, lemon juice, pineapple juice, vinegars).
10. To flavour meat, use herbs and spices instead of sauces.

### Low Fat Food Preparation Tips

1. On toast, use small amounts of jam instead of margarine.
2. If having peanut butter on toast, omit the margarine.
3. When making a sandwich, use salsa, or mustard instead of margarine.
4. Use margarine or low fat-mayonnaise on only 1 slice of bread for each sandwich.
5. Use applesauce on top of pancakes instead of margarine or butter.
6. Use milk in your coffee instead of cream.
7. Use flavoured vinegars on salads.

## Reducing Fat in Recipes

Changing an ingredient in a recipe will help to lower fat intake.

Instead of:	Choose:
Whole Milk for baking and puddings	Skim milk, 1% M.F. milk
Whole Eggs	Use – 2 egg whites for 1 whole egg or ¼ cup commercial egg substitute
Butter	Non-hydrogenated margarine (reduce amount of fat in recipes by ⅓)
Shortening/Lard	Oil (less oil will be required) 1 cup shortening = ¾ cup oil ½ cup shortening = ⅓ cup oil For pastries, try replacing 1 cup lard with ½ cup non-hydrogenated margarine and ½ cup plain yogurt
Ground Flax Seed	3 Tbsp. of ground flax seed can replace 1 Tbsp. of oil or shortening (for every 3 Tbsp. of flax added increase the amount of liquid by 1 Tbsp.)
Sour Cream in dips	Low fat sour cream, low fat yogurt, blended cottage cheese, or low fat milk
Sour Cream in cooked desserts	Low fat sour cream, fat-free yogurt (to prevent separating; add 1 Tbsp. corn starch or 1 Tbsp. flour to yogurt mixture)
Cream Cheese	1% M.F. cottage cheese (blended) or low fat cream cheese (in baking, add 1 Tbsp. flour to mixture to thicken product)
Chocolate Chips or Nuts	Raisins or dried fruits for ½ or all of the chips and nuts; Replace nuts with crunchy cereal such as GrapeNuts™
Ground Beef	Skinless, boneless ground turkey breast Extra lean ground beef Yves® Ground Round Try 250 g. extra lean ground beef plus 1 can cooked lentils (drained and rinsed) to replace 500 g. regular ground beef
Cheese (>20% M.F.)	Low-fat cheese (< 20% M.F.) Or small amount of higher fat strong flavour cheese
Mayonnaise	Mustard, salsa, low fat mayonnaise or fat-free sour cream

## SODIUM CONTENT OF FOODS

Less than 10 mg.	150 mg. to 200 mg.	500 mg. to 600 mg.
Cream of Wheat	Black Jumbo olives, 5	Bread Stuffing Mix, ready, ½ cup
Dry Cottage Cheese, no salt	Block Cheddar Cheese, 1 oz.	Hot dog (wiener only)
Fresh Vegetables	Branflakes, ½ cup	Macaroni & Cheese, box, 1 cup
Fruit/Fruit Juice	Ketchup, 1 Tbsp.	
Herbs and Spices	Olives with Pimiento, 5	<b>600 mg. to 700 mg.</b>
Honey	Prepared Mustard, 1 tsp.	Bacon, 3 slices
Macaroni, Rice (dry, plain)	Sardines, in tomato sauce	<b>700 mg. to 800 mg.</b>
Red River Cereal	Steak sauce, 1 Tbsp.	Canned soup, 1 cup
Shredded Wheat	Whole wheat bread, 1 slice	
Unsalted Margarine		<b>800 mg. to 900 mg.</b>
Unsalted Nuts		Chili beans, ½ cup
Vinegar		Pork Sausage, 90 g.
Oatmeal		
10 mg. to 50 mg.	200 mg. to 250 mg.	900 mg. to 1000 mg.
Beet greens	Canned salmon, drained, 90 g.	Pot pie, individual, frozen
Fresh fish	Canned vegetables, 1 cup	Chicken broth, 1 cup
Frozen vegetables	Cheez Whiz, 1 Tbsp.	Bouillon cube or envelope
Fruit cookie	Instant hot cereal	Salami, 90 g.
Sardines, in oil	Pancake	Pork and Beans, 1 cup
Vanilla wafer	Rye bread, 1 slice	Sauerkraut
White wine	Salad Dressing, 2 Tbsp.	
50 mg. to 100 mg.	250 mg. to 300 mg.	Others:
Celery, 2 stalks	Buttermilk, 1 cup	Baking soda, 1 tsp., 1200 mg.
Cheerios, ½ cup	Potato chips, 15 chips	Soy sauce, 1 Tbsp., 1200 mg.
Chili sauce, 1 tsp.		Fish sauce, 1 tsp. 1500 mg.
Egg	<b>300 mg. to 400 mg.</b>	Salt, 1 tsp., 2300 mg.
Fresh meat, 3 oz.	Instant chocolate pudding ½ cup	
Ice cream, ½ cup	Pickled egg	
Mayonnaise, 1 tsp.	Popcorn, regular, 3 cups	
100 mg. to 150 mg.	400 mg. to 500 mg.	
Canned salmon, drained and rinsed, 90g.	Baking powder, 1 tsp.	
Canned vegetables, drained and rinsed, 1 cup	Cornbread, 2" square	
English Muffin, ½	Feta cheese, 2 Tbsp.	
Hot Sauce, 1 tsp.	Process Cheese slices, 30g.	
Milk, 1 cup	Tomato Juice, 1 cup	
Yogurt, 1 cup		

