

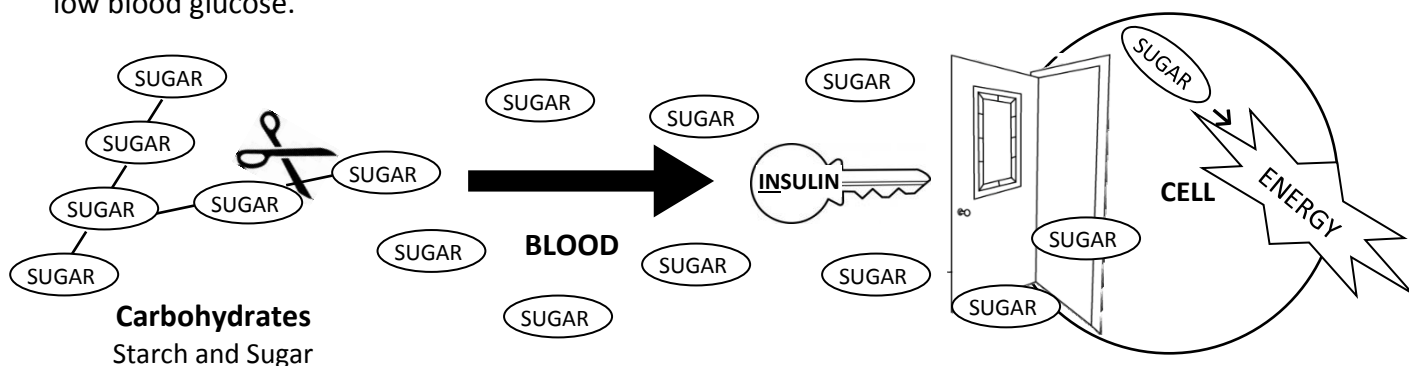
Nutrition for Diabetes: Frequently Asked Questions

What is a Carbohydrate?

Carbohydrates or “carbs” are a group of nutrients found in some foods and drinks. When you eat carbs, your body turns them into glucose or “sugar” and sends it into your blood. The blood then carries the sugar to cells that use it for energy. Starch and sugar are types of carbs.

What is Insulin?

Insulin is a hormone that removes sugar or glucose out of your blood and into your cells. We need insulin to bring down, aka **correct**, a high blood sugar and/or to **cover** the carbs we eat. Too little insulin may lead to high blood glucose & ketones because your cells are starving. Too much insulin can lead to low blood glucose.



How much Insulin do I need? What is Carbohydrate Counting?

You will need different amounts of insulin throughout the day depending on your blood glucose and the total grams of carbs you plan to eat—we call this Carb Counting. We will always use the 3 C’s to figure out the units of insulin: **check**, **correct**, and **cover**. See *Calculating Your Insulin Dose* for step by step instructions.

Does “sugar free” mean a food contains no carbohydrates?

No! Many “sugar free” foods contain just as many carbohydrates. When we Carbohydrate Count, we want to make sure to look at the grams of **Total Carbohydrate** rather than the grams of Sugar.

Is there a “diabetes diet”? Should I limit or avoid carbs?

There is no “diabetes diet.” Just because a food has carbs doesn’t mean you shouldn’t eat it. In fact our body needs carbs to make energy and survive. However, some carbs that are more healthful than others—beans, fruits, whole grains, & low fat dairy. Choose these carbs to feel good and grow strong!

What is the ONE thing you should to avoid?

Sweet beverages. Juices, regular sodas and other sugary drinks contain a too much pure sugar. These drinks cause your blood sugar to go so high, so quickly that insulin can’t bring it back down. Instead choose water, naturally flavored seltzer, skim or 1% milk, or “diet” drinks.

REMEMBER:

EAT CARBS	→	↑ BLOOD SUGAR
INJECT <u>INSULIN</u>	→	↓ BLOOD SUGAR
JUICE, SODA	→	↑↑↑ BLOOD SUGAR

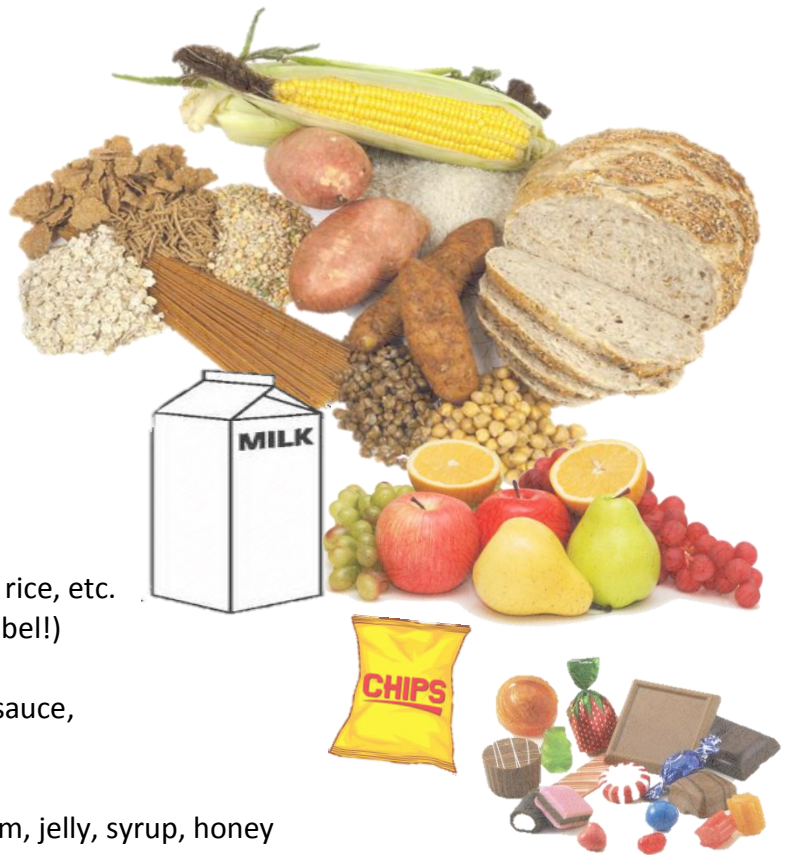
Which foods have Carbs?

