



Diabetes

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Diabetes 101

Diabetes is a condition in which the body is not able to produce or use insulin properly. Insulin is needed by our bodies to turn the food we eat into glucose, which is then used by the body for energy. There are three types of diabetes: type 1, type 2, and gestational diabetes.

Type 1 diabetes occurs when the body produces little to no insulin. It affects about 10% of people who have diabetes, and is usually diagnosed during childhood or adolescence. Affected individuals will require daily injections of insulin for life.

Type 2 diabetes occurs when the body does not produce enough insulin or cannot use insulin properly. It usually develops in adulthood and affects the remaining 90% of people who have diabetes. Many people can control this form of diabetes through a combination of a healthy diet, exercise, and medications, which may or may not include insulin injections.

Gestational diabetes is a temporary condition that can occur during pregnancy. It affects approximately 3.7% of pregnancies. Having gestational diabetes may increase the risk of developing diabetes later in life for both the mother and child.

Why should I care?

It is important to maintain healthy blood glucose levels because if diabetes is left untreated or if it is poorly managed, a number of complications can occur. These include heart disease, kidney disease, eye disease, nerve damage, and impotence.

Interesting Facts and Figures

- 4 out of 5 people with diabetes die from heart disease
- 1 in 3 people have diabetes and don't know it; on average people will have had diabetes for 7 years before it is diagnosed
- It is estimated that diabetes will cost the Canadian healthcare system \$15.6 billion a year by 2010, and this will increase to \$19.2 billion by 2020.

Who is at risk?

- Those who are age 40 or older
- Those who are a member of a high-risk group (Aboriginal, Hispanic, Asian, South Asian or African descent)
- Those who are overweight (especially if most of the weight is carried around the midsection)
- Have a parent, brother or sister with diabetes
- Have given birth to a baby weighing more than 4 kg (9 lb)
- Have had gestational diabetes (diabetes during pregnancy)
- Have high blood pressure or high cholesterol
- Have been diagnosed with polycystic ovarian syndrome, acanthosis nigricans (darkened patches of skin) or schizophrenia

Diabetes Tip / Fact

If you are 40 or older you should be tested for type 2 diabetes approximately every three years. If you have any of the additional risks listed above you should be tested for diabetes earlier and/or more often.



Warning signs for diabetes

- Extreme fatigue or lack of energy
- Unusual thirst
- Frequent urination
- Unusual hunger
- Unexplained weight changes
- Mood swings
- Blurred vision
- Frequent or recurring infections
- Cuts and bruises that are slow to heal
- Tingling or numbness in the hands and feet
- Trouble getting or maintaining an erection



What should my blood glucose levels be?

Target Blood Glucose Levels			
	A1C*	Fasting blood glucose/ blood glucose before meals (mmol/L)	Blood glucose two hours after eating (mmol/L)
Target for most patients with diabetes	≤7.0%	4.0 to 7.0	5.0 to 10.0

This information is based on the Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada and is a guide only.

*A1C is a blood test indicating overall blood glucose levels during the past three months. A1C targets differ for pregnant women and children 12 years of age and under.

How do I know my meter is accurate?

It is recommended that you:

- Use a control solution to check the accuracy of your meter every time you open a new box or vial of strips.
- Compare your results to lab test results once a year by bringing your meter with you when you go to the lab and testing at the time (right before or after) you have blood taken for the lab test. The two results should not differ by more than 20%.

When and how often should I check my levels?

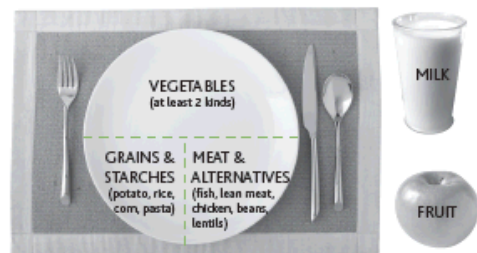
It is recommended that:

- If you have type 1 diabetes:
Testing be done at least three times a day; for example, before you eat in the morning, two hours after a meal during the day, and before bedtime
- If you have type 2 diabetes and are using insulin or taking medication for your diabetes:
Testing be done at least once a day
- Testing be done more often when changes are being made to the way you control your blood glucose levels or if you are sick
- Testing be done before and two hours after meals as well as before, during, and several hours after exercise
- The times and circumstances under which you do your tests be varied over several days, for example before meals, two hours after meals, before bedtime, etc. to see how well your diabetes is controlled overall

How much should you be eating?

Handy Portion Guide*

Your hands can be very useful in estimating appropriate portions. When planning a meal, use the following portion sizes as a guide.

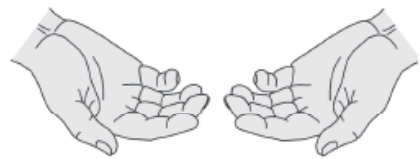


Fruits/Grains & Starches:

Choose an amount the size of your fist for each of grains & starches, and fruit

Milk & Alternatives:

Drink up to 250 mL (8 oz.) of low-fat milk with a meal.



Vegetables:

Choose as much as you can hold in both hands.



Meat & Alternatives:

Choose an amount up to the size of the palm of your hand and the thickness of your finger.



Fats:

Limit fat to an amount equal to the tip of your thumb.

*Reference: Canadian Diabetes Association *Just the Basics: Tips for Healthy Eating, Diabetes Prevention and Management Guide, January 2006.*

Eating well with diabetes

The Glycemic Index (GI) of a food describes how quickly after eating that food blood glucose levels rise. The lower the GI number, the slower the rise in blood glucose. Diabetic patients should try to eat foods with a low GI because this will help to control blood glucose levels.

Low GI (Choose <u>most</u> often)	Medium GI (Choose <u>more</u> often)	High GI (Choose <u>least</u> often)
100% stone-ground whole wheat or heavy mixed grain bread	Whole wheat, rye, or pita bread	White bread, kaiser bun, or white bagel
Barley	Couscous	Rice cakes
Pasta/noodles	Brown or basmati rice	Short-grain rice
Sweet potato or yams	Potato (new, white)	Baking potato
Lentils, chickpeas, kidney/soy/baked beans	Sweet corn, popcorn, banana	French fries, pretzels, soda crackers



What YOU can do!

TRY



- To be physically active and maintain a healthy body weight. Regular exercise is good for your general health and can help lower blood glucose levels.
- To keep your blood pressure below 130/80. Studies have shown that reducing blood pressure can help reduce the risk of developing complications of diabetes including heart, kidney, and eye problems.
- To take care of your feet. Check your feet daily for abnormal changes because diabetes can result in poor circulation and can increase the risk of nerve damage to the feet and lower limbs.



AVOID

- Smoking. Your risk of developing heart problems increases with smoking. It is important that your home and workplace be smoke-free as well.
- High Glycemic Index (GI) and unhealthy foods. Foods that are high in GI or saturated and trans fats can lead to poor control of your blood glucose levels and an increased risk of heart disease.
- Too much stress. Reducing the levels of stress in your everyday life can help to better control your blood glucose levels.



Keeping track of your blood glucose levels

Targets for most patients	A1C%	Fasting (Before Meal) Blood Glucose (mmol/L)	2-Hours Post-Meal Blood Glucose (mmol/L)
	≤7.0	4.0 - 7.0	5.0 - 10.0

Date	Breakfast		Lunch		Dinner		Bed	Comments (Diet, Exercise, Stress, Ketones)
	Before	After	Before	After	Before	After		
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SOURCES: All material contained in this brochure referenced from:
 Canada Diabetes Association www.diabetes.ca
 Health Canada www.hc-sc.ca



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