

Chapter Organization – Nutrition

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Nutrition Therapy

2018 Clinical Practice Guidelines Summary

Key Messages

- People living with diabetes should meet with a registered dietitian
- Reducing caloric intake (the energy from food) should be part of a treatment plan to lose weight when living with overweight or obesity
- Consistent meal times and spreading out carbohydrate intake may help control blood sugar and weight
- There is no one specific dietary pattern that is recommended – dietary preferences, cultural values, and choice should be involved in nutrition treatment
- Healthy behaviour interventions can help people lose weight and maintain a healthy weight

Key Messages for People with Diabetes

- It is natural to have questions about what foods to eat. A registered dietitian can help you develop a meal plan that considers your cultural and nutritional preferences
- Managing food is key to managing diabetes
- Prepare most of your meals at home using whole unprocessed ingredients
- Try to prepare meals and eat together as a family
- With prediabetes and recently diagnosed type 2 diabetes, weight loss is important when living with overweight or obesity. A 5% to 10% weight reduction can help normalize blood sugar levels
- There are many food strategies that can help with weight loss. The best strategy is the one you can maintain long term
- Diabetes friendly eating habits can help manage blood sugar levels and reduce risks of complications
 - Choose whole foods and less refined and processed foods
 - Pay attention to carbohydrate quality and quantity, consider learning to count carbohydrates

DIABETES CANADA

- Choose unsaturated oils and nuts as healthy selections of fat
- Consume lean meats and more plant based proteins
- Include low-glycemic-index foods such as whole grains, fruits, vegetables, and legumes

More information

The goal of nutritional therapy is to help people living with diabetes enjoy a greater quality of life. Good nutrition can reduce risks of complications and severities of complications associated with diabetes as well as improve mental and physical health. Canada is a country rich with ethnic diversity. Within these ethnicities, food preferences, cultural food tendencies, food preparation methods, and eating habits will vary. When making healthy dietary changes to prevent, treat, and manage diabetes ethnic, cultural and individual food preferences should be incorporated.

Approach to Nutrition Therapy

Individual design, regular evaluation, and intense reinforcement should be part of diabetes nutrition therapies. When people are eating foods they like, are being monitored, and are supported with behaviour change assistance, healthy habits are more likely to remain and be more successful. When possible, registered dietitians should be delivering care and monitoring progress at least every 3 months. This care can be delivered individually or in group settings. *Eating Well with Canada's Food Guide- First Nations, Inuit, and Metis* is a great place to start when planning nutrition therapies. This resource can be used to create diet plans and educational nutrition lessons while also considering individual and cultural preferences. The basis of the guide is to ensure people are getting the ideal amounts of all 4 food groups, eating a variety of foods, and are avoiding overconsumption.

Macronutrients

The three main macronutrients are carbohydrates, fats, and proteins.

Carbohydrates are made of starches, sugars, and fibre. Health Canada recommends that all adults consume at least 130 grams of carbohydrates each day to protect optimal brain function. Carbohydrates should make up about 45 – 60% of consumed energy each day. Low glycemic index carbohydrates and those high in fibre should be chosen more often than high glycemic index carbohydrates for good blood sugar control and overall health. The glycemic index (GI) assesses the **quality** of carbohydrates based on how they affect ones blood sugar. Low-GI foods do not raise blood sugar as much as high-GI foods and are therefore helpful for maintaining balanced blood sugar levels. Replacing high-GI foods with low-GI foods has been shown in clinical trial to significantly improve blood sugar control with individuals living with type 1 and

DIABETES CANADA

type 2 diabetes in as short as 2 weeks. Over 1 year this change has also shown decreases in hypoglycemic events, improved cholesterol levels, and reduced amounts of C-reactive protein. High-GI diets are associated with increased cases of cardiovascular disease therefore making nutritional switches from high-GI to low-GI carbohydrate choices can significantly improve one's health and decrease one's risk for complications.

Dietary Fibre is a form a carbohydrate that cannot be digested by the human body. It is recommended that women consume 25 grams of fibre each day and that men consume 38 grams of fibre each day. Diabetes Canada recommends 25 -50 grams of fibre per day for people living with diabetes. Oats, barley, apples, eggplant, and beans are all great sources of dietary fibre. Fibre is helpful because it slows down the speed at which the stomach empties, meaning that food gets to the small intestine more slowly, and gets absorbed to the blood stream more slowly. This means that blood glucose will rise slowly, at a more stable rate. Studies have shown that fibre helps with blood glucose, blood lipids, and LDL cholesterol control.

Sugars especially added sugars from fructose containing sugars are a public health concern. When fructose and sucrose sugars make up more than 10% of total daily energy, fasting blood triglycerides become elevated.



Nutrition – Teaching Tool

Eating nutritious meals and snacks is one of the most important things you can do for your health. These resources can help you learn more about portion control, meal planning, fats and other facts about diet and nutrition.

Why is good nutrition important when living with diabetes?

Good nutrition is important for everyone – with and without diabetes. Eating well is one of the single most important things you can do to keep healthy. Filling your plate with vegetables, good quality proteins, whole grains, and dairy products will keep you feeling strong, feeling energized, and allow everything within the body to function properly.

When living with diabetes achieving and maintaining a healthy weight is important. Being overweight or obese significantly increases the risk of developing diabetes related complications such as cardiovascular disease, kidney failure, stroke, blindness, and amputation.

What can I do?

Eating traditional foods including vegetables and fruit, whole grains, wild meat, fish, legumes, nuts, seeds, and milk products can form a very balanced healthy diet. It is important to eat a variety of foods, aiming for at least 2 types of vegetables at every meal. Different fruits, vegetables, legumes, and meats contain different nutrients that the body needs to function and for optimal health. Eating a diet rich in whole foods as noted above will help your body, mind, and spirit thrive.

What should I avoid?

Processed foods, foods not from the land but from a package, are often high in fat, sugar, and salt. These ingredients, especially in high amounts, are not good for the body or mind. In large quantities eating processed foods can lead to weight gain, obesity, and health complications. When living with diabetes eating well is very important for protection against complications and to support a high quality of life. Eating whole foods rich in fibre and a variety of nutrients are best to help keep blood sugar levels balanced, maintain or achieve a healthy weight, and keep us feeling healthy inside and out. A list of common processed foods will be added to the following page.

Avoid sugary drinks including pop, fruit juice, energy drinks, sugary coffee drinks, and yogurt based drinks. Sugary drinks are the leading contributors of added sugar to our diets. Diabetes Canada recommends that no more than 10% of one's daily calorie intake comes from free sugars – this means the types of sugars added to sugary drinks. With this in mind, a person should aim to consume 50g or less of sugar per day – less than what is in 1 bottle of most pops!



Fill up on Fibre - Teaching Tool

Fibre is the part of plants that our bodies cannot digest. There are two types of fibre: soluble and insoluble. Getting enough fibre in your diet can help with managing diabetes and improve your overall health.

Foods such as vegetables, fruits, legumes and whole grains contain fibre. Animal foods such as meats and eggs have no fibre.

What is the difference between soluble and insoluble fibre?

Soluble fibre is the soft fibre that helps control blood glucose (sugar) and reduces cholesterol. It also helps in managing diarrhea. Soluble fibre is present in oats, barley, legumes (dried beans and lentils), and some vegetables and fruits such as eggplant, okra, apples and berries.

