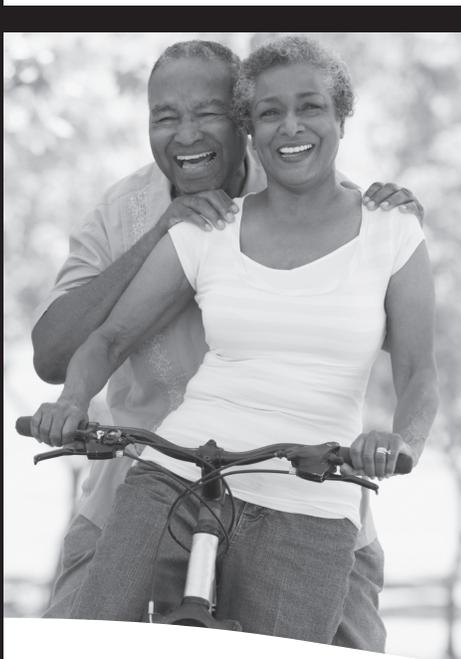


# Living well with Diabetes



Information to help you  
understand and learn to live  
with diabetes



# Table of contents

	Page
<b>Part 1 – Healthy Living .....</b>	<b>1</b>
<b>Part 2 – Healthy Eating .....</b>	<b>16</b>

## Welcome to the Living Well with Diabetes information session.

We hope this session helps you to take part in your own care and well being. We will discuss topics such as testing your blood sugar, diabetes medications, activity level, treating low blood sugar, caring for your feet and healthy eating.

This booklet has all of the information presented in this session and you can use it to follow along. Feel free to write notes or questions in the booklet and refer to it when you go home.

<b>Metric and Imperial Sizes</b>	
250 ml	= 1 cup
175 ml	= $\frac{3}{4}$ cup
125 ml	= $\frac{1}{2}$ cup
60 ml	= $\frac{1}{4}$ cup
15 ml	= 1 tablespoon (tbsp)
5 ml	= 1 teaspoon (tsp)
25 gram (g)	= 1 ounce (oz)

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# Part 1 – Healthy Living

## What is Diabetes?

- You have diabetes when there is too much sugar in your blood.
- The sugar from the food you eat and drink stays in your blood instead of going into your cells.
- The cells cannot use the energy from the food. You may begin to feel run down or tired.

## How does sugar get into the blood?

- Sugar comes from foods that contain carbohydrates.
- It is carried by the blood to all parts of the body.
- Insulin helps sugar get into the cells.



## What is insulin?

- A hormone made by the pancreas.
- Works like a key to open cells to let sugar in.
- Sugar is used for energy.



## Type 1 Diabetes

- The pancreas does not make insulin.
- People with Type 1 Diabetes must take insulin.

## Type 2 Diabetes

- The body cells cannot use the insulin. This is called insulin resistance.
- The liver sends out too much sugar.
- The pancreas does not make enough insulin.

Wear or carry medication identification.

## Type 2 Diabetes risks

- Family history
- Aging
- Obesity
- Not being active



## Why control Diabetes?

- You will have more energy.
- You will feel better.
- It will help to improve your health.



## **How do you control Diabetes?**

- Lifestyle (healthy eating and activity)
- Medications
- Managing stress

## **Why be active?**

- Helps control your blood sugars.
- Helps control your weight.
- Improves your circulation.
- Strengthens your heart muscle.

Activity can also help some people manage stress. Being active is important especially when you have diabetes.

## **How much activity?**

- Check with your doctor before starting any activity.
- Start slowly.
- Aim for 30 minutes of activity a day, 5 times a week.

### Suggestions for activity:

- walking
- swimming
- Tai Chi
- dancing
- exercise class
- gardening
- housework
- other\_\_\_\_\_



### Why check your blood sugar?

- Tells you about your blood sugar levels.
- Helps you know how a food or activity affects your sugar level.

