Preventing Diabetes & Heart Disease
Preventing Diabetes & Heart Disease was revised October, 2016 by the staff of the LiveWell Diabetes Program, Saskatoon Health Region
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Introduction

Diabetes and heart disease can be prevented. Most of the risk factors for these conditions are related to lifestyle – you are in control of them.

Today you will learn how to manage risk factors related to both diabetes and heart disease.

You will learn about:

- The significance of monitoring blood sugar levels for people with diabetes and pre-diabetes
- Healthy eating to control risk factors
- Guidelines for exercise
- How to set goals for lifestyle change

We hope that you enjoy the session today and take home the tools you need to get started!

For more information,
Please call 655-2136

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September 2014
Diabetes & Heart Disease
Risk Factors
**Risk Factors Associated with Heart Disease and Diabetes**

Most of the risk factors for heart disease and diabetes are the same. We have control over the majority of these risk factors. Making changes to your lifestyle to prevent diabetes will also help to prevent heart disease and vice versa.

**Definitions:**

**Risk Factors:** habits or traits which may increase your risk of heart disease and diabetes.

**Non-modifiable Risk Factors:** risk factors that you are unable to change.

**Modifiable Risk Factors:** risk factors that you are able to change through lifestyle such as increased activity and healthy eating.

In the following section we will discuss these risk factors:

<table>
<thead>
<tr>
<th>Modifiable risk factors</th>
<th>Non-modifiable risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High Blood Pressure</td>
<td>• Family History</td>
</tr>
<tr>
<td>• Abnormal Cholesterol Level</td>
<td>• Age</td>
</tr>
<tr>
<td>• Being Overweight</td>
<td>• Additional risk factors specific to each disease</td>
</tr>
<tr>
<td>• Elevated Blood Sugar</td>
<td></td>
</tr>
<tr>
<td>• Inactivity</td>
<td></td>
</tr>
</tbody>
</table>

**Family History** (non-modifiable)

If you have parents, grandparents or siblings with heart disease, stroke or diabetes, your risk for developing heart disease and diabetes increases. Do you have a male family member who had a heart event or stroke before age 55? Do you have a female family member who had a heart event or stroke before age 65? If you answered yes to these questions, try to find out more information. Did they have other risk factors? Did they have high blood cholesterol or high blood pressure? This information is helpful as you assess your situation. Your children may now be prone to develop heart disease and diabetes and should be aware of this. “An ounce of prevention is worth a pound of cure.”

**Age**

As you get older, the risk of having a heart event or developing diabetes increases. There are always exceptions to the rule! Some young people have heart disease and / or diabetes while others in their 80’s and 90’s appear fine. However, for most, the older you get, the more age plays a role in the process of heart disease and diabetes. Age is an important factor, but it cannot be singled out as the only factor.
**Hypertension (High Blood Pressure):** (modifiable)

High blood pressure is a very common problem and many people are not aware they have it. It is a major health concern on its own or in combination with other risk factors, especially diabetes. If you have high blood pressure, you are more likely to have a heart event or stroke, kidney or eye problems. High blood pressure affects the body by adding to the workload of your heart and arteries. It speeds up the thickening of arteries and plaque build-up. Your arteries may stiffen and this makes it harder for your heart to pump blood. This can result in an enlarged heart. It becomes a vicious cycle. This is especially true for people who have blood pressure that is not controlled. High blood pressure causes increased wear and tear on the linings of the arteries.

Blood pressure is a measurement of the pressure on the walls of the arteries as the heart pumps blood through them. It is highest when the heart contracts or squeezes, and the blood is pushed out into the arteries. This is the **systolic** or top number. When the heart relaxes between beats, pressure in the arteries goes down. This is the **diastolic** or bottom number.

**Blood Pressure Targets:**

- Those without diabetes:  
  <140/90, <135/85 on home monitors
- Those with diabetes:  
  <130/80, <125/75 on home monitors

**Ways to Control Blood Pressure**

- Reduce your weight
- Cut back or avoid alcohol
- Take medication as prescribed. Talk to your doctor before stopping your pills!
- Quit smoking
- Be physically active everyday
- Learn ways to deal with stressful life events
- Take time to relax
- Reduce sodium in your diet and eat a healthy well-balanced diet
- Monitor your blood pressure regularly
**Cholesterol**: (modifiable)

Cholesterol is a necessary fat found in the blood. Too much cholesterol can add to the plaque build-up in your arteries. This will narrow or block arteries affecting blood flow. In combination with diabetes, this produces a much higher risk of heart disease.

On average the body produces 80% of blood cholesterol – only 20% comes from the food we eat.

Most of your blood cholesterol is made by your liver. When you eat foods high in saturated or trans fat, your liver may make more cholesterol. This is why you should eat less saturated and trans fat.

Foods that come from animals have dietary cholesterol. This cholesterol has only a small effect on your blood cholesterol levels. Limit foods that are very high in cholesterol: egg yolks, organ meats, shrimp and squid.

**HDL (High Density Lipoprotein)** is often called the “good” cholesterol (garbage trucks). The HDL or good cholesterol has the ability to remove “bad” cholesterol from the arteries and take it back to the liver where they are broken down and stored or re-used.

**LDL (Low Density Lipoprotein)** is the “bad” cholesterol (garbage). It is the culprit. (LDL) contributes to the build-up called “hardening of the arteries” or “plaque”. Therefore, the aim is to keep the LDL number as low as possible. You may wish to discuss your readings with your doctor, nurse, dietitian, or exercise therapist.

Your cholesterol levels are determined through a blood test. It is important to check with your doctor for the test results. You must fast 12 hours prior to this blood test.

**Triglycerides** are another type of fat in the body. Its direct role in heart disease is not entirely clear however it is a contributing factor in metabolic syndrome and is more closely linked to diabetes. Large amounts of sugar or alcohol may raise triglycerides. You may also have high triglycerides if you are overweight, do not exercise regularly, or have poorly controlled diabetes.
Cholesterol Target Levels

<table>
<thead>
<tr>
<th></th>
<th>Those with diabetes / kidney disease / CHF / CVD</th>
<th>Those without previous conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total:</td>
<td>&lt;4.0 mmol/L</td>
<td>&lt;5.2 mmol/L</td>
</tr>
<tr>
<td>Trigs:</td>
<td>&lt;1.5 mmol/L</td>
<td>&lt;2.3 mmol/L</td>
</tr>
<tr>
<td>HDL:</td>
<td>&gt;1.0 mmol/L</td>
<td>&gt;0.9 mmol/L</td>
</tr>
<tr>
<td>LDL:</td>
<td>&lt;2.0 mmol/L</td>
<td>&lt;3.4 mmol/L</td>
</tr>
<tr>
<td>Risk Ratio:</td>
<td>&lt;4.0 mmol/L</td>
<td>&lt;5.8 mmol/L</td>
</tr>
</tbody>
</table>

Controlling Abnormal Cholesterol Levels:

- Lose weight
- Change eating habits (see nutrition section of this booklet)
- Increase exercise frequency and/or duration (see exercise section of this booklet)
- Quit smoking
- Take medication if prescribed

Obesity: (modifiable)

Obesity is clearly associated with an increased risk of developing diabetes and heart disease. There is strong evidence that links obesity to increased blood pressure, cholesterol, triglycerides and blood sugar levels. Losing weight, even a modest amount, can significantly improve these numbers.

The body stores all extra calories as fat. We cannot control where we store our extra calories, we only control how much we store. People who carry excess weight around their middle have a higher risk of having heart disease and diabetes than those who carry it around their hips. Fat cells communicate with the rest of the body contributing to increased blood pressure, abnormal cholesterol levels, insulin resistance, etc. It is not always how much you weigh, but where you carry your weight.
**Waist Circumference:**

<table>
<thead>
<tr>
<th></th>
<th>Optimal for Health</th>
<th>Unhealthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male:</td>
<td>&lt;94cm</td>
<td>&gt;102cm (40&quot;)</td>
</tr>
<tr>
<td>Female:</td>
<td>&lt;80cm</td>
<td>&gt;88cm (35&quot;)</td>
</tr>
</tbody>
</table>

(These measurements are considered to be a risk factor for diabetes and heart disease)

The body requires a minimum amount of activity to maintain a healthy body weight. To decrease the amount of calories (fat) that we store, we must work off these calories through daily physical activity. More activity = Less fat storage.

There are psychological, sociological and cultural factors that affect the way we eat. It is important to consider why, where, when, how, and who we eat with to identify triggers or barriers to maintaining a healthy lifestyle.

**Body Mass Index (BMI):**

The Body Mass Index tells you whether you have a high or low risk of developing health problems. It is a ratio of your height and weight.

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Underweight</th>
<th>Overweight</th>
<th>Obesity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18.5 – 25</td>
<td>&lt; 18.5</td>
<td>26 – 29</td>
<td>&gt;30</td>
</tr>
</tbody>
</table>

* BMI does not apply if you are pregnant, breastfeeding, very muscular, under 18 years or over 65 years of age.

To find out more or to calculate your BMI, go to [www.heartandstroke.ca/healthyweight](http://www.heartandstroke.ca/healthyweight)

**1lb of body fat = 3500 calories**

**Walking 2 miles/day (250 calories) x 365 days = 26 lbs lost/year**
Elevated Blood Sugar

Insulin Resistance and the Development of Type 2 Diabetes

- **Insulin** is a hormone that is produced by the body (pancreas). It attaches to special gates on the outside of cells in order to transport sugar (glucose) from the blood into the cells to be used for energy.

- In people with insulin resistance, cells don’t respond to insulin as well as they should and glucose has more trouble entering the cells. The body reacts by producing more and more insulin to help glucose get into the cells.

- The pancreas can only produce extra amounts of insulin for a certain length of time, and then it tires out or can not keep up to the demand. It is at this point where blood sugar levels start to rise.

Blood Sugar Levels

The following is the criteria used to diagnosis diabetes and pre-diabetes based on blood work done at a lab.