Insoluble fibre is the bulky fibre that helps to prevent constipation. It also helps to prevent some types of cancers. It is present in wheat bran, whole grain breads and cereals, fruits and vegetables. Many foods contain both soluble and insoluble fibre.

Why is fibre good for me?

Fibre is important for your overall health. Some of its benefits include:

- **Controlling blood sugar**
- **Managing blood pressure**
- **Reducing blood cholesterol**
- **Increasing the feeling of being full**
- **Controlling weight**
- **Regulating bowel movement**

Benefit for those with diabetes

Soluble fibre may be especially helpful for people with diabetes. Soluble fibre can help improve blood sugar management by slowing down digestion, leading to more stable blood sugar levels after eating. The cholesterol-lowering effect of soluble fibre may also help reduce the risk of heart disease in people with diabetes.

How much fibre do I need?

Diabetes Canada recommends that adults with type 1 or type 2 diabetes may aim to consume 30 to 50 grams of fibre every day. Children between the ages of three and 18 need a gradual increase of fibre in their diets, usually calculated by using the child's age and adding five grams. People of all ages should eat a variety of foods to obtain a mixture of both soluble and insoluble fibre.

How can I get enough?

Good foods with at least two grams of fibre per serving can claim to be a “source” of fibre.

Better foods with at least four grams of fibre per serving can claim to be a “good source” of fibre.

Best foods with at least six grams of fibre per serving can claim to be a “very good” or “excellent” source of fibre.

Here are some tips to increase your fibre intake:

- Eat the skins and seeds of vegetables and fruit
- Choose “whole grain” bread, pasta, cereal, crackers and rice
- Use whole grain flour in your homemade baked goods
- Add barley, beans and lentils to soups and salads
- Use canned beans, chickpeas in salads or in place of meat a few times every week
- Add ground flax seeds to yogurt, cereal or homemade baked goods
- Add a small handful of almonds or other nuts to a salad

Note: Increase the amount of fibre slowly and drink plenty of fluids to avoid discomfort and gas.

Examples of foods with good, better, and the best fibre content

- **Good**
 - A medium apple (with its skin) or 1 small banana
 - 2 tbsp natural peanut butter
 - 1 cup strawberries
 - 1 slice whole grain bread
 - 1 cup green beans
- **Better**
 - ¼ cup raw almonds, 1 cup oats (hot cereal)
 - 1 small pear, 1 cup wild blueberries
 - 1 cup split pea soup, 1 cup wild rice
 - 1 cup raw carrots, 1 medium artichoke
- **Best**
 - 1 cup raspberries
 - Sweet potato with skin
 - 1 ½ cups broccoli & cauliflower (frozen then steamed)
 - 1 cup chickpeas (garbanzo beans) , lentils, black beans, or lima bean

Simple changes can increase the amount of fibre in your diet

The low and high fibre meals look very similar but are very different in the amount of fibre. Simple changes to your food choices can increase the amount of fibre in your diet.¹

Low Fibre Diet	Fibre (g)	Fibre (g)	High Fibre Diet
Breakfast			Breakfast
1 cup Corn Flakes	0.7	6.1	1 cup Corn Bran
1 cup low fat milk	0.0	0.0	1 cup low fat milk
1 boiled egg	0.0	0.0	1 boiled egg
1 slice white toast	0.9	3.2	1 slice whole grain toast
1 small banana	1.8	2.3	1 medium orange
Lunch			Lunch
1 cup chicken noodle soup	0.4	4.5	1 cup split pea soup
Turkey sandwich: 2 slices white bread, turkey, mustard	1.6	5.8	Turkey sandwich: 2 slices whole grain bread, turkey, lettuce, mustard
½ cup tomato slices	1.2	1.2	½ cup tomato slices
1 slice cheese	0.0	0.0	1 slice cheese
1 apple	2.6	2.6	1 apple
		2.9	10 baby carrots ¹
Snack			Snack
¼ cup of almonds	4.1	4.1	¼ cup of almonds
3 arrowroot cookies	0.3	4.2	1 small pear
Supper			Supper
2 ½ oz. baked salmon	0.0	0.0	2 ½ oz. baked salmon
1 cup white rice	1.7	2.8	1 cup quinoa
1 cup green beans	3.2	3.2	1 cup green beans
1 cup lettuce salad and dressing	1.2	0.7	1 cup spinach salad
1 cup low-fat milk	0.0	0.9	with ½ cup of cauliflower and
		2.8	¼ cup chickpeas and dressing
		0.0	1 cup low-fat milk
Bedtime snack			Bedtime snack
¾ cup plain yogurt	0.0	0.0	¾ cup plain yogurt
½ cup of blueberries	2.0	2.0	½ cup of blueberries
TOTAL FIBRE	21.7	48.4	TOTAL FIBRE
TOTAL ENERGY (Calories)	1910	1972	TOTAL ENERGY (Calories)

Fibre – Teaching Tool & Activity

What changes can you make you meals to increase the amount of fibre you consume to 25 – 50 grams per day?

Think about staring with one day:

Breakfast:

Lunch:

Dinner:

Total grams of fibre:

Together you can think of high fibre foods you like, and decide what meals you can incorporate them into to meet your goals.

To check the fibre content of foods the Canadian Nutrient File is available online via Health Canada at: https://food-nutrition.canada.ca/cnf-fce/newSearch-nouvelleRecherche.do?action=new_nouveau.

In the resource section at the end of this chapter you will find a food list with included fibre content

Low Glycemic & High Glycemic Foods Lists

Teaching Tool

The glycemic index (GI) is a scale that ranks a carbohydrate-containing food or drink by how much it raises blood sugar levels after it is eaten or drunk. Foods with a high GI increase blood sugar higher and faster than foods with a low GI. There are three GI categories:

- Low GI (55 or less) – Choose most often
- Medium GI (56-69) – Choose less often
- High GI (70 or more) – Choose least often

Diabetes Canada recommends choosing lower GI foods and drinks more often to help control blood sugar. Work with your Registered Dietitian to find ways to substitute high GI foods for foods in the medium and/or low GI category.

Why should I eat foods with a lower glycemic index?

A low GI diet can help you:

- Decrease risk of type 2 diabetes and its complications
- Decrease risk of heart disease and stroke
- Feel full longer
- Maintain or lose weight

Meal planning ideas

Try these meal planning ideas to lower the GI of your meal:

- Cook your pasta al dente (firm). Check your pasta package instructions for cooking time.
- Make fruits and milk part of your meal. These foods often have a low GI and make a healthy dessert.
- Try lower GI grains, such as barley and bulgur.
- Pulses (such as beans, lentils, and chickpeas) can be grains and starches or meat and alternatives. Swap half of your higher GI starch food serving with pulses. For example, instead of having one cup of cooked short grain rice, have ½ cup of cooked rice mixed with ½ cup of black beans.

Remember that using the glycemic index to choose foods is only one part of healthy eating. Healthy eating also means choosing a variety of food groups, having moderate portion sizes, and selecting more whole foods instead of processed foods. Checking your blood sugar before, and two hours after, a meal is the best way to know how your body handles certain foods and

**Most starchy/sweet vegetables (e.g. peas, parsnip, and winter squash) provide 15 g or more carbohydrate per 1 cup serving. Beets and carrots often provide less than 15 g carbohydrate per serving (marked above with *).