It is important to check your blood sugar regularly. When you check regularly you can see the patterns of your blood sugars. This information will help you to manage your diabetes.

## Blood sugar targets

Blood sugar before meals: 4 to 7

Blood sugar 2 hours after meals: 5 to 10



## When checking your blood sugar:

- Vary the times you check, such as:
  - before any meal
  - 2 hours after a meal
  - at bedtime

You may be asked to check more often than this.

- Keep a record of your blood sugars.
- Discuss and show your record to your health care team.

When you write your numbers down in a record book you will know if there are certain times of day when your blood sugars go up or down.

**Sample Test Chart**

Date	Before Breakfast	2 hours after	Before Lunch	2 hours after	Before supper	2 hours after	Bedtime
May 1	8:00 am 7.2				5:30 pm 3.3		
May 3	8:30 am 5.2	10:30 am 12.3					
May 5			12:00 pm 6.4				9:30 pm 8.4
May 7					6:00 pm 6.1	8:00 pm 7.9	



## Medications

There are many different medications used to treat diabetes, including pills and insulin.

My diabetes medications are (please check):

- Glucophage (Metformin™)**
  - Decreases sugar made by the liver.
  - Helps the cells take in sugar.
  - May reduce insulin resistance.
- Gliclazide, Glimepiride and Glyburide (Diabeta™)**
  - Helps the pancreas release insulin throughout the day.
  - May cause your blood sugar to go too low (less than 4).
- Repaglinide (Gluconorm™)**
  - Take with meals.
  - Makes the pancreas release insulin at that meal.
  - May cause your blood sugar to go too low (less than 4).
- Oral Incretins (Januvia™, Ongliza™, Tragenta™)**
  - Improves the body's ability to control blood sugar levels.
  - Helps decrease amount of sugar made by the liver.
  - Less likely to cause low blood sugar (less than 4).
- Injected Incretins (Victoza™, Byetta™)**
  - Improves the body's ability to control blood sugar levels.
  - Helps decrease amount of sugar made by the liver.
  - Less likely to cause low blood sugar (less than 4).
- Insulin**
  - Works like a key to open cells to let sugar in.

If your blood sugars are not well controlled, talk to a member of your health care team. The type of medication, the amount you take or both may need to change. You may need to take more than one type of diabetes medication.

## What is low blood sugar (hypoglycemia)?

Low blood sugar is when your blood sugar is less than 4. It is also called hypoglycemia.

## What happens when your blood sugar is low?

You may have one or more of these symptoms:

- headache
- blurry eyesight
- hunger
- irritability
- sweating
- dizziness
- fast heartbeat
- shaking
- anxiety
- weakness, feeling tired



If you have one or more of these symptoms, test your blood sugar to see if it is less than 4.

If your blood sugar is less than 4, you need to treat it right away. If left untreated, your symptoms could get worse and you could pass out.

**If you are not able to test your blood sugar, treat your symptoms right away.**

## What causes low blood sugar?

- Not eating at regular times or missing meals or snacks.
- Eating less carbohydrates than usual.
- Doing more exercise or activity than usual.
- Taking more diabetes medication or insulin than you need.
- Drinking alcohol.

## Treating low blood sugar

### Step 1

Stop what you are doing.



Eat or drink 15 grams of fast-acting carbohydrate. Choose one of these:

- 3 to 6 glucose tablets (depending on brand)
- 3 teaspoons, cubes or packets of table sugar (may be dissolved in water)
- 3 teaspoons of honey
- $\frac{3}{4}$  cup regular pop (not sugar free or diet)
- $\frac{3}{4}$  cup fruit juice
- 3 to 6 candies (depending on brand)

### Step 2

Sit down and rest for 10 to 15 minutes. Check your blood sugar again.

If your blood sugar is still less than 4 or if the symptoms of low blood sugar do not go away, repeat Step 1.