**Glucose** is the “sugar” in your blood.

<table>
<thead>
<tr>
<th>Blood Glucose Levels used for Diagnosis of Diabetes and Pre-diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>Impaired Fasting Glucose (IFG)</td>
</tr>
<tr>
<td>Impaired Glucose Tolerance (IGT)</td>
</tr>
<tr>
<td>Diabetes Mellitus (DM)</td>
</tr>
</tbody>
</table>

* Both diabetes and pre-diabetes are considered significant risk factors for the development of cardiovascular disease. Having elevated blood sugars for a prolonged period of time can be damaging to the heart, kidneys, eyes, nerves and blood vessels.
<table>
<thead>
<tr>
<th>mmol/L</th>
<th>BLOOD SUGAR LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>Too High</td>
</tr>
<tr>
<td>28</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2 hours after meals less than 8 mmol/L</td>
</tr>
<tr>
<td>6</td>
<td>The Best! (before meals)</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Too Low</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Checking Blood Sugars for People with Diabetes and Pre-diabetes

- Checking blood sugar will give you information about how well your body is managing the food that you eat and the effect of physical activity on your blood sugars.

- Targets for blood sugar levels:

<table>
<thead>
<tr>
<th>Diabetes Target:</th>
<th>Normal / Prediabetes Target:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before meals: 4.0 – 7.0 mmol/L</td>
<td>Before meals: 4.0 – 6.0 mmol/L</td>
</tr>
<tr>
<td>2 hours after meals: 5.0 -10.0 mmol/L</td>
<td>2 hours after meals: 5.0 - 8.0 mmol/L</td>
</tr>
</tbody>
</table>

- If your blood sugar readings are always above your goal, you will need to change your food, activity or consult with your doctor.

- Write your blood sugar results in a logbook. Always take your records when you go to your doctor appointments.

What supplies do you need?
1. Blood testing strips – each meter uses a different type of strip
2. Meter – machine to tell you blood sugar levels
3. Lancets – needles used to poke your finger
4. Poker – the lancet fits into the poker and helps you to poke your finger
5. Tissue – to wipe blood
6. Record book – to record the date, time and blood sugar number
7. Disposal container – yellow “sharps” containers available from your pharmacy. Use it to dispose of your used lancets.
How often should blood sugars be checked?

- Check four times across the day – usually before breakfast and 1-2 hours after breakfast, lunch and supper.
- Try to check 1-2 days per week.
- Checking across the day gives a more complete picture of your blood sugar over a full 24 hours.
- In addition to your regular checks, it may be helpful to do some “spot checks”. Here are some examples:
  - Check before and after exercise. You will be able to see the effects of activity on your blood sugar.
  - Compare active and inactive days. You may need to change your food intake depending on your level of activity. Comparing active to inactive days may inspire you to be more active!
  - Check your blood sugar after you have eaten something new to see how well your body managed the carbohydrate in that food.

2013 Canadian Diabetes Association guidelines state testing for people with Pre-Diabetes only if needed for lifestyle change reinforcement.

Are the readings reliable?
It is important that you do your blood sugar checking accurately. Carefully read the directions for the blood testing system you use. Ask your pharmacist to help you get started.

What meter should you choose?
It is important you understand the features of your meter. Look at a few different meters and ask your pharmacist before purchasing. The initial kit comes with all of the required supplies; meter, poker, strips and lancets.

What about the costs?
Ask your pharmacist about ways to cover the cost of the supplies such as the provincial health plan, work insurance or other insurance.
Prevention of Diabetes: Is it Effective? YES!!

- Large research studies have shown that patients diagnosed with pre-diabetes (impaired fasting glucose or impaired glucose tolerance) can be prevented from developing type 2 diabetes:
  - Almost 60% reduction in the incidence of type 2 diabetes with lifestyle changes (diet and exercise)
    (Malmo Feasibility Study, Da-qing Study, Finnish Diabetes Prevention Study, Diabetes Prevention Program)
  - only 30% reduction with medication intervention
    (DPP, Stop NIDDM study)

Metabolic Syndrome

- Metabolic syndrome is a collection of health risks that occur together increasing the risk of heart disease, stroke, and diabetes
- Metabolic syndrome is defined by 3 or more of any of the following:

<table>
<thead>
<tr>
<th>Metabolic Syndrome Parameter</th>
<th>Men or Women Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waist circumference</td>
<td>&gt; 102 cm in men</td>
</tr>
<tr>
<td></td>
<td>&gt; 88 cm in women</td>
</tr>
<tr>
<td>Triglyceride concentration</td>
<td>&gt; 1.69 mmol/L</td>
</tr>
<tr>
<td>HDL-C</td>
<td>&lt; 1.04 mmol/L in men</td>
</tr>
<tr>
<td></td>
<td>&lt; 1.29 mmol/L in women</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>&gt; 130/85 mmHg</td>
</tr>
<tr>
<td></td>
<td>&gt; 6.0 mmol/L</td>
</tr>
<tr>
<td>Blood glucose</td>
<td>(Impaired Fasting Glucose</td>
</tr>
</tbody>
</table>
Prevalence and Impact of Metabolic Syndrome

- Percentage of people who have metabolic syndrome:
  - approximately 20 – 25% of the population
  - approximately 75% of cardiac patients
  - approximately 90% of type 2 diabetics
  - Increases the risk of developing type 2 diabetes
    - (risk 5 times greater)
  - Increases the risk of developing cardiovascular disease (risk 3 times greater)

What have we learned over the past 10 years?

- Muscle is the primary user of the body’s glucose.
- Muscle uptakes glucose independent of insulin.
- Regular exercise increases the body’s ability to use insulin and build and maintain muscle mass.
- Obesity is strongly linked to type 2 diabetes, insulin resistance, metabolic syndrome, cardiovascular disease, and also some cancers.
- Physical inactivity is a major underlying cause of obesity.
  - Physical activity independent of weight loss prevents and/or reverses type 2 diabetes, insulin resistance, metabolic syndrome, cardiovascular disease, and some cancers.
Additional Risk Factors Associated with Diabetes

**Ethnicity:** (non-modifiable)

High risk ethnic groups include: Aboriginal, Hispanic, South Asian, Asian and African descent.

**Gestational Diabetes:** (non-modifiable)

Pregnant women who have never been diagnosed with diabetes but who have high blood sugar levels during pregnancy are considered to have gestational diabetes.

**Schizophrenia:** (non-modifiable)

A chronic, severe, and disabling brain disorder.

**Polycystic Ovary Syndrome:** (non-modifiable)

A condition characterized by irregular menstrual cycles, obesity and increased hair growth. Also increases the chances of infertility.

**Acanthosis Nigricans:** (non-modifiable)

Darkened patches of skin.
Additional Risk Factors Associated with Heart Disease

Gender: (non-modifiable)

Over a lifetime men and women have equal opportunities for developing heart disease. The middle-age male (30 – 59) remains at greater risk than a woman the same age. However, it is thought that hormones protect younger women from experiencing a heart event. After menopause, women have heart events at the same rate as men.

Smoking: (modifiable)

The Facts

The risk of having heart disease in cigarette smokers is 2-3 times greater than that of non-smokers. These risks increase with the number of cigarettes smoked daily and the number of years of smoking. The good news is:

"Quitting can reduce the extra risk of further heart attack by 50% in the first year, and almost completely in five to ten years."

Cigarette smoke contains nicotine, 90% of which is absorbed into the body when smoke is inhaled. Nicotine causes blood vessels to constrict (become smaller). This makes the heart pump harder and faster to push the blood through smaller vessels. The heart rate and blood pressure increase. Cigarette smoke contains carbon monoxide. Carbon monoxide decreases the blood's ability to pick up oxygen in the lungs. This means carbon monoxide is traveling to the body in place of fresh oxygen. Carbon monoxide from smoking injures the lining of the blood vessels and contributes to atherosclerosis (hardening of the arteries). As well, smoking irritates the lungs, leading to breathing difficulties. This is extra work for the heart. There are over 100 toxins in cigarettes. Little is known about their effect on our body, other than that many are known cancer-causing agents.

If you smoke and are thinking about quitting, the following services are available to assist you:

- Tobacco Control Helpline…………………………..(306) 655-4685
- The Lung Association……………………………..(306) 343-9511
- Community Addiction Services…………………..(306) 655-4100
- PACT Program – referral by LiveWell Chronic Disease Management Staff
**Quitting Smoking:** (modifiable)

**The Facts**

1. Persons who quit before age 50 have one-half the risk of dying before age 65 when compared to continuing smokers.

2. Risk of heart disease drops substantially in the first year after quitting.

3. The minute you stop smoking, your body begins clearing tobacco toxins. Within hours, blood nicotine levels can drop by one-half. Carbon monoxide and oxygen, blood pressure and pulse will return to normal. Circulation improves and is noticed by warmer feet and hands.

4. You will have a longer length of life - disability free.

5. Research has proven that smoking cessation in the man with diabetes will prolong life by three years; where aspirin and blood pressure medications would prolong life by one year only\(^1\). Health benefits are immediate and long term.

(Ref. "Do You Want to Quit?" … tips & tools. The Lung Association, 2001)

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When Smokers Quit

20 Minutes

♥ Blood pressure drops to normal
♥ Pulse rate drops to normal
♥ Temperature of hands and feet increase to normal

1 Year

♥ Risk of coronary heart disease is half that of a smoker

8 Hours

♥ Carbon monoxide level in blood drops to normal
♥ Oxygen level in blood increases to normal

1 to 9 Months

♥ Coughing, sinus congestion, fatigue, shortness of breath decrease
♥ Cilia regrow in lungs, increasing ability to handle mucus, clean the lungs, reduce infection

24 Hours

♥ Chance of heart attack decreases

2 Weeks to 3 Months

♥ Circulation improves
♥ Lung function increases up to 30 percent

48 Hours

♥ Nerve endings start regrowing
♥ Ability to smell and taste is enhanced
♥ Walking becomes easier

(Ref: American Lung Association)
**Stress:** (modifiable)

Stress can be defined as *the amount of wear and tear on the body.* The body responds physically and psychologically to stress.

**What effect does stress have on the body?**

Your body reacts to stress in three stages:

1. Alarm reaction
2. Resistance or Adaptation
3. Exhaustion

1. Alarm Reaction: Reacting to stress and allowing it to take control can have many harmful effects to your body and overall wellbeing. This response can be called “fight or flight”.