Glycemic Index Reference Guide – Teaching Tool

LOW GI (55 or less)
Choose most often

MEDIUM GI (56-69)
Choose less often

HIGH GI (70 or more)
Choose least often

GRAINS AND STARCHES

Breads

Heavy mixed grain, spelt, sourdough bread	Chapati, pita, roti (white, whole wheat), Flaxseed or linseed bread	Bread (white, whole wheat)
Tortilla (whole grain)	Pumpernickel, rye, stone ground whole wheat, whole grain wheat bread	Naan (white, whole wheat)

Cereal

All Bran™, Bran Buds with Psyllium™, Oat Bran™, oats (steel cut)	Cream of wheat™ (regular), oats (instant, large flake, and quick)	All-Bran Flakes™, Corn Flakes™, Cream of Wheat™ (instant), Puffed wheat, Rice Krispies™, Special K™
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Grains

Barley, bulgur, pasta (al dente, firm), quinoa, parboiled or converted rice	Basmati, brown, short or long grain white, and wild rice	Jasmine, sticky, or instant white rice
Mung bean noodles, Pulse flours	Cornmeal, couscous, rice noodles	Millet

Other starches

Peas, sweet potato, winter squash	Beets*, corn, parsnip, potato (red, white, cooled)	Carrots*, Potato (instant mashed; red, white, hot)
Popcorn	Rye crisp (Ryvita™), Stoned Wheat Thins™ crackers	Pretzels, rice cakes, soda crackers

FRUITS

Apple, apricot (fresh, dried), banana (green, unripe), berries, cantaloupe, grapefruit, honeydew melon, mango, orange, peach, pear, plum, pomegranate, prunes	Banana (ripe, yellow), cherries, cranberries (dried), figs (fresh, dried), grapes, kiwi, lychee, pineapple, raisins	Banana (brown, overripe), watermelon
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MILK, ALTERNATIVES AND OTHER BEVERAGES

Milk (almond; skim, 1%, 2%, whole; soy), Yogurt (skim, 1%, 2%, whole)	Rice milk
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MEAT AND ALTERNATIVES

Baked beans, chickpeas; kidney, mung, romano beans; lentils, soybeans/edamame, split peas	Lentil, split pea soup (ready-made)
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Nutrition Labels

Reading the nutrition facts on the label can help you make healthy food choices.

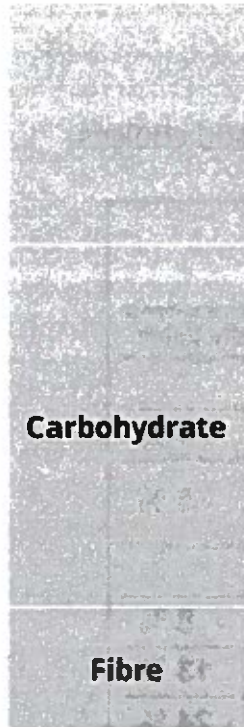
There is lots of valuable information included on a nutrition label! Reading & understanding these labels can help you make healthier food choices.

The label allows you to have an idea of how energy dense one serving of the food item is (how many calories it contains) Choose higher calorie food at meal times, and lower calorie foods for snack time.

You can also find out how much fat and what types of fat are in a product, how many carbohydrates, grams of sugar, grams of fibre, protein, and what vitamins are contained in the food.

Nutrition Facts			
Per 90 g serving (2 slices)			
Amount		% Daily Value	
Calories 170			
Fat 2.7 g		4 %	
Saturated 0.5 g + Trans 0 g		5 %	
Cholesterol 0 mg			
Sodium 200 mg		8 %	
Carbohydrate 36 g		13 %	
Fibre 6 g		24 %	
Sugars 3 g			
Protein 8 g			
Vitamin A	1 %	Vitamin C	0 %
Calcium	2 %	Iron	16 %

- | | |
|---------------------------------|---|
| Serving size | <ul style="list-style-type: none"> • Compare the serving size on the package to the amount that you eat. Are they similar? If not, multiply the nutrition information to represent the serving size you are eating. |
| % Daily Value
(% DV) | <ul style="list-style-type: none"> • This tells you if there is a little or a lot of a nutrient in one serving. Compare similar products. Choose foods with a lower per cent DV of fat and a higher per cent DV of fibre. • Below 15% is considered a little of something • Above 15% is considered a lot of something |
| Fat | <ul style="list-style-type: none"> • Choose foods with lower fat content. • Choose foods with little or no saturated fat. • Choose foods with no trans-fat. |
| Sodium | <ul style="list-style-type: none"> • The percent Daily Value is based on the maximum intake of 2,300 mg per day. |



- Aim for foods that are less than five per cent of the Daily Value of sodium.
- Foods with 15 per cent or more Daily Value of sodium are considered high.
- Try to avoid foods with 400 mg of sodium or more per serving.
- The amount listed is for the serving size given. Are you eating more, less, or the same amount? Compare your serving size to figure out the amount of carbohydrate you are eating.
- The total amount of carbohydrate in grams is listed first. This number includes starch, sugars and fibre. (Starch is not listed separately.)
- Fibre does not raise blood glucose and should be subtracted from the total carbohydrate (ie. 36 g carbohydrate - 6 g fibre = 30 g available carbohydrate).
- Choose foods high in fibre.
- Aim for 30 g or more of fibre per day.

Label language

Sodium

- **Sodium-free/salt-free:** less than five milligrams mg sodium per serving
- **Very low sodium:** 35 milligrams sodium or less per serving
- **Low sodium:** 140 milligrams sodium or less per serving
- **Reduced sodium/less sodium:** At least 25 per cent less sodium than the regular version
- **Light in sodium:** 50 per cent less sodium than the regular version
- **Unsalted/no salt added:** No salt added during processing (this is not a sodium-free food)

Fat

- **Fat-free:** < 0.5 grams per serving
- **Low in saturated fat:** Two grams or less per serving and 15 per cent or less of calories from saturated fat
- **Low fat:** Three grams or less per serving
- **Reduced fat:** At least 25 per cent less fat than the regular version
- **Light in fat:** At least 25% less fat than the food to which it is compared

Read the ingredient list on food packages

Avoid foods containing these fats:

- Hydrogenated or partially hydrogenated oil, shortening
- Tropical fats such as coconut, palm or palm kernel

For more information on food labels, visit Health Canada.

Basic Meal Planning- Teaching Tool

Diabetes is a condition in which your body cannot properly use and store food for energy. The fuel that your body needs is called glucose, a form of sugar. Glucose comes from foods such as fruit, milk, some vegetables, starchy foods and sugar. To reduce your risk of diabetes complications such as heart disease, you will need to eat healthy foods, be active and you may need to take pills and/or insulin to control your blood sugar levels.

It's natural to have questions about what food to eat. A registered dietitian can help you achieve your blood sugar and weight management goals with a personalized meal plan that considers your culture and food preferences.

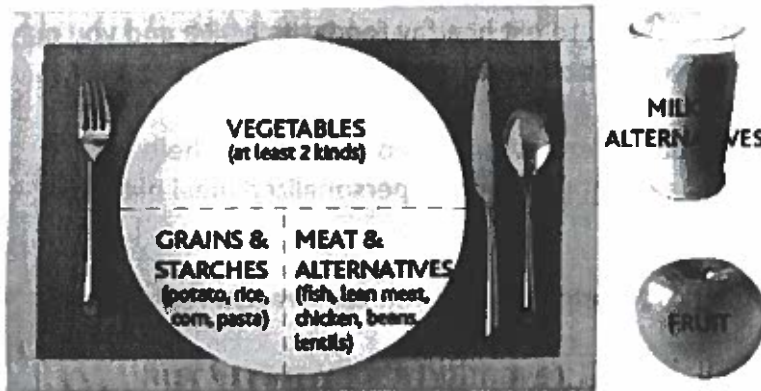
In the following table, you will find some tips to help you until you see a registered dietitian.