**If you have a low blood sugar just before a meal or snack, treat it as described in Steps 1 and 2 and then have your regularly planned meal or snack and medication.**

If your next meal is more than one hour away, have a snack with a starch and protein such as:

- 1/2 cup milk plus 2 plain cookies
- 1/2 cup milk with 1/2 cup cereal
- 6 crackers with 1 oz cheese
- 1 slice of bread with 1 tablespoon peanut butter or 1 oz meat or cheese

This will help maintain your blood sugar level until your next meal.

## Stress

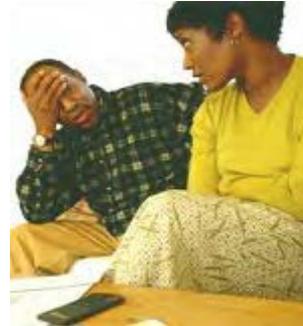
### What does stress do?

Increases:

- blood sugar levels
- heart rate and blood pressure

Causes:

- mood swings and irritability
- loss of concentration
- trouble sleeping and fatigue

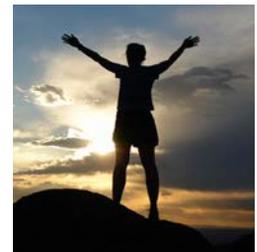


Stress can cause you to pay less attention to your diet and activity. This can result in poor blood sugar control and lifestyle choices that may lead to weight gain or loss.

### Dealing with stress

If possible get rid of as many sources of stress as you can.

- Learn a relaxation technique such as yoga.
- Be active on a regular basis.
- Get help or support from family and friends.



### If you smoke...



- Set a date to quit.
- Talk to a member of your health care team.

## Driving and Diabetes

### What do I need to do before I drive?

**Always test your blood sugar just before driving.**

- If your blood sugar **is over 5.0 mmol/L**, you can drive. Test your blood sugar after every 4 hours of driving.
- If your blood sugar **is 4.0 to 5.0 mmol/L**, eat a snack with carbohydrate, such as cheese and crackers or ½ sandwich to raise your blood sugar over 5.0 mmol/L.
- If your blood sugar **is less than 4.0 mmol/L** or you have one or more of the symptoms of a low blood sugar, you need to raise your blood sugar quickly by doing **Steps 1 and 2** below.

### How do I treat low blood sugar?

#### Step 1

Stop what you are doing.

Eat or drink 15 grams of fast-acting carbohydrate.

Choose one of these:

- 3 to 6 glucose tablets (depending on brand)
- 3 teaspoons, cubes or packets of table sugar (may be dissolved in water)
- 3 teaspoons of honey
- ¾ cup regular pop (not sugar free or diet)
- ¾ cup fruit juice
- 3 to 6 candies (depending on brand)

#### Step 2

Wait 15 minutes. Do not drive. Check your blood sugar again:

- If your blood sugar is still **5.0 mmol/L or less** or your symptoms have not gone away, repeat Step 1.
- If your blood sugar is **over 5.0 mmol/L**, have a snack such as a granola bar, cheese and crackers or ½ sandwich to keep your blood sugar above 5.0 mmol/L.



**When you treat a low blood sugar, always wait 45 to 60 minutes before you drive.**

**You need this time to fully recover and be able to drive safely.**

## **What do I do if I feel a low blood sugar while I am driving?**

If you feel that your blood sugar is low:

- pull to the side of the road and stop driving
- remove your keys from the ignition
- test your blood sugar
- treat a low blood sugar by doing Step 1 and Step 2 on page 11
- wait 45 to 60 minutes before driving



## **Drive safely**

Always wear your medical alert identification.

Keep an “emergency kit” in your vehicle to prevent or treat low blood sugars. This kit should contain:

- glucose tablets
- drinks with sugar such as juice or regular pop
- granola bars
- 2 or 3 plain cookies



Always travel with your blood glucose monitor and testing supplies.

Do not keep your monitor and supplies in the vehicle as they can be affected by hot or cold temperatures.