**Emotional** changes you may notice:

- Racing thoughts
- Changing emotions
- Inability to concentrate
- Difficulty making simple decisions
- Loss of self-confidence
- Irritability or frequent anger
- Worry or anxiety
- Irrational fear or panic

**Physical** changes you may notice:

- Racing and pounding heart
- Perspiring
- Tight stomach
- Tense muscles
- Clenched jaw/ gritting of teeth
- Your five senses become more acute
  - Inside your body – things you do not notice:
    - Constricted (tight) arteries
    - Increased production of cholesterol and triglycerides by liver
    - Increase in blood clotting time
    - Increase in blood pressure level and heart rate
2. Resistance and/or Adaptation: the ability to coexist with stress and/or avoid situations that lead to alarm reactions. When the stress is overcome or removed, a sense of relief is felt as the body returns to a balanced state.

3. Exhaustion: If the stressor continues to control daily life, you will remain in the alarm reaction stage. And with continued exposure to this stressor, the influence of this on your body becomes more harmful. The continued stress can contribute to:

**Physical Changes:**
- High blood pressure
- Atherosclerosis/heart attack
- Headaches
- Flare ups of rheumatoid arthritis or asthma
- Nervous ticks or mannerisms
- Reduced energy level
- Reduced activity level

**Unhealthy Coping Behaviours:**
- Smoking
- Increased use of alcohol
- Increased/decreased eating
- Increased/decreased sleep
- Increased use of medications

**Emotional Changes:**
- Depression
- Anxiety attacks
- Irrational behaviour
- Breakdown in relationships at home and work
**ABC’s of Stress Management (positive coping strategies):**

- **Accept** what you cannot control and try to change what you can.
- **Adjust** or alter the way you choose to think about a situation as this is often within your control.
- **Avoid** situations that cause stress (tension) throughout the day and decide if you can control these feelings or body responses. Certainly, no one can completely avoid stressful situations, yet it is possible for each of us to influence how these situations affect us.

- **Balance** work and relaxation by developing hobbies and learning relaxation techniques.
- **Build** resistance through regular exercise, healthy eating habits and proper rest.
- **Build** good social supports through contact with family, friends, and the community.

- **Change** personal characteristics that may be contributing to your level of stress and present health problem (ie: negative attitude, hostile reactions and cynical feelings).
- **Consult** your doctor, exercise therapist, or other healthcare professional for more information on stress management.
- **Change** personal behaviours that may be contributing to your level of stress.
- **Changing** lifelong habits, and perhaps beliefs, will take time.

* Recognize that there are many ways to release stress, such as yoga, exercises in visualization, meditation, listening to music, etc.
Exercise
Exercise: Reducing the Risk of Diabetes and Heart Disease

★ Staying active throughout the day with routine everyday activities is helpful, but additional continuous exercise, beyond everyday life activities, is important in reducing your risk of developing diabetes and heart disease. ★

What are Some of the Benefits of Exercise?

1. Improves your control of blood sugar
   - Improves uptake of blood sugar – for approx. 48 hours after exercise.
   - Increases insulin action - for approx. 48 hours after exercise.
   - Decreases insulin resistance.

2. Improves your cholesterol levels
   - Increases good cholesterol (HDL)
   - Decreases total cholesterol
   - Decreases triglycerides
   - Aids in the lowering of bad cholesterol (LDL)

3. May help to reduce your risk of developing the complications of high blood sugar (i.e. eye, nerve, or kidney problems) by helping to improve your blood sugar control.

4. Reduces your risk of developing heart disease and stroke (cardiovascular disease).

5. Reduces high blood pressure (hypertension).

6. Helps you with weight control and weight loss.

7. Improves your overall fitness, flexibility and strength.

8. Helps you cope with stress in a positive way.
9. Improves your sleep.

10. Improves your quality of life – you are able to do more throughout the day, improves your self-esteem and your sense of well being.

Be sure to talk with your Doctor before beginning any exercise program.
How Do I Start an Exercise Program?

*Warm-Up and Cool-Down*

Warming up and cooling down are extremely important parts of your exercise program.

► Warming up allows your body (heart, lungs, and muscles) to gradually adjust to the activity and helps to prevent injuries.

► Avoid stopping exercise without cooling down. If you stop exercise suddenly, you may feel light-headed. This is because the blood may pool in your legs and there is less blood available for your head and your heart.

► Do 5-10 minutes of light activity (i.e. slow walking or biking) as well as stretching before and after your exercise session.

*How Much Exercise Should I do?*

Use the FITTA Principle to guide you. 
(*Frequency, Intensity, Time, Type, Accumulation*)

*Frequency*

Exercise 3-7 times per week. THREE times per week is the minimum needed to reach the benefits discussed earlier. Exercising daily, at a regular time, is best.

*Intensity*

… between a moderate and strong level for you. See Rate of Perceived Exertion (RPE) Scale that follows …
Rate of Perceived Exertion (RPE) Scale

This scale helps you to tell how hard you are exercising. **Warm-up and cool-down** activities should be done at a 1-2 level (**very weak-weak**). The **main activity** component of your workout should be done between a 3-5 level (**moderate-strong**). These levels indicate how hard the exercise feels to you, not compared to anyone else. If you feel you are exercising at a level **above a 5 (strong)**, you should **lower the intensity of your exercise**.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Nothing at All</td>
<td>“0” represents the amount of exercise you feel you are doing while sitting at rest.</td>
</tr>
<tr>
<td>1</td>
<td>Very Weak</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Weak</td>
<td>“2” represents a level of exercise that feels easy, light, or weak to you. It doesn’t feel as if you are exerting yourself at all.</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
<td>“3” represents a moderate or medium level of exercise for you. It feels as if you are working, but it is not strenuous or exhausting.</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat Strong</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Strong</td>
<td>“5” represents a hard or strong workout for you. You do not feel exhausted, but you are having a good, strong workout.</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Very Strong</td>
<td>“7” represents a very strong or very hard workout. You cannot keep up this pace for long and need to slow down.</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Very, Very Strong</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Maximal</td>
<td>“10” represents extreme maximal exercise. You cannot continue any longer and must stop. You are exhausted.</td>
</tr>
</tbody>
</table>

**Another way to measure the intensity is to use the **TALK TEST** - You should be able to have a conversation while you are exercising. If you are not able to talk while exercising you are working too hard.**

**It is normal to feel tired up to 30 minutes after exercise. If you are tired for up to 2-3 hours after exercising you were probably working too hard or too long.**
**Time**

15-60 minutes of continuous exercise

(plus warm-up and cool-down).

If you are not able to exercise for 15 minutes continuously, try shorter sessions such as 5-10 minutes at a time. Eventually, increase to one session of 15 minutes continuous exercise. Increase the time (duration) that you exercise as you are able.

**Type**

a) **Aerobic/endurance exercises**
   - this means any continuous, rhythmic exercise using your large muscle groups
   - i.e. walking, biking, swimming, aqua-aerobics, rowing, jogging, skating, cross-country skiing

b) **Stretching exercises (approx. 10 minutes)**
   - should be done on a daily basis, but especially after exercise
   - will help to decrease stiffness and avoid injuries
   - try not to bounce, hold each stretch for 15 - 30 seconds
   - avoid holding your breath
   - do not stretch to the point of pain

c) **Strengthening exercises**
   - light weights with more repetitions is better than heavy weights with few repetitions (less chance of injury)
   - avoid lifting extremely heavy weights (less chance of injury)
   - avoid holding your breath (holding your breath may increase your blood pressure)
   - move slowly in all directions
   - maintain a good posture throughout
Accumulation

- Exercising burns calories therefore the more exercise you do, the more calories you burn.
- Calories worked off must be greater than calories taken in.
- Any extra calories (food) we take in that is not worked off, is stored as fat.
- Burning less than 1000 calories per week is inadequate to provide health benefits.
- Burning more than 1400 calories per week is associated with cardiopulmonary fitness.
- Burning more than 1500 calories per week is associated with slower progression of disease.
- Burning more than 2200 calories per week may cause partial regression of coronary artery disease and help with weight control.

How Should I Increase My Exercise Program?

1) First, increase the number of days per week you exercise (frequency).
2) Second, increase the length of each of the exercise sessions (time).
3) Third, once you are feeling comfortable with exercising on most days of the week for approximately 45 to 60 minutes, gradually increase how hard you exercise (intensity).

Note: If you feel quite tired after your exercise session or even the next day, you may be progressing your exercise program too much or too soon. Try reducing the intensity of your exercise. If you still feel tired, reduce the length of time you are exercising.

Do Not Exercise if you are Feeling Unwell!

Your body needs time and energy to recover from illness. Exercise while you are feeling unwell may make you feel worse or slow your recovery.
**Key Points to Remember About Exercise**

► Slow and gradual progress is key – try not to overdo it.
► Choose an activity that you enjoy and have fun!!!

- Avoid exercising in extreme heat or cold - wear proper clothing.
- Try to avoid saunas and hot tubs – they may cause burning of your skin or you may feel light-headed.
- Check your feet daily for reddened spots/sores and watch for blisters/corns. Make sure you are wearing proper fitting and comfortable shoes.
- Do not hold your breath while exercising/lifting (breathe out through your mouth while lifting; in through your nose while lowering).
- Avoid exercise on a full stomach.

---

**What Can I Do if I am Not Able to Walk or Ride a Bike due to Other Health Concerns, such as Arthritis?**

- Swimming and aqua-aerobics are a good alternative for those with painful joints. The water helps support the joints and decreases the strain and discomfort during exercise.
- Swimming is also a good activity for people who have decreased sensitivity in the feet and legs and helps avoid foot injuries.
- Chair Exercises:
  a) marching in place while sitting in a chair
  b) arm exercises while sitting in a chair
  c) combining arm and leg movements
  d) all strengthening and stretching exercises can be done in a sitting position.
- Strengthening exercises can be done with or without the use of added weights.
- If you are limited in the distance you are able to walk, try walking in your home (i.e. back and forth down a hallway) - have a chair nearby to take rests if necessary.
- If balance is a problem, use a cane or walker for assistance.