Tips for Healthy Eating, Diabetes Prevention and Management

Tips	Reasons
Eat three meals per day at regular times and space meals no more than six hours apart. You may benefit from a healthy snack.	Eating at regular times helps your body control blood sugar levels.
Limit sugars and sweets such as regular pop, desserts, candies, jam and honey.	The more sugar you eat, the higher your blood sugar will be. <u>Artificial sweeteners</u> can be useful.
Limit the amount of high-fat food you eat such as fried foods, chips and pastries.	High-fat foods may cause you to gain weight. A healthy weight helps with blood sugar control and is healthier for your heart.
Eat more <u>high-fibre foods</u> such as whole grain breads and cereals, lentils, dried beans and peas, brown rice, vegetables and fruits.	Foods high in fibre may help you feel full and may lower blood sugar and <u>cholesterol</u> levels.
If you are thirsty, drink water.	Drinking regular pop and fruit juice will raise your blood sugar.
Add physical activity to your life.	Regular physical activity will improve your blood sugar control.
Limit <u>alcohol</u> consumption.	Alcohol can affect blood sugar levels and cause you to gain weight.

Plan for healthy eating – Teaching Tool

Using a standard dinner plate, follow the Plate Method in the image below to control your portion sizes.



- Have at least three out of the four key food groups at each meal from Eating Well with Canada’s Food Guide: Vegetables and fruit, Grain products, Milk and alternatives, Meat and alternatives.
- Select whole and less refined foods instead of processed foods, such as sugar-sweetened beverages, fast foods and refined grain products.
- Include low-glycemic index foods such as legumes, whole grains, and fruits and vegetables. These foods can help control blood sugar and cholesterol levels.
- Eat more vegetables. These are very high in nutrients and low in calories.
- Choose lean animal proteins. Select more vegetable protein, such as beans, lentils, or tofu.
- Make lower fat choices (e.g. skim milk, lean ground beef, and use small amounts of oil and salad dressings). Select plant oils such as olive and canola, and nuts instead of animal fats.
- Have portion sizes that will help you reach or maintain a healthy body weight. Your hands can be a very handy Portion Guide.



FRUITS*/GRAINS & STARCHES*:
Choose an amount the size of your fist for each of Grains & Starches, and Fruit.



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 little finger.



FATS*:
Limit fat to an amount the size of the tip of your thumb.

MILK & ALTERNATIVES*:

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

What else can I do?

- Diabetes Canada recommends that all people with diabetes should receive advice on nutrition from a registered dietitian. Consider learning about counting carbohydrates as the amount of carbohydrate eaten at one time is usually important in managing diabetes.
- Ask a registered dietitian about diabetes-friendly eating patterns such as the Mediterranean diet or the DASH diet during your visit.
- Try to prepare more of your meals at home and use whole, unprocessed ingredients.
- Eat together as a family more often to model healthy eating behaviours to children and teenagers.
- If you are planning on fasting, talk to your health-care team one to two months in advance.

Sample Meal Plans

Sample meal plan for smaller appetites

Breakfast	Cold cereal (½ cup, 125 mL) Whole grain toast (1 slice) 1 orange Low-fat milk (1 cup, 250 mL) Peanut butter (2 tbsp, 30 mL) Tea or coffee
Lunch	1 sandwich - 2 slices of whole grain bread or 6" pita - meat, chicken or fish (2 oz, 60 g) - non-hydrogenated margarine (1 tsp, 5 mL) Carrot sticks Grapes (½ cup, 125 mL) Low-fat plain yogurt (¾ cup, 175 mL) Tea or coffee
Dinner	Potato (1 medium) or rice (¾ cup, 150 mL) Vegetables Non-hydrogenated margarine (1 tsp, 5 mL) Lean meat, chicken, or fish (2 oz, 60 g) Cantaloupe (1 cup, 250 mL) Low-fat milk (1 cup, 250 mL) Tea or coffee
Evening snack	Low-fat cheese (1 oz, 30 g) Whole grain crackers (4)

Sample meal plan for bigger appetites

Breakfast	Cold cereal (½ cup, 125 mL) Whole grain toast (2 slices) 1 orange Low-fat milk (1 cup, 250 mL) Low-fat cheese (2 oz, 60 g) Tea or coffee
Lunch	Soup (1 cup, 250 mL) Sandwich - 2 slices whole grain bread or 6" pita - lean meat, chicken or fish (3 oz, 90 g) - tomato slices - non-hydrogenated margarine (1 tsp, 5 mL) Carrot sticks Grapes (½ cup, 125 mL) Low-fat plain yogurt (¾ cup, 175 mL) Tea or coffee
Afternoon snack	1 medium apple or small banana
Dinner	1 large potato or cooked noodles (1 ½ cup, 375 mL) Vegetables Green salad with low-fat salad dressing Lean meat, chicken or fish (4 oz, 120 g) 1 medium pear Low-fat milk (1 cup, 250 mL) Tea or coffee
Evening snack	Peanut butter (4 tbsp, 60 mL) Whole grain crackers (4) Low-fat milk (1 cup, 250 mL)

Try making your own meal plans for yourself, or with the help of a registered dietitian when available. Planning meals can allow you to control your food intake & blood sugars, help you lose and maintain weight, save you time cooking & thinking about meals through the week, and can be something fun you engage the whole family while doing.

Plan a week of meals - Handout

Week of: _____

Day	Breakfast	Lunch	Dinner	Snack
Sunday				
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				

Notes:



Recipes – Handout

Bun-less Bison Burger



Upgrade this bunless burger with a balsamic reduction and sautéed vegetables, made with canola oil to help keep saturated fat in check. Dijon mustard and rosemary enhance the flavour of bison.

Makes 4 servings - Cooking time: N/A

Ingredients

- 1/2 cup balsamic vinegar 125 mL
- 1 lb ground bison or lean ground beef 500 g
- 2 Tbsp breadcrumbs 30 mL
- 1 tsp Dijon mustard 5 mL
- 1 tsp finely chopped fresh rosemary 5 mL
- 1/4 tsp salt 1 mL
- 1/4 tsp ground pepper 1 mL
- 1 1/2 Tbsp canola oil, divided 20 mL
- 2 small onions, sliced
- 1 1/2 cup sliced mushrooms 375 mL
- 1 red bell pepper, seeds removed, slice

Instructions

1. In small saucepan, bring balsamic vinegar to boil. Reduce heat and simmer for about 10 minutes or until vinegar is syrupy.
2. Meanwhile, in bowl, combine bison, breadcrumbs, mustard, rosemary, salt and pepper. Shape four burgers and set aside.
3. In nonstick skillet, heat 1 Tbsp (15 mL) canola oil over medium-high heat and cook onions for 3 – 5 minutes or until browned, stirring constantly. Add mushrooms and bell pepper; cook for 3 minutes. Remove and set aside.
4. In same skillet, heat remaining canola oil and cook bison burgers until meat is fully cooked.
5. Garnish bison burgers with sautéed vegetables and drizzle with reduced balsamic vinegar.