## Foot care



### Do:

- ✓ Check your feet every day:
  - Check for breaks in the skin, blisters, bruises, infections, dry skin, and hard areas.
  - Look at the top and bottom of each foot and between the toes.
  - Look for changes in colour.
  - Feel for changes in temperature.
- ✓ Use a mirror to help you see:
  - If you have trouble seeing, have a family member, friend or care helper look at your feet once a week.
- ✓ Check your shoes before wearing:
  - Check the inside of your shoes for sharp or hidden objects.
- ✓ Buy shoes late in the day.
- ✓ Check the temperature of bath water before you get in to make sure it will not burn your feet.



### Do not:

- × Cut your own corns or calluses:
  - This may cause an open area and lead to an infection.
- × Treat your own ingrown toenails.
- × Walk barefoot:
  - You may step on glass or burn the soles of your feet on hot asphalt.
- × Apply heat to your feet:
  - Poor circulation may prevent you to from recognizing a dangerous temperature.

## Know your target

Here is list of target levels for tests that are common for people with diabetes. Work with your health care team to find the best way to reach your target levels. Talk to your health care team if you have questions about your test results.

Test	Target Level	When to Test
<b>A</b>		
A1C (blood test)	Less than 7%	Every 3 months
Albumin creatinine ratio (urine test)	Less than 2.0	Once a year
<b>B</b>		
Blood pressure	130/80 or under	Every visit
Blood sugar (glucose)	4.0 to 7.0	Before meals
	5.0 to 10.0	2 hours after meals
Blood and urine tests for kidneys	These tests are ordered by your health care team based on your needs.	
<b>C</b>		
Cholesterol: Total	Less than 4.2	Once a year without treatment Every 3 to 6 months with treatment
Cholesterol: LDL (Bad)	Less than 2.0	Once a year without treatment Every 3 to 6 months with treatment
Cholesterol: HDL (Good)	Greater than 1.3	Once a year without treatment Every 3 to 6 months with treatment
Cholesterol: Total to HDL ratio	Less than 4.0	Once a year without treatment Every 3 to 6 months with treatment
Cholesterol: Triglycerides	Less than 1.5	Once a year without treatment Every 3 to 6 months with treatment

### Other tests

Test	When to Test
<b>D</b> Dental	See your dentist once a year.
<b>E</b> Eyes	Have a dilated eye examination once a year, or more often if needed. This annual exam is covered by the Ontario Ministry of Health.
<b>F</b> Feet	Check your feet daily. Have your health care team check your feet at every visit.

### Reaching your target levels helps reduce the risk of:

- a heart attack
- stroke
- eye disease
- kidney disease
- nerve damage
- amputation

You can help prevent these risks by having good control of your diabetes and seeing your health care provider regularly.

## **What is your plan for healthy living?**

List one thing you plan to work on over the next week:

---

What will help you make this a success?

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## Part 2 – Healthy Eating

### Healthy eating

Healthy eating helps you:

- Get better control of blood sugars
- Use insulin better
- Keep a healthy weight
- Have more energy



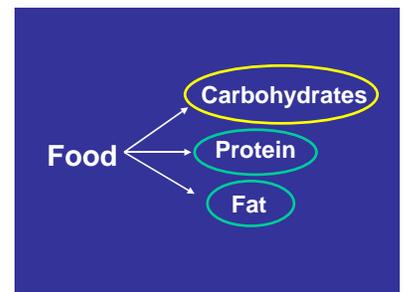
The Canadian Diabetes Association recommends that all people with diabetes receive advice about nutrition from a Registered Dietitian.

Ask your family doctor to refer you to a Registered Dietitian.

### Food

When you eat food, it breaks down into:

- Carbohydrates
- Protein
- Fat



**Carbohydrates affect your blood sugar.**

### When to eat

- Eat 3 meals a day. Some people may benefit from including a healthy snack.
- Eat at regular times. This will help control your blood sugar levels.
- Space meals 4 to 6 hours apart.