## GENERAL BAKING TIPS

### General Baking Tips

#### How do you know if your recipe is already lower in sugar?

- $\frac{1}{4}$  cup of sugar for a recipe that serves 12

#### To reduce sugar:

1. Reduce the sugar by  $\frac{1}{2}$  in most recipes. (Some sugar is needed for bulk, browning, and tenderness.)
2. When reducing sugar, try adding nutmeg, allspice, cinnamon or vanilla to enhance flavour
3. When using Splenda (sucralose) for sweetness in a recipe, the substitution for 1 cup of sugar is:  $\frac{1}{3}$  cup Splenda and  $\frac{1}{3}$  cup sugar

#### How do you know if your recipe is already lower in fat?

#### Look for this combination:

##### Recipe

Muffins/Loaves

Plain Cake, Drop Cookies

##### Ingredients

$\frac{1}{4}$  cup of vegetable oil for each 2 cups of flour

$\frac{1}{3}$  cup of non-hydrogenated margarine for each  $1\frac{3}{4}$  cups of flour

#### To reduce fat:

1. Reduce the oil or fat content by  $\frac{1}{3}$  without adjusting any of the other ingredients.
2. Reduce the oil and/or margarine by half and replace that half measure with:
  - Applesauce
  - Shredded zucchini
  - Fruit puree
  - Baby food fruit
  - 1% M.F. milk
  - Equal amounts of applesauce and orange juice to replace all the oilExample: 1 cup of margarine in original recipe becomes  $\frac{1}{2}$  cup margarine and  $\frac{1}{2}$  cup applesauce in your new modified recipe
3. In recipes where you have reduced the fat, muffins will stick to the paper liners. Try spraying the liners with vegetable oil spray before filling or use a non-stick muffin tin.
4. Keep low fat muffins in the refrigerator or freezer for best texture and flavour.

**Note:** *If you are reducing oil in a recipe and reducing sugar, do not replace both with pureed fruit or liquid. The product will become too gummy.*

## HOW TO REDUCE SODIUM IN FOOD PREPARATION

Small amounts of sodium are naturally found in foods.

Salt is the major source of sodium in our daily food selections.

When salt is added to foods at home or in store-bought items, it can create large amounts of sodium in servings of food.

### **Tips to Reduce Sodium (Salt) in Daily Food Preparation**

- Fresh is best: choose fresh unprepared foods whenever possible.
- Use fresh or frozen vegetables instead of canned. If canned vegetables are used, drain and rinse veggies to reduce the salt (by 40%).
- Drain and rinse canned salmon and/or tuna.
- Taste your food before adding salt. If you must add salt, gradually decrease the amount you use to retrain your taste buds to recognize other flavours.
- Try lemon juice, pepper, herbs or spices to add flavour to salads, soups or casseroles.
- Add only  $\frac{1}{2}$  the salt to recipes. Note: When cooking pastas, cereal, potatoes, rice or vegetables, it is not necessary to add salt.
- If a recipe calls for baking soda or baking powder, you can omit the salt completely.
- Make homemade stock for soup.
- Use low sodium broths or low-sodium bouillon as a soup base. The quantity can be diluted (i.e. 1 cup of bouillon and 3 cups of water can replace 4 cups of bouillon or stock in a recipe).