Notes

Serving size: 1 burger

Recipe courtesy of canolainfo.org, featured in the *Canadian Diabetes Association's 2014 Healthy Living Calendar*. To download the latest recipes, visit diabetes.ca/calendar.

Nutritional Information

Per Serving

Calories	260
Total Fat	10 g
Saturated Fat	2 g
Cholesterol	55 mg
Carbohydrates	15 g
Fibre	2 g
Sugars	9 g
Protein	26 g
Sodium	280 mg
Potassium	258 mg

Green & Red Bean Salad – Handout



Dressing the beans well in advance allows them to absorb all the flavours, but if you dress the salad greens too far in advance they become soft and lose their crunch. If you need to display the food in advance, such as for a buffet, you can serve the bean salad in a small dish set among the green leaves.

Try using flat-leaf parsley for the dressing. It's more distinctly flavoured than curly parsley.

Makes 6 servings

Cooking time: n/a

Ingredients

- 5 oz green beans, trimmed and cut into small pieces (150 g)
- 1 15-oz (425mL) can red kidney beans, rinsed and drained
- 1 15-oz (425 mL) can flageolet beans or Great Northern beans, rinsed and drained
- 1 15-oz (425 mL) can chickpeas, rinsed and drained
- 2 tbsp chopped fresh parsley (25 mL)
- Juice of 1 lemon
- 2 tbsp white wine vinegar (25 mL)
- 5 tbsp olive oil (75 mL)
- Freshly ground black pepper
- Lettuce leaves to garnish

Instructions

1. Lightly steam the green beans over boiling water 5 to 6 minutes or until crisp-tender. Cool in iced water and drain. Place in a large bowl with kidney beans, flageolet beans and chickpeas and mix well.
2. In a jar with a tight-fitting lid, shake together the parsley, lemon juice, vinegar, olive oil and pepper. Pour over the bean mixture and toss lightly to mix. Cover and chill until served.
3. Just before serving, place the lettuce leaves around the edge of a large serving dish. Spoon the bean mixture over the leaves and serve. Makes 6 to 8 side-salad servings.

Notes

This recipe made available with permission by Key Porter Books Ltd. Copyright © 1995 by The British Diabetic Association. The Everyday Diabetes Cookbook is available in stores across Canada.

Nutritional Information

Per Serving

(1/6 of recipe)

Calories	397
Total fat	14 g
Saturated fat	2 g
Cholesterol	0 mg
Sodium	9 mg
Carbohydrates	52 g
Fiber	14 g
Protein	19 g

Oat Cinnamon Pancakes



Whole wheat flour and rolled oats make these pancakes an excellent source of fiber.

Tips

Be sure to cook all the batter. Batter refrigerated for a day or two will yield thin, tough pancakes. Instead, freeze leftover cooked pancakes.

The pancake mix recipe can be doubled or tripled and stored for additional batches.

Makes 5 servings, total of 15 pancakes

1 serving = 3 pancakes

Cooking time: 5 minutes per pancake

Ingredients

- 1½ cups low-fat milk 375 mL
- 1 egg
- 2 tbsp canola oil 25 mL
- 1 tsp vanilla extract 5 mL
- 2 ½ cups Oat Cinnamon Pancake Mix 625 mL

Oat Cinnamon Pancake Mix:

- 2 2/3 cups whole wheat flour 650 mL
- 1½ cups large-flake rolled oats 375 mL
- ¼ cup brown sugar 50 mL
- ¼ cup granular low-calorie sweetener with sucralose 50 mL
- 2 tbsp baking powder 25 mL
- 2 tsp cinnamon 10 mL
- ½ tsp salt 2 mL

Instructions

1. To make pancakes: In glass measure, whisk together milk, egg, oil and vanilla. Place pancake mix in bowl; pour egg mixture into dry mixture and stir just until dry ingredients are moistened (don't worry about lumps).
2. Heat large non-stick skillet over medium heat until hot (a drop of water will sizzle). Spray with non-stick cooking spray. Drop batter by ¼ cup (50 mL) measure onto pan. Cook pancakes for 3 minutes or until bubbles break on top and underside is golden brown; turn and cook other side until golden.

Oat Cinnamon Pancake Mix:

1. In bowl, combine flour, oats, sugar, sweetener, baking powder, cinnamon and salt. Store in tightly sealed container for up to 1 month. Yields 4 servings, 5 cups (1.25 L).

Nutritional Information

Per Serving

Calories	300
Total Fat	9 g
Saturated Fat	1 g
Sodium	375 mg
Carbohydrates	47 g
Fiber	6 g
Protein	11 g



Glycemic Index Food Guide

The glycemic index (GI) is a scale that ranks a carbohydrate-containing food or drink by how much it raises blood sugar levels after it is eaten or drunk. Foods with a high GI increase blood sugar higher and faster than foods with a low GI.

There are three GI categories:



Green = Go

Low GI (55 or less) Choose Most Often

Yellow = Caution

Medium GI (56 to 69) Choose Less Often

Red = Stop and think

High GI (70 or more) Choose Least Often

Foods in the high GI category can be swapped with foods in the medium and/or low GI category to lower GI.

A low GI diet may help you:

- decrease risk of type 2 diabetes and its complications
- decrease risk of heart disease and stroke
- feel full longer
- maintain or lose weight

Try these meal planning ideas to lower meal GI:

- Cook your pasta al dente (firm). Check your pasta package instructions for cooking time.
- Make fruits and milk part of your meal plate (Figure 1). These foods often have a low GI and make a healthy dessert.
- Try lower GI grains, such as barley and bulgur.
- Pulses can be grains and starches or meat and alternatives. Swap half of your higher GI starch food serving with beans, lentils or chickpeas. For example, instead of having 1 cup of cooked short grain rice, have ½ cup of cooked rice mixed with ½ cup of black beans.

Diabetes Canada recommends choosing lower GI foods and drinks more often to help control blood sugar.

Work with your Registered Dietitian to add foods and drinks to your lists, create action plans that include choosing lower GI foods, adapt your favourite recipes, and find ways to swap/substitute low GI foods into your meal plan.

Checking your blood sugar before, and 2 hours after, a meal is the best way to know how your body handles certain foods and drinks.

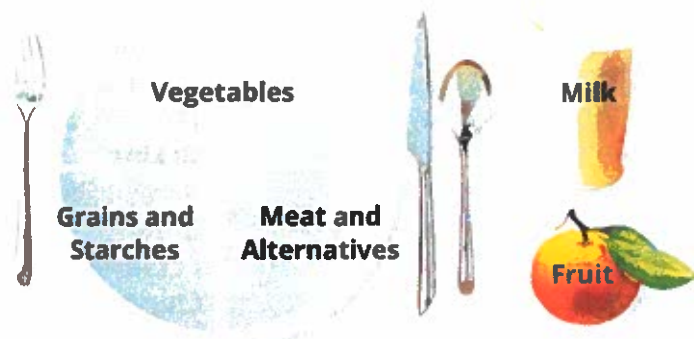


Figure 1: The Plate Method. Using a standard dinner plate, follow this model to control your portion sizes. www.diabetes.ca/mealplanning

Some carbohydrate-containing foods and drinks have so little carbohydrate that they do not have a GI value. This does not mean they cannot be included as part of a healthy diet. Examples include green vegetables, lemons, and some low-carbohydrate drinks. Diabetes Canada calls these foods and drinks “free” because they do not impact the blood sugar of people living with diabetes. You can put free foods in the green category, but they do not have a GI and have not been included in the food lists.