## Foods with Carbohydrates

Foods with carbohydrates are:

- Grains and Starches such as:
  - breads, cereals, potato, rice, corn, legumes (beans, peas and lentils)
- Fruit
- Milk and Alternatives
- Sweets and Sugars

Carbohydrates are also called “carbs”.

## Eat more fibre

Choose high fibre foods such as:

- Whole grain breads and cereals
- Kidney beans and lentils
- Brown rice
- Fruit and vegetables



Foods high in fibre:

- Help you to feel full longer.
- Slow down how fast the food gets digested or broken down.
- Slow down the rise of your blood sugar.
- Keep your bowels regular.

**These foods have carbohydrates and will affect your blood sugar**

Food Group	What is the size of one serving?
<p><b>Grains and Starches:</b>                      Beans, baked                      Bread, buns                      Cereal, hot and cold                      Corn                      Crackers                      English muffin                      Legumes (peas, beans and lentils)                      Pasta                      Pizza                      Popcorn                      Potato                      Rice                      Soup</p>	<p>Choose an amount up to the size of a small fist or a tennis ball.</p>
<p><b>Fruit:</b>                      Apple                      Banana                      Blueberries                      Cantaloupe                      Grapes                      Grapefruit                      Juice                      Orange                      Peach                      Pear                      Strawberries                      Watermelon</p>	<p>Choose an amount up to the size of a small fist or a tennis ball.</p>
<p><b>Milk and Alternatives:</b>                      Milk                      Soy beverage (unflavoured)                      Pudding, no sugar added                      Yogurt, fruit, plain or no sugar added</p>	<div style="text-align: center;">                       1 cup                 </div>
<p><b>Other Choices                      (have once in a while):</b>                      Chocolate bar (45 gram) .....½                      Cake or pie.....½ small slice                      Cookies .....2                      Granola bar .....1                      Ice cream .....1/2 cup                      Popsicle .....1                      Potato chips .....15                      Pretzel sticks .....30                      Sugar, honey, syrup .....1 tsp</p>	<p>Servings as listed.</p>