---

**Contact your Diabetes Educator, Exercise Therapist or Family Doctor if you have any questions or concerns.**
Super Sets Handout - Long

Points to Remember

- keep a relaxed handgrip
- add weight (1-2 lbs.) as you become stronger
- add another set (max 3 sets) or increase repetitions by 8 (max 24 reps) over time
- maintain proper posture during exercises
- exhale on effort
- exercises should feel comfortable
- stretch before and after exercise
- warm-up (5-10 minutes) before exercises (walking)
- exercises should be done 3 times per week (every second day)

Wall Push-Ups

- hands at shoulder height
- fingers turned to slightly inward
- elbows bend to right angle
- press back to start slowly

_______ sets

_______ reps
Rhomboid Press
✓ feet in stride
✓ weight forward
✓ hand starts at knee
✓ lift arm wide to shoulder height
✓ squeeze shoulder blades together
✓ keep upper body still

______________ sets
______________ reps

Bicep Curl
✓ hands at thighs
✓ elbows in at waist
✓ curl hands forward to shoulders
✓ lower slowly

______________ sets
______________ reps

Tricep Extension
✓ feet in stride
✓ weight forward
✓ hand starts at hip
✓ extend hand back
✓ keep elbow slightly bent and tucked in at side
✓ lower slowly

______________ sets
______________ reps
Upright Rowing
✓ palms facing body
✓ hands 6 inches apart
✓ lift to shoulders keeping elbows wide
✓ lower slowly

Replacement values
______________ sets
______________ reps

Shoulder Raise
✓ palms facing each other
✓ raise hands to shoulder height only
✓ keep elbows slightly bent
✓ lower slowly
✓ keep abdominal muscles tight

Replacement values
______________ sets
______________ reps

Partial Squats
✓ feet shoulder width apart
✓ press buttocks back
✓ weight stays behind knees
✓ eyes look upward
✓ back stays flat

Replacement values
______________ sets
______________ reps
**Inner Thigh**
- feet shoulder width apart
- foot starts in front
- lift leg across body slowly
- toes point forward
- lower slowly
- keep upper body still
- exercise both legs

- ________ sets
- ________ reps

**Outer Thigh**
- feet shoulder width apart
- lift leg to side slowly
- toes point forward
- lower slowly
- keep upper body still
- exercise both legs

- ________ sets
- ________ reps

**Curl-Up**
- feet shoulder width apart
- knees at right angle
- keep back and feet flat on floor
- hands on hips
- curl forward lifting shoulders up off of mat
- hands slide forward to knees

- ________ sets
- ________ reps
Side Curl-Up
✓ feet shoulder width apart
✓ one hand behind head
✓ other hand across body
✓ curl up and to side lifting shoulders off of mat
✓ hand slides across past knees

______________ sets
______________ reps

Buttocks/Shoulder Lift
✓ hands in front of shoulders
✓ keep hips pressed to mat
✓ lift opposite arm and leg upward
✓ return to start slowly

______________ sets
______________ reps

Stabilizers
1. starting position
✓ back flat on mat
✓ one foot at right angle on floor
✓ other foot at right angle above hip

______________ sets
______________ reps
2. Stabilizers
advanced position
✓ extend leg forward until leg is almost straight
✓ tighten stomach muscles
✓ return leg to start slowly
✓ release stomach muscles

__________  sets
__________  reps
Super Sets Handout - Stretching

Points to Remember

✓ warm up 5 – 10 minutes before stretches
✓ stretches should feel comfortable
✓ maintain proper posture
✓ breathe comfortably
✓ hold stretches for 10 – 60 seconds
✓ stretch before and after exercising
✓ change positions slowly

1. Neck - Side
✓ keep shoulders relaxed
✓ tilt head to shoulder
✓ tilt to both sides

2. Neck - Center
✓ keep shoulders relaxed
✓ tilt chin to chest

3. Chest
✓ finger tips by ears
✓ no pressure on neck
✓ press elbows wide
4. Upper Back
- clasp fingers together, thumbs down
- round your shoulders
- hands reach forward

5. Front Shoulder
- palms facing up
- press hands up
- keep shoulders relaxed

6. Side Shoulder
- grab wrist behind back
- pull wrist to other side
- stretch both shoulders

7. Tricep
- reach hand behind head
- elbow pointing upward
- support with other hand
- stretch both arms
8. Wrist
- arm extended out
- pull fingers towards you
- stretch both wrists

9. Side
- feet shoulder width apart
- hand on hip
- arm reaches over and across body
- keep arm in view
- stretch both sides

10. Hips
- hands at hips
- feet shoulder width apart
- knees slightly bent
- press hip out to side
- stretch both sides
11. Inner Thigh
✓ feet double shoulder width apart
✓ hands supported on thigh
✓ bend knee and shift weight to side
✓ stretch both sides

12. Hamstring
✓ feet in stride
✓ weight and hands supported on back leg
✓ front toe lifted upwards
✓ bend slightly at waist
✓ stretch both legs
✓ keep back straight

13. Hip Flexor
✓ feet in stride
✓ lift back heel upwards
✓ shift weight forward
✓ tilt pelvis forward
✓ stretch both hips
14. Quadricep
- use chair or wall for support
- grab pant leg or sock
- keep knee pointed downwards below hip
- stretch both legs

15. Calf
- feet in long stride
- weight and hands supported on front thigh
- heel pressed down on back leg
- keep back straight
- stretch both calves
Healthy Eating
## Healthy Eating

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Healthy Eating

Healthy eating can reduce your risks for, and help to manage many chronic diseases. These may include heart disease, diabetes and obesity.

For a healthy diet you should:

❤️ Eat within one hour of getting up in the morning.
❤️ Eat 3 meals every day at regular times.
❤️ Eat every 4 - 5 hours - you may need a healthy snack between meals.
❤️ Eat from at least 3 of the 4 food groups from Eating Well with Canada’s Food Guide at each meal.
❤️ Enjoy a variety of foods to make sure you get all of the important nutrients in your diet without excesses of any nutrient.

❤️ Limit high fat foods such as fatty meats, full-fat dairy, fried foods and rich desserts.
❤️ Use only small amounts of healthy fats (vegetable oils, non-hydrogenated margarine, and salad dressings) in cooking and at the table.
❤️ Eat fish high in omega-3 fats at least twice per week.
❤️ Enjoy modest portions of nuts and seeds - no more than ¼ cup per day.

❤️ Eat more high fibre foods such as whole grain breads, cereal, pasta and rice, as well as legumes, vegetables and fruit.

❤️ Limit sugar intake from candy, jam, honey, syrups, sweetened drinks, desserts and added white or brown sugar.

❤️ Limit your use of salt and processed foods with added salt.

❤️ Limit alcohol to 1 - 2 drinks per day.

❤️ Limit caffeine to 24 ounces of coffee per day.
Fats In Foods

Fat is an important part of our food choices. It provides some vitamins and essential fats which our bodies need but cannot make.

There are many different types of fat in foods:

- Foods high in saturated and trans fats raise blood cholesterol levels more than anything else you eat. You should choose foods with less of these fats as often as possible.
- Polyunsaturated and monounsaturated fats may lower cholesterol levels. Use these fats to replace saturated and trans fats whenever possible.
- Omega-3 fats are a type of polyunsaturated fat that are good for your heart. Fatty fish are the best source of this fat.

<table>
<thead>
<tr>
<th>Good Fats</th>
<th>Action</th>
<th>Food Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Monounsaturated Fats – liquid at room temperature</td>
<td>lower LDL (bad) cholesterol</td>
<td>olive oil, canola oil, peanut oil, avocado, nuts, peanut butter</td>
</tr>
<tr>
<td></td>
<td>may raise HDL (good) cholesterol</td>
<td></td>
</tr>
<tr>
<td>✓ Polyunsaturated Fats – liquid at room temperature</td>
<td>lower LDL (bad) cholesterol</td>
<td>corn oil, sunflower oil, soybean oil, sesame oil, safflower oil, cottonseed oil, walnuts, sunflower seeds, pumpkin seeds</td>
</tr>
<tr>
<td>✓ Omega-3 Fats</td>
<td>Many heart benefits including:</td>
<td>mackerel, herring, salmon, sardines, trout, halibut, tuna, blue fish, pollock, sturgeon, whitefish, soybeans, walnuts, soybean oil, canola oil, flaxseed oil, ground flaxseed</td>
</tr>
</tbody>
</table>

* Eat at least 2 or 3 servings of these fish per week
More About Omega-3 Fats

There are three main types of omega-3 fats found naturally in foods. All three types of omega-3 fats may improve heart health, however DHA and EPA offer the greatest benefit.

**DHA** and **EPA** are found in fatty fish such as salmon, herring, sardines and trout.

**ALA** is found in plant-based foods such as canola, flax, soybeans and walnuts.

Omega-3 fats may also be added to foods such as milk, yogurt, breads and liquid egg products. Whole eggs with enhanced levels of omega-3 fats are also available.

**Ideas to increase Omega-3 Fat Intake**

- Eat fatty fish at least twice per week - see the list on the previous page.
- Use canola or soybean oils.
- Use non-hydrogenated margarines made from canola or soybean oils.
- Add 1-2 tablespoons of ground flaxseed to foods such as cereals, yogurt, salads and smoothies.
- Add ground flaxseed into baked goods. You may want to reduce the oil/margarine in the recipe (3 tbsp ground flaxseed = 1 tbsp oil or margarine).
- Lightly top your salads and vegetables with flaxseed oil (Do not cook with flaxseed oil).
- Snack on walnuts or sprinkle on a salad, vegetables, cereals and yogurt.
- Choose omega-3 enhanced eggs (but still limit the amount of yolks you eat).
- Discuss the use of an omega-3 supplement with your doctor.
Trans fats are made when a vegetable oil is hydrogenated to make it into a more solid fat. Small amounts of trans fat also occur naturally in animal fats. This type of trans fat does not affect your cholesterol levels.

Read the Nutrition Facts on packaged foods for information on fat content.

Battered and Fried Fish Fillets:

This product is high in fat and particularly high in bad fat.

NOTE:
- When reading Nutrition Facts for any nutrient with:
  - “% Daily Value” greater than 15% means there is a LOT of the nutrient.
  - “% Daily Value” less than 5% means there is LITTLE of the nutrient.
What About Sodium?

Sodium is a mineral found in table salt. Sodium is also added to foods during processing for many reasons. Too much sodium in your diet can increase blood pressure and risk of heart disease.

How much sodium do we need?

**Adequate Daily Intake:**
2000mg/day

**Tolerable Upper Limit:**
2400 mg/day

Where do we get sodium?