Items with this

symbol are “sometimes foods”

(foods and drinks eaten only on occasion)

Grains and Starches

**Low Glycemic Index
(55 or less)
Choose Most Often**

Breads:

Heavy Mixed Grain Breads
Spelt Bread
Sourdough Bread
Tortilla (Whole Grain)

Cereal:

All-Bran™ Cereal
All-Bran Buds™
With Psyllium Cereal
Oat Bran
Oats (Steel Cut)

Grains:

Barley
Bulgur
Mung Bean Noodles
Pasta (Al Dente, Firm)
Pulse Flours
Quinoa
Rice (Converted, Parboiled)

Other:

Peas
Popcorn
Sweet Potato
Winter Squash

Additional foods:

1. _____
2. _____
3. _____

**Medium Glycemic Index
(56 to 69)
Choose Less Often**

Breads:

Chapati (White, Whole Wheat)
Flaxseed/Linseed Bread
Pita Bread (White, Whole Wheat)
Pumpnickel Bread
Roti (White, Whole Wheat)
Rye Bread
(Light, Dark, Whole Grain)
Stone Ground Whole
Wheat Bread
Whole Grain Wheat Bread

Cereal:

Cream of Wheat™ (Regular)
Oats (Instant)
Oats (Large Flake)
Oats (Quick)

Grains:

Basmati Rice
Brown Rice
Cornmeal
Couscous
(Regular, Whole Wheat)
Rice Noodles
White Rice (Short, Long Grain)
Wild Rice

Other:

Beets*
Corn
French Fries ▲
Parsnip
Potato (Red, White, Cooled)
Rye Crisp Crackers
(e.g. Ryvita Rye Crispbread™)
Stoned Wheat Thins™
Crackers

Additional foods:

1. _____
2. _____
3. _____

**High Glycemic Index
(70 or more)
Choose Least Often**

Breads:

Bread (White, Whole Wheat)
Naan (White, Whole Wheat)

Cereal:

All-Bran Flakes™ Cereal
Corn Flakes™ Cereal
Cream of Wheat™ (Instant)
Puffed Wheat Cereal
Rice Krispies™ Cereal
Special K™ Cereal

Grains:

Jasmine Rice
Millet
Sticky Rice
White Rice (Instant)

Other:

Carrots*
Potato (Instant Mashed)
Potato (Red, White, Hot)
Pretzels
Rice Cakes
Soda Crackers

Additional foods:

1. _____
2. _____
3. _____

* Most starchy/sweet vegetables (e.g. peas, parsnip, winter squash) provide 15 g or more carbohydrate per 1 cup serving. Beets and carrots often provide less than 15 g carbohydrate per serving (marked above with *). Most non-starchy (or free) vegetables (e.g. tomato and lettuce) have not been assigned a GI because they have very little carbohydrate and have very little effect on blood sugar.

Fruits

**Low Glycemic Index
(55 or less)
Choose Most Often**

Apple
 Apricot (Fresh, Dried)
 Banana (Green, Unripe)
 Berries
 Cantaloupe
 Grapefruit
 Honeydew Melon
 Mango
 Orange
 Peach
 Pear
 Plum
 Pomegranate
 Prunes

Additional foods:

1. _____
2. _____
3. _____

**Medium Glycemic Index
(56 to 69)
Choose Less Often**

Banana (Ripe, Yellow)
 Cherries (Bottled) ▲
 Cherries (Fresh)
 Cranberries (Dried)
 Figs (Fresh, Dried)
 Grapes
 Kiwi
 Lychee
 Pineapple
 Raisins

Additional foods:

1. _____
2. _____
3. _____

**High Glycemic Index
(70 or more)
Choose Least Often**

Banana (Brown, Overripe)
 Watermelon

Additional foods:

1. _____
2. _____
3. _____

Some fruits have not been assigned a GI because they contain less than 15 g of available carbohydrate per serving (e.g. lemon and lime).



Many fruits and vegetables fall in the
 low or medium GI categories.

Milk, Alternatives and Other Beverages

**Low Glycemic Index
(55 or less)
Choose Most Often**

Almond Milk
 Cow Milk
 (Skim, 1%, 2%, Whole)
 Frozen Yogurt ▲
 Greek Yogurt
 Soy Milk
 Yogurt (Skim, 1%, 2%, Whole)

Additional foods:

1. _____
2. _____
3. _____

**Medium Glycemic Index
(56 to 69)
Choose Less Often**

Additional foods:

1. _____
2. _____
3. _____

**High Glycemic Index
(70 or more)
Choose Least Often**

Rice Milk

Additional foods:

1. _____
2. _____
3. _____

Milk, alternatives, and other beverages listed include flavoured (e.g. chocolate), sweetened and unsweetened varieties.

Meat and Alternatives

**Low Glycemic Index
(55 or less)
Choose Most Often**

Baked Beans
 Chickpeas
 Kidney Beans
 Lentils
 Mung Beans
 Romano Beans
 Soybeans/Edamame
 Split Peas

Additional foods:

1. _____
2. _____
3. _____

**Medium Glycemic Index
(56 to 69)
Choose Less Often**

Lentil Soup (ready-made)
 Split Pea Soup (ready-made)

Additional foods:

1. _____
2. _____
3. _____

**High Glycemic Index
(70 or more)
Choose Least Often**

Additional foods:

1. _____
2. _____
3. _____

Meat, poultry and fish do not have a GI because they do not contain carbohydrate. When ½ cup or more of pulses are eaten, they can be included in the Grains and Starches food group or the Meats and Alternatives group.

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Just the basics

Diabetes is a condition in which your body cannot properly use and store food for energy. The fuel that your body needs is called glucose, a form of sugar. Glucose comes from foods such as fruit, milk, some vegetables, starchy foods and sugar.

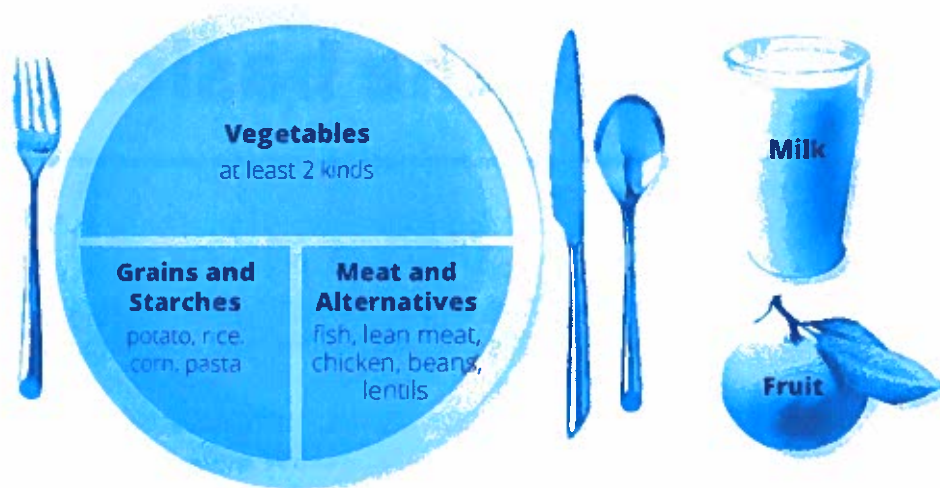
To control your blood sugar (glucose) you will need to eat healthy foods, be active and you may need to take pills and/or insulin.