**These foods have no carbohydrate and will not affect your blood sugar.**

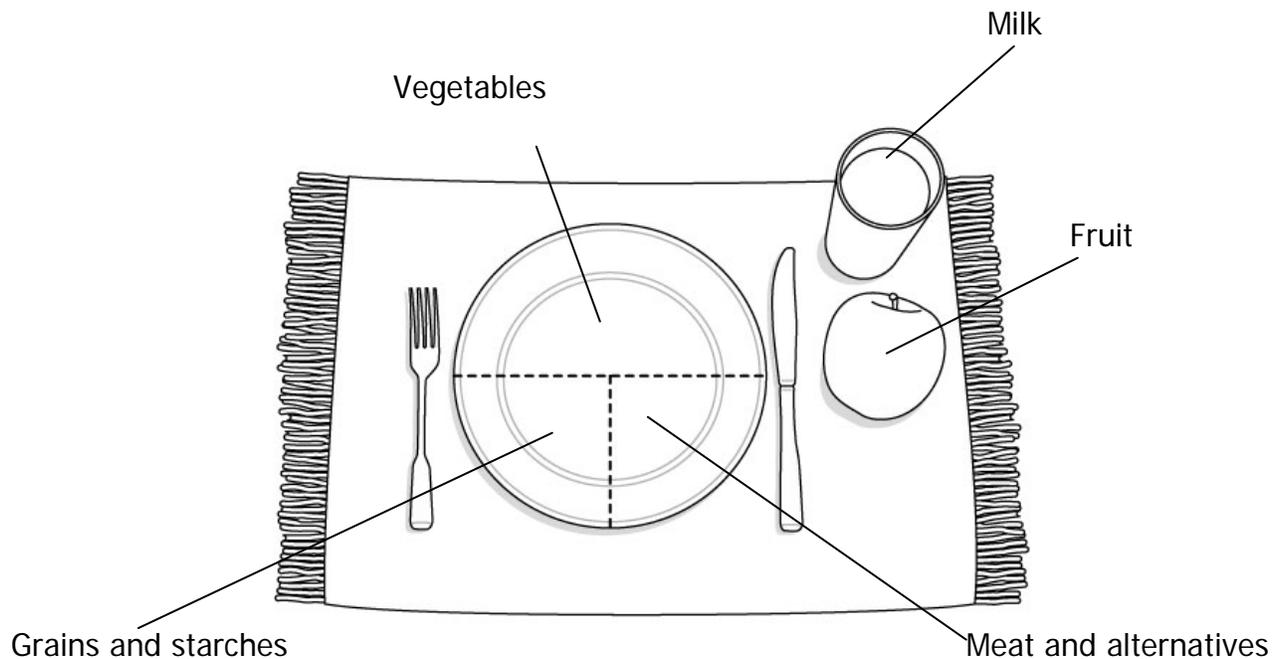
Food Group	What is the size of one serving?
<p><b>Meat and Alternatives:</b>                      Cheese, part skim                      Chicken                      Eggs                      Fish                      Meat, lean                      Peanut butter                      Turkey</p> <ul style="list-style-type: none"> <li>• Make lower fat choices.</li> <li>• Prepare with no or small amounts of added fat.</li> <li>• Avoid fried foods.</li> <li>• Remove skin off of chicken or turkey.</li> <li>• Trim visible fat from meat.</li> </ul>	<p>Choose servings up to the size of the palm of your hand and the thickness of your little finger.</p>
<p><b>Fats and Oils:</b>                      Margarine, non-hydrogenated                      Nuts                      Oils                      Salad dressings, low fat</p>	<p>Choose servings equal to the size of the tip of your thumb.</p>
<p><b>Vegetables:</b>                      All</p>	<p>Choose as much as you can hold in both hands.</p>
<p><b>Extras:</b>                      Artificial sweeteners                      Coffee                      Diet pop                      Herbs and spices                      Soft drinks, sugar free (diet pop)                      Sugar free drinks (Crystal Light drink mix)                      Sugar free gelatin (Jello)                      Tea                      Vinegar                      Water</p>	<p>Have as desired.</p>

Pictures reprinted with permission from the Canadian Diabetes Association.

## What do healthy servings look like?

Before you put food on your plate, in your mind divide your plate into 3 parts:

- Make  $\frac{1}{2}$  of your plate vegetables. Vegetables contain fibre, plenty of vitamins and minerals, and are low in calories.
- Make  $\frac{1}{4}$  of your plate grains and starches such as rice, noodles, potatoes, peas, beans or lentils.
- Make  $\frac{1}{4}$  of your plate meat and alternatives such as fish, lean meats, low fat cheeses, eggs or tofu.
- Have a glass of milk and a piece of fruit to complete your meal.



## Sample meal plans

Smaller appetite	Larger appetite
<b>Breakfast:</b>	<b>Breakfast:</b>
½ cup cold cereal	½ cup cold cereal
1 slice whole grain toast	2 slices whole grain toast
1 orange	1 orange
1 cup low-fat milk	1 cup low-fat milk
2 tbsp peanut butter	2 tbsp peanut butter
<b>Lunch:</b>	<b>Lunch:</b>
1 sandwich	1 sandwich
- 2 slices whole grain bread or 6" pita	- 2 slices whole grain bread or 6" pita
- 2 oz meat, chicken or fish	- 2 oz meat, chicken or fish
- 1 tsp non-hydrogenated margarine	- 1 tsp non-hydrogenated margarine
Celery and carrot sticks	Celery and carrot sticks
¾ cup low-fat, no sugar added yogurt	¾ cup low-fat, no sugar added yogurt
	1 cup chicken noodle soup
	<b>Afternoon snack:</b>
	1 medium apple or 1 small banana
<b>Supper:</b>	<b>Supper:</b>
1 medium potato or 2/3 cup of rice	1 large potato or 1 cup of rice
Vegetables: broccoli and cauliflower	Vegetables: broccoli and cauliflower
1 tsp non-hydrogenated margarine	1 tsp non-hydrogenated margarine
2 oz lean meat, chicken or fish	1 tbsp green salad with low fat dressing
1 small pear	4 oz lean meat, chicken or fish
1 cup low-fat milk	1 small pear
	1 cup low-fat milk
<b>Evening snack</b>	<b>Evening snack</b>
1 oz low-fat cheese	1 oz low-fat cheese
6 whole grain crackers	6 whole grain crackers