### Low-sodium Seasoning Suggestions

1 tsp. dried spice = 1 Tbsp. fresh. When using fresh, add in last 10 minutes of cooking

Allspice	Spaghetti sauce, sweet potatoes, squash, fruits, muffins, loaves, cookies
Basil	Vegetables, salads, noodles, rice, beef stew, casseroles, fish, salad dressing
Bay Leaf	Soups, chowders, meats, fish, pot roast, stews, marinades
Caraway Seed	Vegetables, meats, marinades, rye bread, rice, cookies
Cardamom	Sweet potatoes, squash, soup
Cayenne Pepper	Meat, fish, poultry, cheese dishes, spaghetti, dips, soups, curries, vegetables
Celery Seed	Vegetable salads, breads, meat, stuffing, salad dressing
Chili Powder	Marinade, barbecue sauces, stews, meats
Cinnamon	Beverages, fruits, cookies, muffins
Curry Powder	Marinades, meats, poultry, fish, dried beans, salad dressings
Dill Seed	Bread, salads, green beans, egg dishes, stews, fish, chicken
Garlic	Meat, poultry, fish, soups, sauces, salads, salad dressings, tomatoes
Ginger	Soups, vegetables, meats, fruit, beverages, cookies, muffins
Mustard (Dry)	Salad dressings, meat, poultry, vegetables
Mustard Seed	Roast beef, coleslaw, potato salad, boiled cabbage
Nutmeg	Seafood, vegetables, hot beverages, puddings, fruits
Oregano	Tomatoes, onions, sauces, casseroles, soups, salad dressings
Paprika	Meat, poultry, fish, dressings
Parsley	Soups, salads, breads, tomato and meat sauces, stuffing, poultry
Pepper (Black)	Meats, poultry, fish, vegetables
Sage	Stuffing, poultry, fish, sauces, soups, dried beans, onions, eggplant, tomatoes
Tarragon	Salmon, marinades, poultry, fish
Thyme	Meat, poultry, fish, vegetables
Turmeric	Breads, fish, poultry, rice dishes

*To personalize this list, add the ingredients you need for your favourite recipe*

Aerobic	With oxygen; aerobic exercise occurs when the level of intensity is such the oxygen needs of this activity can be supplied by the body.
Anaerobic	Without oxygen; anaerobic activities are high intensity and the oxygen demand of these activities is higher than can be supplied by body (i.e. sprinting 100 yards).
Aneurysm	A localized blood-filled dilation of a blood vessel caused by disease or weakening of the vessel wall.
Angina	Temporary chest pain or pressure caused by a decreased flow of oxygen rich blood through the coronary arteries of the heart muscle.
Arrhythmia	An abnormal beating or rhythm of the heart. The heart beat may be fast, slow or irregular.
Artery	A blood vessel that carries blood away from the heart to other parts of the body.
Atherosclerosis	A lifelong process of calcium, cholesterol and fatty deposits build-up on the inside of the inner walls of an artery. This is also known as “hardening of the arteries”.
Blood Clot	It is the end result of the clotting process; it is the conversion of free flowing liquid to a semisolid gel.
Blood Pressure	The pressure exerted by the circulating blood on the artery walls, the veins and the chambers of the heart.
Bradycardia	A very slow heart beat.
Cardiac	Anything related to the heart.
Cardiac Arrest	Sudden cessation of cardiac function, resulting in the loss of effective circulation.
Cardiomyopathy	Heart muscle disease often leading to an enlarged heart.
Cardioversion	The restoration of the heart’s normal rhythm by delivery of a synchronized electric shock through two metal paddles placed on the chest.
Cholesterol	A fatty substance naturally produced in the body and also found in animal products: egg yolks, meat, fish, dairy foods, poultry and shellfish. Elevated blood cholesterol can lead to atherosclerosis.

