

Planning Meals with the Diabetes Plate

Diabetes is a disease in which the body is unable to produce any or enough insulin to keep blood glucose in a healthy range. If uncontrolled, high blood glucose can cause serious complications such as heart disease, kidney disease, nerve damage and blindness.

Eating and Diabetes

Carbohydrate in foods and beverages break down to a sugar called glucose in your digestive tract. Glucose is then absorbed into your blood where it travels to all of your cells to provide energy for body functions.

Knowing what to eat, how much to eat and when to eat will help you manage your diabetes. Making wise food choices can help you:

- feel good every day
- lose weight if you need to
- lower your risk for heart disease, stroke, and other problems caused by diabetes.

Healthful eating helps keep your blood glucose in your target range. Physical activity and diabetes medicines, if needed, also help. The glucose target range for people with diabetes is the blood glucose level suggested by diabetes experts for good health. You can help prevent health problems by keeping your blood glucose levels on target.

What should your blood glucose levels be?

Target Blood Glucose Levels for People with Diabetes	
Before meals	70 to 130 mg/dL
1 to 2 hours after the start of a meal	less than 180 mg/dL
A1C	7% or less

Ask your doctor how often you should check your blood glucose on your own. Also ask your doctor for an A1C test at least twice a year. Your A1C number gives your average blood glucose for the past 3 months. The results from your blood glucose checks and your A1C test will tell you whether your diabetes care plan is working. Try to keep your A1C below 7%.

How can you keep your blood glucose levels on target?

You can keep your blood glucose levels on target by:

- making wise food choices
- being physically active
- taking medicines if needed

For people taking certain diabetes medicines, following a schedule for meals, snacks, and physical activity is best. However, some diabetes medicines allow for more flexibility. Your health care team can help you create a diabetes plan that's best for you.

Talk with your doctor or diabetes teacher about how many meals and snacks to eat each day. A good rule of thumb is 3 meals and 2-3 snacks daily. It is a good idea to eat about the same types and amounts of food at about the same times every day.

How much should you eat each day?

Have about **1,200 to 1,600 calories** a day if you are a:

- small woman who exercises
- small or medium-sized woman who wants to lose weight
- medium-sized woman who does not exercise much

Have about **1,600 to 2,000 calories** a day if you are a:

- large woman who wants to lose weight
- small man at a healthy weight
- medium-sized man who does not exercise much
- medium-sized or large man who wants to lose weight

Have about **2,000 to 2,400 calories** a day if you are a:

- medium-sized or large man who exercises a lot or has a physically active job
- large man at a healthy weight
- medium-sized or large woman who exercises a lot or has a physically active job

Carbohydrates and insulin

When we eat food, it is broken down to nutrients that our bodies can use. Carbohydrates in food are broken down to a sugar called glucose that enters our blood and is carried throughout our bodies to provide energy to all of our cells. Normally, our bodies produce insulin, a hormone that is needed for the glucose to get into our cells. People with diabetes either do not make insulin or their bodies do not use insulin well. Without insulin, glucose builds up in the blood which can cause serious complications.

How much carbohydrate should you have each day?

<i>Carbohydrates per meal</i>	"Carb"* choices	Carbohydrate grams
Inactive women	2 - 4	30g – 60g
Active women/inactive men	3 - 5	45g – 75g
Active men	4 - 6	60g – 90g
<i>Carbohydrates per snack</i>		
Between meal	1 – 2	15g – 30g

* "Carb" = 15 grams of carbohydrate

A diet that contains just the right amount of carbohydrate is important for managing diabetes. Using the **Diabetes Plate** to plan meals can help people with type 2 diabetes get the right amount of carbohydrate in their diet. People with type 1 diabetes may need to more carefully monitor their carbohydrate intake.

Carbohydrates in food and “carb” counting

In general the following provide 15 grams of carbohydrate per serving:

Fruit: ½ cup of fresh, canned or frozen fruit or juice

Grains/starches:

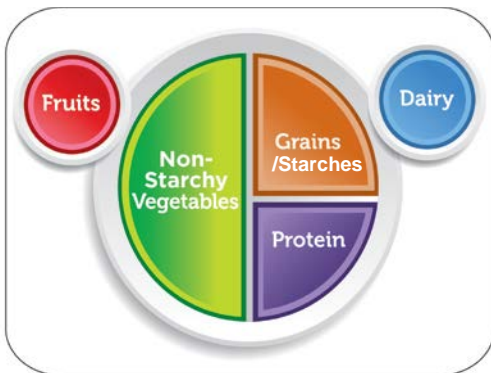
- ⅓ - ½ cup of cooked rice, cereal, pasta or other grain
- 1 slice of regular bread, tortilla or small roll
- ½ cup starchy vegetable

Dairy: 1 cup of milk or 6 ounces of unsweetened yogurt

Non-starchy vegetables: 1 cup cooked or 1½ cups raw non-starchy vegetables

Your doctor will tell you how many servings of carbohydrate foods you should have in a day or at each meal. A serving of carbohydrate food is called a “carb” in the “carbohydrate counting” method of diabetes management and equals 15 grams of carbohydrate. If you follow the **Diabetes Plate** you will get about 4 servings of carbohydrate foods (4 “carbs”) or 60 grams of carbohydrate per meal. Using smaller plates, bowls and drinking glasses helps keep portion sizes in check. Try using a 9-inch plate, small soup bowls that just hold one cup, small side dishes that look full when they hold one half cup of food and 8-ounce drinking glasses.