Include water, tea or coffee with meal and snacks as desired.

## Alcohol

- Talk to a member of your health care team before drinking alcohol.
- Some medications can interact with alcohol. You may need to limit or avoid alcohol.



## Sick days

- Take your diabetes medication.
- Eat your usual meals and snacks (if you have snacks), at your usual time if you can.
- Check your blood sugar level at least every 4 hours.
- Talk to a member of your health care team about how to deal with sick days.

## Too sick to eat?

If you are unable to eat your usual meals and snack(s), have one of these every hour:

- ½ cup juice
- ½ cup regular pop
- ½ cup regular Jell-O
- 1 whole popsicle



You may need to test your blood sugar more often.

## Drink lots of sugar-free fluids

- water
- clear broth
- tea
- diet pop



## What is your plan for healthy eating?

Check off what you are currently doing. See what is missing. This may help you to come up with a plan for healthy eating.

- Eat 3 meals a day at regular times. Eating at regular times will help your body control blood sugar levels. Space meals 4 to 6 hours apart. You may benefit from including a healthy snack.
- Eat a variety of foods but try to eat about the same amount of carbohydrate at the same time each day.
- Eat small servings of food from the Fats and the Meat and Alternatives food groups. Eating large servings can increase your weight and cholesterol level. Maintaining a healthy weight may help with blood sugar control and is healthier for your heart.
- Choose high fibre choices. Fibre may help you feel full and may help in controlling your blood sugar levels and cholesterol levels.
- Limit sugars and sweets such as sugar, regular pop, desserts, candies, jams and honey. These foods may cause your blood sugar level to go higher. Artificial sweeteners may be useful.

List one thing you plan to work on over the next week:

---

What will help you make this a success?

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## Steps to health

- Test your blood sugar on a regular basis.
- Take your diabetes medications.
- Be active.
- Reduce your stress.
- Eat healthy.
- Wear or carry medical identification.



## Need more information?

- **Canadian Diabetes Association:** [www.diabetes.ca](http://www.diabetes.ca)

Local office: 1685 Main St. West Hamilton  
Phone: 905-528-1263 or 1-866-429-3681

- **Bookstores and websites**

Hamilton Health Sciences: [www.hhsc.ca](http://www.hhsc.ca)

Halton Healthcare: [www.haltonhealthcare.on.ca](http://www.haltonhealthcare.on.ca)

St. Joseph's Healthcare Hamilton: [www.stjosham.on.ca](http://www.stjosham.on.ca)

Joseph Brant Hospital: [www.josephbranthospital.ca](http://www.josephbranthospital.ca)

Chapters: [www.chapters.indigo.ca](http://www.chapters.indigo.ca)

The Diabetes Mall: [www.diabetesnet.com](http://www.diabetesnet.com)

Diabetes Express: [www.diabetesexpress.ca](http://www.diabetesexpress.ca)

American Diabetes Association: [www.diabetes.org](http://www.diabetes.org)

Eat Right Ontario: 1-877-510-5102 [www.eatrightontario.ca](http://www.eatrightontario.ca)  
(personalized weekly menus available).

- **Public Library**
- **Your local pharmacy** – Ask if your pharmacy takes part in a diabetes program that offers diabetes information, cookbooks and supplies. Pharmacy staff in a diabetes program are trained to help answer your questions about diabetes.