- ♥ 77% comes from processed foods (ham, bacon, canned foods, dry soups, packaged foods, snack foods, etc.) and restaurant meals.
- ♥ 11% from salt added at the table and in cooking.
- ♥ 12% occurs naturally in foods.

1 tsp of salt = 2300 mg sodium
Suggestions for Reducing Sodium Intake

1. Try to make foods from scratch.
   - Make homemade soups instead of canned or packaged soups. Make a large batch and freeze in plastic containers.
   - Cook plain pasta and rice and flavour with spices and low sodium ingredients instead of pre-packaged mixes with sauce or seasonings already included.
   - Try fresh or plain frozen meat, fish and poultry instead of processed, cured or smoked meats such as sausage, wieners, ham, bacon, pepperoni and smoked fish.
   - Choose fresh or frozen vegetables instead of canned, unless they are salt-free.
   - Soak and cook dried legumes or if using canned legumes, drain and rinse to reduce sodium. Look for salt-free brands.

2. Season without salt.

<table>
<thead>
<tr>
<th>Seasonings with Salt</th>
<th>Try these instead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garlic salt</td>
<td>Garlic powder or fresh garlic</td>
</tr>
<tr>
<td>Onion salt</td>
<td>Onion powder or fresh onions</td>
</tr>
<tr>
<td>Seasoning salt</td>
<td>Mrs. Dash® (several varieties) or other “no salt added” seasonings</td>
</tr>
<tr>
<td>Lemon pepper</td>
<td>Pepper and lemon juice or McCormick’s Citrus &amp; Pepper®</td>
</tr>
<tr>
<td>Soya sauce</td>
<td>Sodium reduced soya sauce and use less</td>
</tr>
<tr>
<td>Pickles</td>
<td>Cucumbers or beets in vinegar</td>
</tr>
</tbody>
</table>

3. Read Labels for Sodium Content
   - Ask yourself – Is this food a major part of a meal or just a snack or condiment?
   - If it is the whole meal (such as a frozen dinner) or major part of the meal, you could use more of your daily salt allowance.
   - Look at the sodium content on the “Nutrition Facts” part of the labels.
   - Compare similar products and choose the one lower in sodium.
Serving size:

½ cup condensed or 1 cup diluted soup

850 mg sodium
(35% of your sodium intake for the day)
Do you think that is a lot for 1 cup of soup?

Suggestion:
Try making your own soup.

4. Eat out less often

- Fast food outlets and restaurants may offer low sugar and low fat choices but most of their foods are still high in sodium.
  - Ask to see the nutrition information for the menu items and choose those with the lowest sodium content.
  - Ask your server if menu items can be prepared without salt.
  - Ask for sauces and dressings to be served on the side.
Carbohydrates (Sugar-Forming Foods)

♥ Carbohydrates are a very important energy source and provide many essential nutrients such as fibre, B-vitamins and iron.

♥ Carbohydrates should be eaten at every meal.

- Most women need 45 - 60 grams (3 - 4 carbohydrate choices) at each meal.
- Most men need 60 - 75 grams (4 - 5 carbohydrate choices) at each meal.
- A healthy snack should contain 15 - 30 grams (1 - 2 carbohydrate choices).

Use the following as a guide to help achieve these carbohydrate targets:

1 serving = 15 grams of Carbohydrate = 1 carbohydrate choice  (c = cup)

Choose whole grains.

<table>
<thead>
<tr>
<th>Grain Products and Starches</th>
<th>Servings below contain 15 grams of carbohydrate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 slice Bread</td>
<td>1 Waffle/pancake (4&quot;)</td>
</tr>
<tr>
<td>½ c Bun, hamburger or hotdog bun</td>
<td>½ c Corn</td>
</tr>
<tr>
<td>½ English muffin, small bagel</td>
<td>10 French Fries (baked)</td>
</tr>
<tr>
<td>1 small Muffin (bran/oatmeal) (2&quot;)</td>
<td>½ c Cooked pasta, couscous, barley</td>
</tr>
<tr>
<td>½ c Cooked dried peas, beans or lentils</td>
<td>½ c Popcorn (air popped)</td>
</tr>
<tr>
<td>3 c Cooked rice</td>
<td>1 medium Potato or ½ c potato</td>
</tr>
<tr>
<td>½ c Soup (thick)</td>
<td>1 Tortilla shell (6&quot;)</td>
</tr>
<tr>
<td>1 Waffle/pancake (4&quot;)</td>
<td></td>
</tr>
<tr>
<td>Cereal</td>
<td></td>
</tr>
<tr>
<td>¼ c Cooked hot cereal</td>
<td></td>
</tr>
<tr>
<td>½ c All Bran®/All Bran Buds®</td>
<td></td>
</tr>
<tr>
<td>⅔ c Bran Flakes®, Corn Flakes®</td>
<td></td>
</tr>
<tr>
<td>½ c Raisin Bran®</td>
<td></td>
</tr>
<tr>
<td>½ c Rice Krispies®, Cheerios®</td>
<td></td>
</tr>
<tr>
<td>½ c Shredded Mini Wheat(s)®</td>
<td></td>
</tr>
<tr>
<td>Crackers</td>
<td></td>
</tr>
<tr>
<td>4 Melba Toast</td>
<td></td>
</tr>
<tr>
<td>7 Soda crackers</td>
<td></td>
</tr>
<tr>
<td>4 Triscuits®</td>
<td></td>
</tr>
</tbody>
</table>
### Fruit

| Servings below contain 15 grams of carbohydrate:
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 medium Apple/orange/peach</td>
</tr>
<tr>
<td>1 small Banana (about 4”)</td>
</tr>
<tr>
<td>½ c Canned mixed fruit/applesauce</td>
</tr>
<tr>
<td>¼ c Dried fruit</td>
</tr>
<tr>
<td>1 small Grapefruit</td>
</tr>
<tr>
<td>15 Grapes/cherries</td>
</tr>
<tr>
<td>2 medium Kiwi</td>
</tr>
<tr>
<td>1 c Melon</td>
</tr>
</tbody>
</table>

### Milk and Alternatives

<table>
<thead>
<tr>
<th>Servings below contain 15 grams of carbohydrate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 c Milk or plain soy beverage</td>
</tr>
<tr>
<td>½ c Chocolate milk, Flavoured soy beverage</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Some of these foods are higher in fat and calories. Use in moderation.

### Other Foods

<table>
<thead>
<tr>
<th>Servings below contain 15 grams of carbohydrate:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2” square Cake (unfrosted)</td>
</tr>
<tr>
<td>2 Cookies, plain</td>
</tr>
<tr>
<td>3 Doughnut holes, plain</td>
</tr>
<tr>
<td>1 tbsp Honey, syrup, sugar</td>
</tr>
</tbody>
</table>

### Non-Sugar Forming Foods

#### Vegetables

Eat these freely – they are low in carbohydrates and RICH in nutrients

- Asparagus
- Beans (yellow/green)
- Beets
- Broccoli
- Brussels sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Cucumber

Egg plant

Lettuce/greens

Mixed vegetables

Mushrooms

Onions

Parsnips*

Peas*

Peppers

Squash*

Tomato

* these foods provide 15 grams carbohydrates when 1 cup is eaten
Meal Planning

Sample Meal Plan #1

(3 carbohydrate choices or 45 grams of carbohydrates per meal)

**Breakfast**
- ½ whole wheat bagel
- 1 egg
- Ham (1 oz)
- Low fat milk (1 cup)
- Coffee/Tea/Water

**Lunch**
- Meat, fish or chicken (2-3 oz)
- Pasta or potatoes (1 cup)
- Green salad
- Low fat salad dressing (1 Tbsp)
- Unsweetened canned fruit (1/2 cup)
- Coffee/Tea/Water

**Dinner**
- Meat, fish or chicken (3 oz)
- Whole wheat bun (1) or 2/3 cup cooked rice
- Margarine (1 tsp)
- Mixed vegetables
- Low fat milk (1 cup)
- Coffee/Tea/Water

Sample Meal Plan #2

(4 carbohydrate choices or 60 grams of carbohydrate per meal)

**Breakfast**
- Oatmeal (3/4 cup cooked)
- Toast (1 slice)
- 1 fruit (apple, orange, 15 grapes or 2 cups strawberries)
- Low fat milk (1 cup)
- Peanut butter (1 Tbsp)
- Coffee/Tea/Water

**Lunch**
- 1 sandwich
  - 2 slices whole wheat bread
  - lean meat, chicken, fish (2 oz)
  - lettuce
  - mayonnaise (1 tsp)
- Soup (1 cup broth soup)
- Carrots/peppers/celery
- 1 fruit or ½ cup low fat yogurt
- Tea/Coffee/Water

**Dinner**
- Potatoes (1 cup) or pasta (1 cup) or rice (2/3 cup)
- Vegetables (as much as you want)
- Lean meat, fish or chicken (3 oz)
- Low fat milk (1 cup)
- 1 fruit (1/2 cup fruit salad or 1 apple)
- Tea/Coffee/Water
Read the labels for carbohydrate content.

Using the Nutrition Facts Table

Step 1: Look at the serving size and compare this to the amount you eat. Are you eating more, less, or the same?

Step 2: The total amount of carbohydrates in grams is listed first. This number includes starch, sugars and fibre.

Step 3: Fibre does not raise blood sugar and should be subtracted from the total carbohydrate (i.e. 23 g carbohydrate – 7 g fibre = 16 g available carbohydrate.)
What a Balanced Meal Looks Like

Vegetables
minimum 2 types

Protein
chicken, fish, lean meat, beans, lentils

Starch
rice, potato, pasta, grains, corn

Fruit

Milk

Use these tips as a guide to serving size:

Fruit should be the size of a tennis ball
Meat should be the size of a deck of cards
Starches should be the size of your fist
Fats should be the size of the tip of your thumb

Vegetables should be 2 handfuls or half your plate

Illustration created by LiveWell Chronic Disease Management, Saskatoon Health Region, 2011

Adapted from handout Tips for Weight Loss by the Clinical Subcommittee of the Chronic Disease Network and Access Program of the PAGC and its partners and funded by Aboriginal Health Transition Fund, 2009.
Glycemic Index – A new way of looking at carbohydrates

The Glycemic Index is a meal planning tool that may help you to:

- Control your blood glucose levels
- Lower your risk of getting type 2 diabetes
- Control your appetite
- Control your cholesterol levels
- Lower your risk of getting heart disease

The Glycemic Index (GI) is a scale that ranks carbohydrate-rich foods by how much they raise blood glucose levels compared to glucose or white bread.