Here are some tips to help you until you see a registered dietitian.

Tips:	Reasons:
Eat three meals per day at regular times and space meals no more than six hours apart. You may benefit from a healthy snack.	Eating at regular times helps your body control blood sugar levels.
Limit sugars and sweets such as regular pop, desserts, candies, jam and honey.	The more sugar you eat, the higher your blood sugar will be. Artificial sweeteners can be useful substitutes.
Limit the amount of high-fat food you eat such as fried foods, chips and pastries.	High-fat foods may cause you to gain weight. A healthy weight helps with blood sugar control and is healthier for your heart.
Eat more high-fibre foods such as whole grain breads and cereals, lentils, dried beans and peas, brown rice, vegetables and fruits.	Foods high in fibre may help you feel full and may lower blood sugar and cholesterol levels.
If you are thirsty, drink water.	Drinking regular pop and fruit juice will raise your blood sugar.
Add physical activity to your life.	Regular physical activity will improve your blood sugar control.
Limit alcohol consumption.	Alcohol can affect blood sugar levels and cause you to gain weight.



Plan for healthy eating

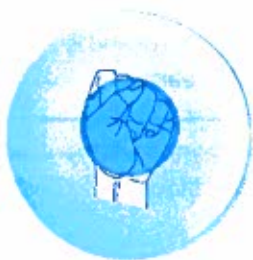


- Eat more vegetables. These are very high in nutrients and low in calories.
- Choose lean animal proteins. Select more vegetable protein.
- Select plant oils such as olive and canola, and nuts instead of animal fats.
- Include low-glycemic-index foods such as legumes, whole grains, and fruits and vegetables.
- Consider learning about counting carbohydrates, and different types of eating patterns (e.g. Mediterranean, DASH) when you see a registered dietitian.

It's natural to have questions about what food to eat. A registered dietitian can help you include your favourite foods in a personalized meal plan.

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:



Grains and starches*/ Fruits*

Choose an amount the size of your fist for grains or starches, or fruit.

Milk and alternatives*

Drink up to 1 cup (250 mL) of low-fat milk with a meal.



Vegetables*

Choose as much as you can hold in both hands. Choose brightly coloured vegetables (e.g., green or yellow beans, broccoli).



Meat and alternatives*

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



Fat*

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

* Food group names taken from *Beyond the Basics: Meal Planning for Healthy Eating, Diabetes Prevention and Management*.
© Canadian Diabetes Association, 2014.

- Diabetes Canada recommends that all people with diabetes should receive advice on nutrition from a registered dietitian.
- Be sure to eat breakfast. It provides a good start to the day.
- Try to prepare more of your meals at home and use whole, unprocessed ingredients.
- Eat together as a family more often to model healthy eating behaviours to children and teenagers.
- If you are planning on fasting, talk to your health-care team 1 to 2 months in advance.

Sample meal plan

For smaller appetites

Breakfast:

Cold cereal (½ cup, 125 mL)
 Whole grain toast (1 slice)
 1 orange
 Low-fat milk (1 cup, 250 mL)
 Peanut butter (2 tbsp, 30 mL)
 Tea or coffee

Lunch:

1 sandwich
 2 slices of whole grain bread or 6" pita
 meat, chicken or fish (2 oz, 60 g)
 non-hydrogenated margarine (1 tsp, 5 mL)
 Carrot sticks
 Grapes (½ cup, 125 mL)
 Low-fat plain yogurt (¾ cup, 175 mL)
 Tea or coffee

Dinner:

Potato (1 medium) or rice (2/3 cup, 150 mL)
 Vegetables
 Non-hydrogenated margarine (1 tsp, 5 mL)
 Lean meat, chicken, or fish (2 oz, 60 g)
 Cantaloupe (1 cup, 250 mL)
 Low-fat milk (1 cup, 250 mL)
 Tea or coffee

Evening Snack:

Low-fat cheese (1 oz, 30 g)
 Whole grain crackers (4)

Increase your physical activity

- Build time for physical activity into your daily routine.
- Try to be active most days of the week.
- Walk whenever you can, instead of taking the car.
- Start slowly and gradually increase the amount of effort; for instance, progress from strolling to brisk walking.
- Make family activities active; try swimming or skating instead of watching TV or a movie.
- Try new activities; learn to dance, play basketball, or ride a bike.
- Enjoy your improved sense of health and well-being.



Follow a healthy lifestyle

- Have at least 3 out of the 4 key food groups at each meal from *Eating Well with Canada's Food Guide*:
 - vegetables and fruit
 - grain products
 - milk and alternatives
 - meat and alternatives
- Have portion sizes that will help you reach or maintain a healthy body weight.
- Include high-fibre foods such as whole grain breads, cereals, and pastas, fresh fruits, vegetables and legumes.
- Make lower fat choices (e.g. use skim milk and lean ground beef, trim fat on meat, chicken etc., and use small amounts of added fat such as oil and salad dressings).
- Healthy eating habits should be built around a healthy lifestyle – keep active every day.

Sample meal plan

For bigger appetites

Breakfast:

Cold cereal (½ cup, 125 mL)
Whole grain toast (2 slices)
1 orange
Low-fat milk (1 cup, 250 mL)
Low-fat cheese (2 oz, 60 g)
Tea or coffee

Lunch:

Soup (1 cup, 250 mL)
Sandwich

- 2 slices whole grain bread or 6" pita
- lean meat, chicken or fish (3 oz, 90 g)
- tomato slices
- non-hydrogenated margarine (1 tsp, 5 mL)

Carrot sticks
Grapes (½ cup, 125 mL)
Low-fat plain yogurt (¾ cup, 175 mL)
Tea or coffee

Afternoon Snack:

1 medium apple or small banana

Dinner:

1 large potato or cooked noodles (1½ cup, 375 mL)
Vegetables
Green salad with low-fat salad dressing
Lean meat, chicken or fish (4 oz, 120 g)
1 medium pear
Low-fat milk (1 cup, 250 mL)
Tea or coffee

Evening Snack:

Peanut butter (4 tbsp, 60 mL)
Whole grain crackers (4)
Low-fat milk (1 cup, 250 mL)

Related articles: *Physical activity and diabetes, Glycemic index, Eating away from home, Alcohol and diabetes, Managing weight and diabetes*

**DIABETES
CANADA**

diabetes.ca | 1-800 BANTING (226-8464) | info@diabetes.ca

Diabetes Canada is making the invisible epidemic of diabetes visible and urgent. Eleven million Canadians have diabetes or prediabetes. Now is the time to End Diabetes - its health impacts as well as the blame, shame and misinformation associated with it. Diabetes Canada partners with Canadians to End Diabetes through education and support services, resources for health-care professionals, advocacy to governments, schools and workplaces, and, funding research to improve treatments and find a cure.

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Drinks with added sugar and type 2 diabetes

Consuming drinks with added sugar increases your risk of becoming overweight and type 2 diabetes

Diabetes Canada aims to decrease consumption by working with governments and others to change public policies and by informing Canadians of the risk.