The Diabetes Plate



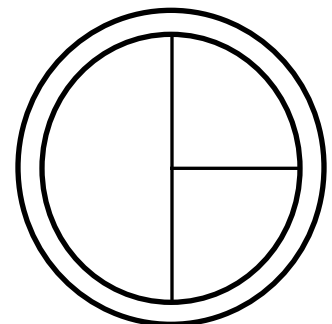
The **Diabetes Plate** can help you make wise food choices. It divides foods into groups, based on their nutrient content. Foods from the grains/starches, fruits, vegetables, and milk groups are highest in carbohydrate. They affect your blood glucose levels the most.

Try these simple steps to get started:

Using a small (**9-inch**) plate, draw an imaginary line down the middle of the plate. Then on one side, imagine a line cutting it in half so you have 3 sections on your plate – a half and two fourths.

Fill the largest section with *non-starchy* vegetables such as:

- | | | | |
|-----------|----------|-------------|-----------------|
| spinach | carrots | lettuce | greens |
| okra | broccoli | cauliflower | tomatoes |
| cucumbers | beets | onion | turnip |
| mushrooms | bok choy | green beans | vegetable juice |
| cabbage | peppers | | |



In one of the small sections, put starchy foods such as:

- whole grain breads, like whole wheat or whole grain rye
- whole grain, high-fiber cereal
- cooked cereal such as oatmeal, grits, hominy, or cream of wheat
- rice, pasta, tortillas
- starchy vegetables such as cooked beans and peas like pinto beans or black-eyed peas, potatoes, green peas, corn, lima beans, sweet potatoes, winter squash
- low-fat crackers and snack chips, pretzels, and fat-free popcorn

In the other small section, put meat or meat substitutes such as:

- chicken or turkey without the skin
- fish such as tuna, salmon, cod, or catfish
- other seafood such as shrimp, clams, oysters, crab, or mussels
- lean cuts of beef and pork such as sirloin or pork loin
- tofu, eggs, low-fat cheese

In the fruit section, add a small piece of fruit or ½ cup of cut up fruit (fresh, frozen or canned in its own juice) such as:

Apple, small	Cherries	Pear, small	Nectarine, small
Apricots	Fruit cocktail	Peach, small	Orange
Banana, small	Grapefruit, ½	Pineapple	Plums
Grapes	Kiwi	Mango, ½	Prunes
Tangerine			

You can have bigger servings – 1 cup - of melons and berries:

Blueberries Cantaloupe Honeydew Melon Raspberries Strawberries Watermelon

Add an 8-ounce glass of non-fat or low-fat milk and you have your meal planned. If you don't drink milk, you can add another small serving of carbohydrate such as a 6-ounce container of light yogurt or a small roll. You can also add a small amount of margarine or oil for preparation or addition at the table.

People who need more calories will need more or larger servings than a person with lower calorie needs. Your doctor or dietitian will tell you how many total servings of "carbs" you should have in a day. Add other portions as recommended by your diabetes team to round out your meal plan.

Fats and Sweets

Limit the amount of fats and sweets you eat. Fats and sweets are not as nutritious as other foods. Fats have a lot of calories. Sweets can be high in carbohydrate and fat. Some contain saturated fats, trans fats, and cholesterol that increase your risk of heart disease. Limiting these foods will help you lose weight and keep your blood glucose and blood fats under control.

Remember, fat-free and low-sugar foods still have calories. Talk with your diabetes teacher about how to fit sweets into your meal plan.

Measuring Your Food

It is a good idea to measure your foods periodically to make sure your food servings are the right size. You can use:

- measuring cups
- measuring spoons
- a food scale

Or you can use the following guide:

Guide to Sensible Serving Sizes

This much

is the same as



3 ounces

1 serving of meat, chicken, turkey, or fish



1 cup

1 serving of:

- cooked vegetables
- leafy salads
- casseroles or stews, such as chili with beans
- milk



½ cup

1 serving of:

- fruit or fruit juice
- starchy vegetables, such as potatoes or corn
- pinto beans and other dried beans
- rice or noodles
- cereal



1 ounce

1 serving of:

- snack food
- cheese (1 slice)



1 tablespoon

1 serving of:

- salad dressing
- cream cheese

The Nutrition Facts label on food packages tells you how much of the food is in one serving. The serving size is not necessarily the same size as those used in diabetes meal planning. Make sure you look at the amount of carbohydrate listed per serving to help you gauge how much of the particular food to eat at one time. The Nutrition Facts information can be very helpful when counting carbohydrates.

Adapted from NIH Publication No. 08-5043. Updated November 27, 2012. Accessed May 31, 2013.