When you eat food that contains carbohydrates, the sugar (glucose) from the food breaks down during digestion and gives you energy. After you eat, your blood glucose level rises; the speed at which the food is able to increase your blood glucose level is called the “glycemic response.” This glycemic response is influenced by many factors, including how much food you eat, how much the food is processed or even how the food is prepared (for example, pasta that is cooked al dente – or firm – has a lower glycemic response than pasta that is overcooked).

Foods that raise your blood glucose level quickly have a higher GI rating than foods that raise your blood glucose level more slowly. In general, the lower the rating, the better the quality of carbohydrate.

Not only do low GI foods raise your blood glucose more slowly and to a less dramatic peak than higher GI foods, but most low GI foods are all-around healthier choices. Low GI foods are usually lower in calories and fat, while also being high in fibre, nutrients and antioxidants. Choosing low GI foods more often may help your increase levels of HDL (healthy) cholesterol in your blood and might help you control your appetite, as they tend to keep you feeling fuller, longer.

Choose wisely:
Try to choose low and medium GI foods more often than high GI foods. Use the following chart to help you make healthier choices.
Here are some tips to help you lower the Glycemic Index of your daily meals.

- Try to choose at least one low GI food at each meal.
- If you choose a high GI food, combine it with a low GI food, for an overall medium GI meal. For example, half a bagel (high GI) with a bowl of chili (low GI), or corn flakes cereal (high GI) topped with a spoonful of All Bran (low GI) and some strawberries (low GI).
- Limit the amount of processed, refined starchy foods, as they tend to be low in fibre and other nutrients and have a higher GI.
- Try new foods that have a low GI. Experiment with beans, lentils and barley by including them in dishes such as chili, soups and salads.
- Eat whole grain, pumpernickel and oat bran bread more often than white bread.
- Eat fresh fruit and vegetables. Fruit and vegetables have a low GI, so they break down into sugar slowly in your body.
- Choose parboiled, brown or basmati rice more often than instant or short grain rice.

<table>
<thead>
<tr>
<th>Low Glycemic Index foods (55 or less) choose most often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skim milk</td>
</tr>
<tr>
<td>Plain yogurt</td>
</tr>
<tr>
<td>Soy beverage</td>
</tr>
<tr>
<td>Apple</td>
</tr>
<tr>
<td>Plum</td>
</tr>
<tr>
<td>Orange</td>
</tr>
<tr>
<td>Sweet potato</td>
</tr>
<tr>
<td>Al dente (firm) pasta</td>
</tr>
<tr>
<td>Lentils / kidney / baked beans</td>
</tr>
<tr>
<td>Oat bran bread</td>
</tr>
<tr>
<td>All-Bran™</td>
</tr>
<tr>
<td>Converted or parboiled rice</td>
</tr>
<tr>
<td>Pumpernickel bread</td>
</tr>
<tr>
<td>Chick peas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medium Glycemic Index foods (56 – 69) choose more often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana</td>
</tr>
<tr>
<td>Pineapple</td>
</tr>
<tr>
<td>Raisins</td>
</tr>
<tr>
<td>New potatoes</td>
</tr>
<tr>
<td>Oatmeal</td>
</tr>
<tr>
<td>Popcorn</td>
</tr>
<tr>
<td>Brown rice</td>
</tr>
<tr>
<td>Couscous</td>
</tr>
<tr>
<td>Basmati rice</td>
</tr>
<tr>
<td>Shredded wheat cereal</td>
</tr>
<tr>
<td>Whole wheat bread</td>
</tr>
<tr>
<td>Rye bread</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Glycemic Index foods (70 or higher) choose less often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watermelon</td>
</tr>
<tr>
<td>Dried dates</td>
</tr>
<tr>
<td>Instant mashed potatoes</td>
</tr>
<tr>
<td>Baked white potato</td>
</tr>
<tr>
<td>Parsnips</td>
</tr>
<tr>
<td>Rutabaga</td>
</tr>
<tr>
<td>Instant Rice</td>
</tr>
<tr>
<td>Corn Flakes™</td>
</tr>
<tr>
<td>Rice Krispies™</td>
</tr>
<tr>
<td>Bagel, white</td>
</tr>
<tr>
<td>Soda crackers</td>
</tr>
<tr>
<td>French fries</td>
</tr>
</tbody>
</table>

Adapted from www.diabetes.ca
- Eat pasta or yams more often than potatoes. Eating potatoes or pasta cold, as in a salad, reduces their GI (but go easy on the mayo dressing).

- Use vinaigrette instead of a creamy salad dressing. It’s lower in fat, plus the acidity of the vinegar slows digestion, lowering the GI of the meal.

- Watch your portion sizes: the bigger the portion, the more it will increase your blood glucose, regardless of its GI rank.

- If you are testing your blood glucose level at home, try checking before eating and two hours afterwards to see how your body handles the meal.

- For more information about the Glycemic Index and how to include low GI foods in your meal plan, go to www.diabetes.ca and link onto Glycemic Index.

**Fibre**

Fibre is found in vegetables, fruit, grain products, legumes and nuts. There are two types of fibre found in these foods, each with its own health benefits.

**INSOLUBLE FIBRE** helps keep bowels regular. Good sources are wheat bran, whole grain breads, cereals, pasta and rice.

**SOLUBLE FIBRE** helps reduce cholesterol and blood sugar levels. It also slows stomach emptying which gives a feeling of being full longer which may help with weight control. Good sources are oats, barley, psyllium and legumes.

Vegetables and fruit contain both types of fibre.

**How to add more insoluble fibre to your diet**

- Choose cereals with at least 4 grams of fibre per serving. Sprinkle a high fibre bran cereal (All Bran, Fibre 1, 100% Bran) over your favourite cereal.

- Choose breads, buns, bagels, wraps and pitas made with wholegrain flours.

- Try whole wheat pasta and brown rice.

- Make muffins using bran cereals.

- Replace all or part of the white flour in recipes with whole wheat flour.

- Add ground flax seed to cereal, pancakes, yogurt, salad, and into baking.

- Eat the peels on vegetables and fruit where appropriate.
How to add more soluble fibre to your diet

♥ Eat oatmeal or oat bran porridge, and oat-based cereals.

♥ Add oatmeal or oat bran to pancakes, muffins and breads.

♥ Mix oatmeal with ground beef to make meatloaf, meatballs and hamburger patties.

♥ Try All Bran Buds for a source of psyllium. Add to your favourite cereal and sprinkle into yogurt.

♥ Consider a psyllium fibre supplement such as Metamucil or Prodiem. * (Be sure to drink more water if you take these.)

♥ Add barley to soups, salads, casseroles and cook as a side dish.

♥ Use barley and rye flour in baking.

♥ Try rye bread and rye crackers such as Ryvita.

♥ Enjoy legumes (dried beans, peas and lentils) in soups, chili, stews, salads, wraps and pastas. Make a pot of baked beans or use the convenience of canned baked beans. Try hummus (a dip or spread made from chick peas). Mix cooked lentils with lean ground beef to use in recipes.

♥ Eat plenty of vegetables and fruit.
  
  . Try to have 2 vegetables at noon and supper.

  . Have fruit for dessert and snacks.

  . Root vegetables such as potatoes, yams, carrots, beets and parsnips are good sources of soluble fibre.

  . Apples, bananas and citrus fruit are also good sources.

♥ Fibre intake should be increased slowly and spread throughout the day. Aim for 25 – 35 grams of fibre per day. You should also drink more water as you increase fibre…6-8 cups/day.
Read the Nutrition Facts on packaged foods for the fibre content.

Cereal:

6g – Very high source of fibre
4g – High source of fibre
2g – Source of fibre
**Beverages**

*Water and low fat milk are the best drink choices.*

If making other choices, you may want to re-think your drink!

**High Sugar Beverages**

High sugar drinks are low in nutrients and add empty calories to your diet. Check out how much sugar is hiding in some common drinks.

<table>
<thead>
<tr>
<th>Beverage</th>
<th>Amount of Sugar (in teaspoons) in 20 ounces/600ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet Pop</td>
<td>0</td>
</tr>
<tr>
<td>Hot Cappuccino</td>
<td>10</td>
</tr>
<tr>
<td>* Sports Drink</td>
<td>12</td>
</tr>
<tr>
<td>Iced Tea</td>
<td>14</td>
</tr>
<tr>
<td>Lemonade</td>
<td>14</td>
</tr>
<tr>
<td>Hawaiian Punch</td>
<td>14</td>
</tr>
<tr>
<td>Iced Cappuccino</td>
<td>15</td>
</tr>
<tr>
<td>Hot Chocolate</td>
<td>16</td>
</tr>
<tr>
<td>Kool-Aid</td>
<td>16</td>
</tr>
<tr>
<td>Fruitopia</td>
<td>16</td>
</tr>
<tr>
<td>Coke Classic</td>
<td>17</td>
</tr>
<tr>
<td>Unsweetened Orange Juice</td>
<td>17</td>
</tr>
<tr>
<td>Sunny Delight</td>
<td>18</td>
</tr>
<tr>
<td>** Flavoured Milk</td>
<td>18</td>
</tr>
<tr>
<td>Unsweetened Apple Juice</td>
<td>18</td>
</tr>
<tr>
<td>Slush Drink</td>
<td>20</td>
</tr>
<tr>
<td>Cranberry Juice Cocktail</td>
<td>20</td>
</tr>
<tr>
<td>Orange Crush</td>
<td>21</td>
</tr>
</tbody>
</table>

* Sports drinks such as Gatorade and Powerade are only needed after an hour or more of intense activity.

** Flavoured milk has higher sugar content than plain milk, but still contains all of the same nutrients. It can be a healthier choice in limited amounts.
Alcohol

You should consult your doctor about the use of alcohol.

Alcohol may:

- Interfere with some medications.
- Raise triglyceride levels.
- Affect blood sugar levels
- Contribute to weight gain as it is very high in calories.
- Replace other healthy foods and drinks.
- Become addictive.