Claudication	A weakness, cramping or tension in the calves caused by poor circulation of blood to the leg muscles. May occur after an extended period of walking & relieved with rest.
Collateral Circulation	The small new blood vessels that develop to bypass narrow and blocked arteries in the heart.
Coronary Arteries	Arteries on the surface of the heart which branch out to supply the heart muscle with oxygen-rich blood.
Defibrillations	A common emergency measure of terminating ventricular fibrillation by delivering a direct electric counter shock to the chest.
Diabetes	A chronic condition characterized by the body's inability to produce or distribute insulin correctly. Diagnosed with a glucose (sugar) blood test.
Ejection Fraction	The portion of blood ejected during each heart beat.
Electrocardiogram (EKG or ECG)	A record which shows the electrical currents produced by the heart. It can help determine any heart abnormalities.
Hypertension	Known as high blood pressure. A persistent elevation of blood pressure makes the heart work harder to pump the blood through the body. Also known as the "silent killer".
Ischemia	Deficiency of blood to a body part; may be due to the constriction or obstruction of a blood vessel.
Lipid	Any variety of fat which is water insoluble (i.e. cholesterol which builds up in the walls on the coronary arteries).
Lipid Profile	A blood test used to determine the value of certain fats in the blood. Lipids commonly tested are cholesterol, HDL, LDL and triglycerides.
MET	A unit used to express the amount of oxygen needed for an activity. The amount of oxygen used by the body during rest is 1 MET.
Obesity	A condition characterized by excessive body fat.
Palpitations	Sensation of unduly rapid and irregular heart beat(s).
Percutaneous Transluminal Coronary Angioplasty (PTCA)	Invasive procedure to enlarge a narrowed coronary artery by balloon compression.

Pulmonary	Anything relating to the lungs.
Pulse	The number of times the heart beats in a minute.
R.P.E. (Rate of Perceived Exertion)	A scale relating to the amount of strain or fatigue experienced during a workout or activity.
Risk Factors	Characteristics which tend to increase the chances of having or developing cardiovascular disease (smoking, high blood pressure, high blood cholesterol, stress and obesity).
SOB	Shortness of breath.
Stress Test (GXT)	Graded exercise tolerance test carried out on a treadmill or stationary bicycle.
Stroke	“Brain Attack”. It may be due to a hemorrhage of a blood vessel or inadequate supply of oxygenated blood as a result of a blockage.
Tachycardia	A fast heart beat.
Thrombus	A blood clot that forms inside a blood vessel or the heart.
TIA (Transient Ischemic Attack)	A brief period of decrease blood flow to the brain lasting less than 24 hours. “Mini/Temporary Strokes”.
Triglycerides	Source of fat found in the blood.
Vasoconstriction	Narrowing of the blood vessels.
Vein	A blood vessel that carries blood from some part of the body back to the heart.
Ventricular Fibrillation	A life threatening heart rhythm marked by pulselessness and lack of blood pressure.

### **Wellness Institute at Seven Oaks General Hospital**

[wellnessinstitute.ca](http://wellnessinstitute.ca)

### **Heart and Stroke Foundation of Manitoba**

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

204-949-2000

1-888-HSF-INFO

### **Canadian Cardiovascular Society**

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

### **Health Check™**

[www.healthcheck.org](http://www.healthcheck.org)

*Smart Choices, Made Simple. The Health Check™ program has been designed by the Heart and Stroke Foundation of Canada to help you with your grocery shopping for wise food choices.*

### **Professional Education**

[www.hsfpe.org](http://www.hsfpe.org)

*This membership site provides information of interest to medical professionals in Ontario. You will find information on current clinical issues, Centres of Excellence, Emergency Cardiac Care, HSF of Ontario research, news and points of view, patient resources and special events, facts and statistics, and much more.*

### **Heart and Stroke Research**

[www.hsf.ca/research](http://www.hsf.ca/research)

*This site is intended primarily for individuals with an interest in the research programs of the HSF of Canada. A more comprehensive site with information relevant for other groups, in particular the general public, is available at [www.heartandstroke.ca](http://www.heartandstroke.ca)*

### **Canadian Diabetes Association**

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

204-925-3800

### **Health Links**

204-788-8200



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