Drinks with added sugar

>20% increase in risk of type 2 diabetes from drinking >1 per day

1 drink with added sugar per day is already too many - even if you are at a healthy weight

160 litres - average annual consumption of drinks with added sugar by each Canadian

2,520 deaths - estimated annual impact in Canada every year

Taxing drinks with added sugar

- Diabetes Canada calls on Canadian governments to introduce a tax on drinks with added sugar to fight type 2 diabetes and improve the health of Canadians
- A tax on sugary drinks has reduced consumption in Mexico, France, Hungary, Finland and Chile



Sugar and type 2 diabetes

- **12 teaspoons per day** - absolute daily maximum (based on 2,000 calories/day)
- **26 teaspoons per day** - average daily consumption by Canadians - with sugary drinks among top sources
- **For children aged 9-18** - regular soft drinks are the leading source of sugar

Just how much sugar?

1 can (355 mL) regular pop
10 teaspoons of sugar



380 mL blended iced-coffee drink
8 teaspoons of sugar



1 can (473 mL) of energy drink
14 teaspoons of sugar



1 yogurt smoothie (434 mL)
10 teaspoons of sugar



Join us to End Diabetes

Diabetes Canada has four goals for 2016-2020 to decrease the growing impact of diabetes. One is to remove 10,000,000 kilograms of sugar from Canadians' diets to decrease the number of new type 2 diabetes and prediabetes cases by 500,000 over this period.



Help us achieve this goal! Diabetes Canada relies on generous donations from people like you to help Canadians with diabetes or prediabetes and to End Diabetes. Donate now at diabetes.ca/donate.



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DIABETES CANADA | **END DIABETES**



Basic carbohydrate counting for diabetes management

Carbohydrate counting is a flexible way to plan your meals. It focuses on foods that contain carbohydrate as these raise your blood sugar the most. Follow these steps to count carbohydrates and help manage your blood sugar levels. Your registered dietitian will guide you along the way.

STEP 1 Make healthy food choices

- Enjoy a variety of vegetables, fruits, whole grains, low fat milk products, and meat and alternatives at your meals. A variety of foods will help to keep you healthy.
- Use added fats in small amounts. This helps to control your weight and blood cholesterol.
- Choose portion sizes to help you to reach or maintain a healthy weight.

STEP 2 Focus on carbohydrate

- Your body breaks down carbohydrate into sugar (glucose). This raises your blood sugar levels.
- Carbohydrate is found in many foods including grains and starches, fruits, some vegetables, legumes, milk and milk alternatives, sugary foods and many prepared foods.
- Meat and alternatives, most vegetables and fats contain little carbohydrate. Moderate servings will not have a big effect on blood sugar levels.

STEP 3 Set carbohydrate goals

- Your dietitian will help you set a goal for grams of carbohydrate at each meal and snack. This may be the same from day to day or may be flexible, depending on your needs.
- Aim to meet your target within 5 grams per meal or snack.

STEP 4 Determine carbohydrate content

- Write down what you eat and drink throughout the day.
- Be sure to note the portion sizes. You may need to use measuring cups and food scales to be accurate.
- Record the grams of carbohydrate in these foods and drinks.
- For carbohydrate content of foods, check the *Beyond the Basics* resources, food packages, food composition books, restaurant fact sheets and websites.

STEP 5 Monitor effect on blood sugar level

- Work with your health-care team to correct blood sugar levels that are too high or too low.



Nutrition Facts	
Per 90 g serving (2 slices)	
Amount	% Daily Value
Calories 170	
Fat 2.7 g	4 %
Saturated 0.5 g + Trans 0 g	5 %
Cholesterol 0 mg	
Sodium 200 mg	8 %
Carbohydrate 36 g	13 %
Fibre 6 g	24 %
Sugars 3 g	
Protein 8 g	
Vitamin A 1 %	Vitamin C 0 %
Calcium 2 %	Iron 16 %

Finding carbohydrate values using the Nutrition Facts table

The amount of carbohydrate in a food is listed on the Nutrition Facts table.

- The amount listed is for the serving size given. Are you eating more, less, or the same amount? Compare your serving size to figure out the amount of carbohydrate you are eating.
- The total amount of carbohydrate in grams is listed first. This number includes starch, sugars and fibre. (Starch is not listed separately.)
- Fibre does not raise blood sugar and should be subtracted from the total carbohydrate (i.e. 36 g carbohydrate - 6 g fibre = 30 g available carbohydrate).

Let's carb count! Sample carbohydrate counting

Food	Portion size	Grams of carbohydrate	Carbohydrate choices
Example - sandwich lunch			
Bread, whole wheat*	2 slices	30 g	2
Chicken breast	2 oz/60 g	0	0
Margarine	1 tsp/5 mL	0	0
Carrot sticks	½ cup/125 mL	0	0
Green grapes*	½ cup/125 mL	15 g	1
Milk*	1 cup/250 mL	15 g	1
Tea/coffee	1 cup/250 mL	0	0
	TOTAL	60 g	4 choices
What did you eat and drink? (write it below)			
	TOTAL		

*Carbohydrate containing food

Related articles: *Just the basics for healthy eating, Glycemic Index, and Sugars and sweeteners*

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Nutrition Therapy Resource Bank

Diabetes Canada

- Webpage: <http://www.diabetes.ca>

- Resources:

- Recipe bank of 160 recipes
- Nutrition information included
- Carbohydrate counting tool
- Portion guides
- Youtube Channel of cooking demos:
https://www.youtube.com/playlist?list=PLz218lCsOY9qSzYX6slP_otfeEX5CSIJL
OR search "Diabetes Canada" on youtube

Dietitians of Canada

- Webpage: <http://www.unlockfood.ca>

- Resources

- Preventing and managing Type 2 Diabetes Tools
- Diabetes sample menu plan
- Diabetes recipes for diverse cultures - recipes booklets
- Serving size guide printouts
- Fibre fact sheets

Health Canada

- Webpage:

https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/pdf/nutrition/fiche-nutri-data/nvscf-vnqau-eng.pdf

- Resources:

- Nutrient value of common foods (to help with carb counting) – downloadable & printable copy

American Diabetes Association

- Webpage: : <http://www.diabetes.org>

- Resources

- Create your plate food planning tool
- Meal planning for vegetarian and gluten free diets tools
- Non starchy vegetables reference list
- What can I drink? Info sheet

Food Security Network of Newfoundland and Labrador

- Website: <http://www.foodfirstnl.ca/>

- Resources:

- Community kitchen planning guide:
http://foodsecuritynews.com/Publications/Community_Kitchen_Best_Practices_Toolkit.pdf

HealthLink BC

- Webpage: <https://bcfsg.healthlinkbc.ca/>

- Resource:

- custom design and print posters about sugary drinks, healthy weight, and sodium

Food Skills for Families

- Webpage

- Resources: printable kid-friendly kitchen tasks

Cover page quotes accessed at: **Edward Group, D. (2013, September 25). 50 best quotes about health and Nutrition. Retrieved July 26, 2018, from <https://www.globalhealingcenter.com/natural-health/quotes-about-health/>**



Eat well. Live well.

Eat a variety of healthy foods each day

Have plenty
of vegetables
and fruits

Eat protein
foods

Make water
your drink
of choice



Choose
whole grain
foods

Discover your food guide at
Canada.ca/FoodGuide

Eat well. Live well.

Healthy eating is more than the foods you eat



Be mindful of your eating habits



Cook more often



Enjoy your food



Eat meals with others



Use food labels



Limit foods high in sodium,
sugars or saturated fat



Be aware of food marketing

Discover your food guide at

Canada.ca/FoodGuide