If you do drink alcohol, keep your intake to no more than 1 drink per day for women and 2 drinks per day for men.

One drink = 12 oz (355ml) beer (5% alcohol)
= 4 oz wine (8-14% alcohol)
= 1 ½ oz hard spirits (40% alcohol)

Alcohol with the least amount of carbohydrates:

- Dry wine
- Hard liquor (rye, rum, vodka) mixed with diet pop or water
- Light beer
### Better choices from each food group

#### Vegetables and Fruit

<table>
<thead>
<tr>
<th>Great Choices</th>
<th>Good choices</th>
<th>Choose rarely</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh or frozen vegetables</td>
<td></td>
<td>Vegetables prepared with butter, cream or sauces</td>
</tr>
<tr>
<td>Reduced sodium tomato or vegetable juices</td>
<td>Regular tomato or vegetable juices</td>
<td>Deep fried potatoes or other vegetables</td>
</tr>
<tr>
<td>Reduced sodium canned vegetables</td>
<td></td>
<td>Pickled vegetables</td>
</tr>
<tr>
<td><strong>Fruit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresh or frozen fruit</td>
<td>Unsweetened fruit juice (maximum 8oz/day)</td>
<td>Fruit drinks with added sugars</td>
</tr>
<tr>
<td></td>
<td>Canned fruit in its own juice</td>
<td>Canned or frozen fruit in syrup</td>
</tr>
<tr>
<td></td>
<td>Dried fruit</td>
<td>Coconut</td>
</tr>
<tr>
<td></td>
<td>Avocado in small amounts</td>
<td></td>
</tr>
</tbody>
</table>
# Grain Products

<table>
<thead>
<tr>
<th>Great Choices</th>
<th>Good choices</th>
<th>Choose rarely</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breads &amp; other grain products (buns, pitas, bagels, wraps)</strong></td>
<td>100% whole grain breads</td>
<td>Enriched and refined grain breads</td>
</tr>
<tr>
<td><strong>Cereals and cereal/granola bars</strong></td>
<td>Whole grain with at least 4 grams of fibre and less than 8 grams of sugar per 30 gram serving. May include wheat bran, wheat germ, oat bran, oatmeal, ground flax seed as added fibre sources</td>
<td>Containing 2-4 grams of fibre and no more than 8 grams of sugar per 30 gram serving</td>
</tr>
<tr>
<td><strong>Rice &amp; pasta</strong></td>
<td>Brown rice, wild rice, whole wheat pasta, couscous and quinoa</td>
<td>White, basmati, parboiled, short or long grain rice, white pasta, egg noodles, rice noodles</td>
</tr>
<tr>
<td>** Crackers, bread sticks, crisp breads, rice cakes**</td>
<td>Unsalted products made with whole grains, at least 2 grams of fibre per serving and containing little or no saturated and trans fat</td>
<td>Unsalted products made with refined flour with little or no saturated and trans fat</td>
</tr>
<tr>
<td>** Muffins, cookies &amp; baked goods**</td>
<td>Homemade goods with whole grains and oils or non-hydrogenated margarine</td>
<td>Products made with refined flour and little or no saturated and trans fat</td>
</tr>
</tbody>
</table>
## Milk and Alternatives

<table>
<thead>
<tr>
<th>Category</th>
<th>Great Choices</th>
<th>Good choices</th>
<th>Choose rarely</th>
</tr>
</thead>
</table>
| Milk, buttermilk, yogurt, cottage cheese | Skim or 1% M.F. (milk fat)  
Dry curd/low sodium cottage cheese | 2% M.F. | > 2% (M.F.) |
<p>| Fortified soy products            | Low fat (≤ 3g fat per serving) fortified soy beverage | Regular fortified soy beverage | | |
| Cheese/soy cheese                 | ≤ 15% M.F.                           | 15-20% M.F. | ≥ 20% M.F. |
| Desserts                          | Ice milk or frozen yogurt            | Low fat ice cream | Regular ice cream |</p>
<table>
<thead>
<tr>
<th>Meat and Alternatives</th>
<th>Great Choices</th>
<th>Good choices</th>
<th>Choose rarely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>Well-trimmed, lean cuts of beef, pork, veal, bison, wild meat, extra lean hamburger</td>
<td>Lean hamburger, lamb Small amounts of low sodium lean ham &amp; back bacon</td>
<td>Fatty cuts of beef, pork, veal &amp; lamb, side bacon, side ribs, organ meats &amp; processed meats (wiener, salami, sausage)</td>
</tr>
<tr>
<td>Poultry</td>
<td>Skinless turkey and chicken</td>
<td>Ground turkey and chicken Lean turkey or chicken breast lunch meats</td>
<td>Fried chicken, poultry with skin, chicken wings, duck, goose Breaded chicken fingers/nuggets</td>
</tr>
<tr>
<td>Fish &amp; seafood</td>
<td>Fresh or frozen unbreaded fillets Fish canned in water</td>
<td>Fish canned in broth or tomato juice/paste</td>
<td>Salted, smoked or pickled fish Fish canned in oil Fish or seafood coated in batter Shrimp and squid</td>
</tr>
<tr>
<td>Eggs</td>
<td>Boiled and poached omega-3 enriched eggs Egg whites Egg substitutes</td>
<td>Boiled and poached regular eggs Egg Salad with low fat mayonnaise</td>
<td>Fried, pickled, devilled eggs Egg salad with regular mayonnaise Eggs Benedict or Florentine</td>
</tr>
<tr>
<td>Legumes</td>
<td>Beans, peas, lentils – dried or canned (drained and rinsed) Hummus</td>
<td>Baked beans</td>
<td>Legume dishes prepared with coconut milk</td>
</tr>
<tr>
<td>Soy products</td>
<td>Tofu</td>
<td>Soy protein products and legume based “veggie” patties</td>
<td></td>
</tr>
<tr>
<td>Peanut and nut butters</td>
<td>All natural peanut and nut butters</td>
<td>Regular peanut and nut butters with added vegetable oils (eg. cashew nut butter with safflower oil)</td>
<td></td>
</tr>
<tr>
<td>Great Choices</td>
<td>Good choices</td>
<td>Choose rarely</td>
<td></td>
</tr>
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<td>------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Canola, olive, peanut and flax seed oils</td>
<td>Soy, safflower, sunflower, corn, walnut and sesame oils</td>
<td>Hydrogenated margarines, butter, shortening, lard, beef tallow, coconut oil</td>
<td></td>
</tr>
<tr>
<td>Avocado</td>
<td>Non-hydrogenated soft margarine</td>
<td>Regular sour cream and cream cheese</td>
<td></td>
</tr>
<tr>
<td>All nuts and seeds</td>
<td>Light cream cheese</td>
<td>Commercial dips</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Light sour cream</td>
<td>Creamy salad dressings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fat reduced salad dressing</td>
<td>Gravy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olives</td>
<td>Mayonnaise</td>
<td></td>
</tr>
</tbody>
</table>
**Tips For Weight Control**

Being overweight is a risk factor for diabetes and heart disease. Extra weight around your middle puts you at an even greater risk. A waist measurement larger than 32” (80 cm) for women and 37” (94 cm) for men is a strong risk factor for developing heart disease.

Lowering fat intake may help with weight loss as high fat foods are high in calories. Other tips for weight control include:

- Write out a grocery list and stick to it.
- Avoid the grocery store when you are hungry.
- Buy foods from all four food groups of Canada’s Food Guide.
- Do NOT skip meals!!! This usually leads to overeating later on.
- Avoid nibbling while preparing meals or when cleaning up afterwards.
- If possible, refrigerate extra food before starting to eat your meal.
- Serve smaller portions on smaller plates.
- Set your fork down between bites.
- Eat slowly and chew food well.
- Eat in the same room all the time.
- Avoid other activities while eating, such as watching TV.
- Regular physical activity helps achieve and maintain a healthy weight.
- If weighing yourself helps to “keep you on track”, weigh yourself regularly. If you are discouraged by the number on the scale, put the scale away and rely more on your waist size.

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**Ideal weight loss is 1 – 2 lbs (0.5–1 kg) per week.**

In the beginning, weight loss may occur at a faster rate as a result of water loss. If weight loss exceeds 2 lbs (1 kg) per week after the first couple of weeks, increase your intake of vegetables, fruit and grain products.
Tips For Fast Food and Eating Out

Fast foods are typically high in fat, calories and sodium. Fast foods also tend to be low in fibre and important nutrients. If you eat out often keep these tips in mind:

♥ Keep your choices as simple and basic as possible.
♥ Look for healthier, lower-fat choices offered at most fast food restaurants.
♥ Beware of super-sized items as these large portions may be light on your wallet but they’re heavy in fat, calories and sodium.

<table>
<thead>
<tr>
<th>Choose these more often:</th>
<th>Instead of….</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>At the Coffee Shop:</strong></td>
<td></td>
</tr>
<tr>
<td>Low-fat whole grain muffin</td>
<td>… Danish, doughnut</td>
</tr>
<tr>
<td>Whole grain bagel with a small amount of light cream cheese, peanut butter or lower-fat cheese</td>
<td>… Bagel with cream cheese</td>
</tr>
<tr>
<td>Poached egg or plain omelette with unbuttered whole grain toast</td>
<td>… Fried egg sandwich with sausage or bacon, cheese omelette, hash browns</td>
</tr>
<tr>
<td>Coffee or tea with milk</td>
<td>… Coffee or tea with cream</td>
</tr>
<tr>
<td><strong>At the Burger Place:</strong></td>
<td></td>
</tr>
<tr>
<td>Plain hamburger on whole grain bun</td>
<td>… Loaded burger with cheese</td>
</tr>
<tr>
<td>Grilled chicken sandwich</td>
<td>… Deep-fried chicken sandwich</td>
</tr>
<tr>
<td>Veggie burger</td>
<td></td>
</tr>
<tr>
<td>Baked potato with chili or low-fat sour cream</td>
<td>… French fries or baked potato with regular sour cream</td>
</tr>
<tr>
<td>“light” menu items</td>
<td>… Super-sized combo meals</td>
</tr>
<tr>
<td>Frozen yogurt cones</td>
<td>… Ice cream, cookies, pies</td>
</tr>
<tr>
<td>Lower-fat milk</td>
<td>… Milkshake, soft drinks</td>
</tr>
<tr>
<td><strong>At the Pizza parlour:</strong></td>
<td></td>
</tr>
<tr>
<td>Whole wheat crust</td>
<td>… White crust</td>
</tr>
<tr>
<td>Vegetarian or Hawaiian</td>
<td>… Loaded pizza</td>
</tr>
<tr>
<td>Lower-fat toppings like ham, chicken, mushrooms, peppers, tomatoes, lower-fat cheese</td>
<td>… Higher fat toppings like bacon, sausage, salami, pepperoni, olives, extra cheese</td>
</tr>
<tr>
<td>Choose these more often:</td>
<td>Instead of....</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>At the Sandwich counter:</strong></td>
<td></td>
</tr>
<tr>
<td>Whole grain bread or buns</td>
<td>... White bread, buns or croissants</td>
</tr>
<tr>
<td>Lean meat such as ham, chicken, turkey, roast beef</td>
<td>... Higher-fat options such as salami, pepperoni, egg salad, tuna salad, meatballs</td>
</tr>
<tr>
<td>Green salad, fruit salad, bean salad</td>
<td>... Caesar salad, potato salad, macaroni salad</td>
</tr>
<tr>
<td><strong>At the Asian eatery:</strong></td>
<td></td>
</tr>
<tr>
<td>Fresh spring rolls</td>
<td>...Deep-fried spring rolls and egg rolls</td>
</tr>
<tr>
<td>Steamed rice, noodles in soup</td>
<td>...Fried rice, fried noodles, chow mein</td>
</tr>
<tr>
<td>Grilled, steamed or stir-fried veggies</td>
<td>...Deep-fried veggies with tempura</td>
</tr>
<tr>
<td>Steamed dumplings</td>
<td>...Deep-fried chicken balls, sweet and sour pork</td>
</tr>
<tr>
<td>Light soy sauce, no MSG</td>
<td>...Regular soy sauce</td>
</tr>
<tr>
<td><strong>At the Italian eatery:</strong></td>
<td></td>
</tr>
<tr>
<td>Pasta with vegetables in tomato sauce</td>
<td>...Lasagna, pasta in cream sauce</td>
</tr>
<tr>
<td>Broiled, baked, grilled or poached fish, chicken or veal</td>
<td>...Breaded, fried or deep-fried fish, chicken or veal</td>
</tr>
<tr>
<td><strong>At the Chicken eatery:</strong></td>
<td></td>
</tr>
<tr>
<td>Barbecued, baked, grilled or stir-fried chicken with the skin removed</td>
<td>...Fried chicken pieces, chicken fingers and chicken nuggets</td>
</tr>
<tr>
<td>Grilled chicken sandwich</td>
<td>...Chicken salad sandwich</td>
</tr>
</tbody>
</table>

| Look for Clues to Healthy Eating... | |
| When you see the words... | It means the food is probably... |
| Baked, barbequed, broiled, charbroiled, grilled, poached, roasted, steamed, stir-fried | ... Cooked with little or no added fat |
| Alfredo, au gratin or in a cheese sauce, battered, breaded, buttered, creamed, crispy, deep-fried, fried, hollandaise, pan-fried, pastry, prime, rich, sautéed, scalloped, with gravy, with mayonnaise, with thick sauce | ... Higher in fat and calories |
| Pickled, smoked, soy sauce | ... Higher in sodium |
Internet Addresses

Saskatoon Health Region
http://www.saskatoonhealthregion.ca

Dietitians of Canada
http://www.dietitians.ca

Heart and Stroke Foundation
http://ww2.heartandstroke.ca

Healthy Eating Is In Store For You ™
http://www.healthyeatingisinstore.ca

Canadian Diabetes Association
http://www.diabetes.ca

Some of the materials in this handout have been adapted from:
Canadian Diabetes Association’s Just the Basics
Heart and Stroke Foundation’s Eating Out
Peak Performance’s Coping with Cholesterol
Calgary Health Region’s Rethink Your Drink
Action Plans and Long Term Goals
Differences Between Acute and Chronic Disease

<table>
<thead>
<tr>
<th></th>
<th>Acute Disease</th>
<th>Chronic Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning</strong></td>
<td>Rapid</td>
<td>Gradual</td>
</tr>
<tr>
<td><strong>Cause</strong></td>
<td>Usually one</td>
<td>Many</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>Short</td>
<td>Indefinite</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Commonly accurate</td>
<td>Often uncertain, especially early on</td>
</tr>
<tr>
<td><strong>Diagnostic tests</strong></td>
<td>Often decisive</td>
<td>Often of limited value</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>Cure common</td>
<td>Cure rare</td>
</tr>
<tr>
<td><strong>Role of Professional</strong></td>
<td>Select and conduct therapy</td>
<td>Teacher and partner</td>
</tr>
<tr>
<td><strong>Role of Patient</strong></td>
<td>Follow orders</td>
<td>Partner of health professionals, responsible for daily management</td>
</tr>
</tbody>
</table>

**Self Management Task**

1. Take care of your health problem
2. Carry out your normal activities
3. Manage your emotional changes

**Summary of Problem-Solving Steps**

1. Identify the problem (this is the most difficult and most important step.)
2. List ideas to solve the problem.
3. Select one method to try.
4. Assess the results.
5. Substitute another idea if the first didn’t work.
6. Utilize other resources (ask friends, family, or professionals for ideas if your solutions didn’t work).
7. Accept that the problem may not be solvable now.
Preventing Diabetes & Heart Disease

**Action Plan Form**

In writing your action plans, be sure it includes

1. what you are going to do,
2. how much you are going to do,
3. when you are going to do it,
4. how many days a week you are going to do it, and
5. how confident you are you are achieving your goal.

1. Activity Action Plan

   I will _______________________________ (what)
   _______________________________ (how much)
   _______________________________ (when)
   _______________________________ (how many)

   How confident are you? (0 = not at all confident; 10 = totally confident) 9

<table>
<thead>
<tr>
<th>Day</th>
<th>Completed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>-</td>
<td>Raining</td>
</tr>
<tr>
<td>Tuesday</td>
<td>✔️</td>
<td>Walked slowly and noticed everything around me</td>
</tr>
<tr>
<td>Wednesday</td>
<td>✔️</td>
<td>It was cool out, but the walk felt good</td>
</tr>
<tr>
<td>Thursday</td>
<td>-</td>
<td>Raining again</td>
</tr>
<tr>
<td>Friday</td>
<td>✔️</td>
<td>Only walked around the neighbourhood for 10 minutes</td>
</tr>
<tr>
<td>Saturday</td>
<td>✔️</td>
<td>Took a friend along – had a nice chat</td>
</tr>
<tr>
<td>Sunday</td>
<td>-</td>
<td>Felt tired.</td>
</tr>
</tbody>
</table>
**Becoming an Active Self-Manager:**

1. Decide what you want to accomplish
2. Look for alternative ways to accomplish this goal
3. Start making short-term plans by making an action plan or agreement with yourself
4. Carry out your action plan
5. Check the results
6. Make changes as needed
7. Remember to reward yourself

**Rewarding Yourself:**

The best part of being a good self-manager is the reward that comes from accomplishing your goals and living a fuller and more comfortable life. However, don’t wait until your goal is reached; rather, reward yourself frequently. For example, decide that you won’t read the paper until after you exercise. Reading the paper becomes your reward. One self-manager who stopped smoking, used the money he would have spent on cigarettes to have his house professionally cleaned. Rewards don’t have to be fancy, expensive or fattening. There are many healthy pleasures that can add enjoyment to your life.

**Preventing type 2 diabetes!**

1. Reduce body weight by 5% or more
2. Exercise for 30 minutes or more daily
3. Limit fat intake, reduce carbohydrate portion sizes, and eat more fruits and vegetables
Additional Information
Follow-up Procedure:

- 2 week, 1 month, 2 month – phone calls
- 6 month and 1 year – follow up appointment
  → Review goals set at session
  → Measurements
  → Identify areas in need of improvement

First Step Program

Who it is for: Individuals with diabetes, pre-diabetes, high blood pressure, abnormal cholesterol, increased body weight and arthritis.

Goals: To provide a high quality prevention/rehabilitation program for individuals who want to take control of their health and future well-being.

Service: Offers both education and exercise. Trained instructors will assess needs and help develop healthy lifestyle habits during each session.

Education involves goal setting, benefits of exercise, risk factor awareness, nutrition, weight control and stress management. Offered on a 6 week cycle, total of 12 classes.

Walking is the key activity for exercise, although the program may also include stationary biking, rowing, upper body exercises, resistance and stretching exercises.

How to Register: Physician referral or self referral.
975-3354 (phone)

Website: http://www.saskatoon.ca/org/leisure/facilities/pdfs/first_step_pulmonary.pdf

Contact: Saskatoon Health Region coordinator
306-655-6929 (Phone)
306-655-4596 (Fax)

City of Saskatoon coordinator
306-975-3121
LiveWell With Chronic Conditions

Who is it for: Caregivers and/or individuals who have chronic health condition(s) such as, but not limited to: cancer, chronic pain, arthritis, diabetes, heart disease, chronic lung disease, Parkinson’s disease, stroke/spinal cord injury, osteoporosis, multiple sclerosis, and kidney disease.

Goals: To help participants obtain information, learn new skills and abilities, and develop higher levels of confidence to manage and cope with chronic health conditions.
To give people more confidence in handling their own health problems.
To give and receive support from others who are experiencing similar health problems.

Service: Included in this six week program are:
- Problem solving and action plans
- Exercise
- Cognitive symptom management
- Nutrition
- Fatigue and symptom management
- Advanced care directives
- Use of medications
- Dealing with fear, anger and depression
- Communication with others

Additional: The program began in 2002, and it is delivered under license from Stanford University by volunteer lay leaders. Pairs of trained volunteers work with groups of up to 12 people, once a week for 2.5 hours for six consecutive weeks. Results suggest that the program impacts people’s sense of wellbeing and reduces healthcare utilization.

Cost: Free

Schedule: 2.5 hours weekly for 6 consecutive weeks.

Contact: LiveWell CDM Program 306-655-LIVE (306-655-5483) (phone), 306-655-6758 (fax)
LiveWell

Optimizing Chronic Disease Management