Sources of Carbohydrates

Foods to consider for Carb Counting

If you plan to eat these foods we need to figure out the grams of carbs your portion contains:

- **Grains:**
 - Breads, cereals, crackers
 - Pasta, rice and other grains
 - Cookies, cakes, muffins
- **Beans, lentils and tofu**
- **Milk, soy milk, yogurt**
- **ALL Fruits:**
 - Fresh, canned, dried, & frozen
- **Starchy vegetables:**
 - Potatoes, peas, corn, plantains, yucca
 - Chips: potato, plantain, tortilla, corn, rice, etc.
- **Nut butters with added sugar (check the label!)**
- **Condiments and sauces**
 - Ketchup, barbeque sauce, spaghetti sauce, salad dressings (especially "low fat")
- **Sweets:** ice cream, candy, chocolate
- **Sweeteners:** sugar, brown sugar, agave, jam, jelly, syrup, honey



Foods you DON'T have to consider for Carb Counting

- **Proteins**
 - Fish, pork, chicken, beef, turkey, etc.
 - Crusted, breaded or battered will have carbs
 - Nuts and Nut butters-- "no sugar added" only
 - Eggs
- **Cheeses**
- **Non-starchy vegetables**
 - Asparagus
 - Broccoli
 - Brussels sprouts
 - Carrots
 - Cabbage
 - Cauliflower
 - Collard Greens
 - Green beans
 - Kale
 - Lettuce
 - Mushrooms
 - Onion
- **Condiments**
 - mustard, mayonnaise, vinegar
- **ALL Oils, butter, lard**
- **Herbs and seasonings**



How to Determine the Total Grams of Carbs You Plan to Eat:

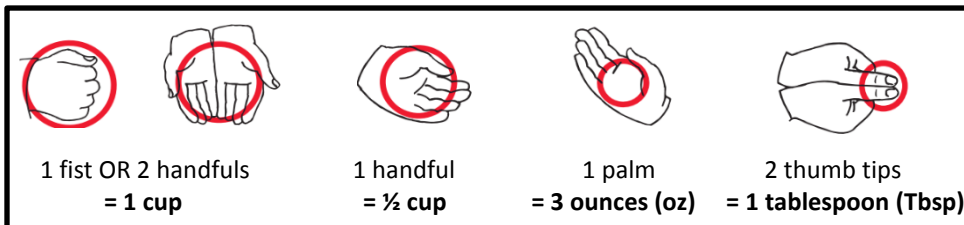
Learning to Use Food Labels

1. First, look at the **Serving Size**.

- In the example, a serving size is 2 crackers. "Crackers" are the unit used to measure how much food.
 - You may also see "cups", "tablespoons", "bag", "cookies", or "chips" used as the unit.

2. Now, think about your **Portion Size** or how much you want to eat.

- Use the same unit that was used for the serving size.
- Measuring cups or spoons are best, but you can use this as a guide:



3. Finally, look for the **Total Carbohydrate** grams (g):

- In the example, 2 crackers contain 10 grams of carbohydrate.
- This number includes the starch, sugar, and fiber in 1 serving.

Nutrition Facts	
Serving Size 2 crackers (14 g)	
Servings Per Container About 21	
Amount Per Serving	
Calories 60	Calories from Fat 15
% Daily Value*	
Total Fat 1.5g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 70mg	3%
Total Carbohydrate 10g	3%
Dietary Fiber Less than 1g	3%
Sugars 0g	
Protein 2g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 2%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2400mg 2400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Using these numbers, begin your calculation:

$$\text{Portion Size} \div \text{Serving Size} \times \text{Total Carbohydrate} = \text{Total grams of carbs you plan to eat}$$

For example:

You plan to eat 4 crackers (portion size). Using the label above, divide your portion size by the serving size, then multiply by the total grams of carbs in 1 serving.

$$\frac{4}{\text{Portion Size}} \div \frac{2}{\text{Serving Size}} \times \frac{10}{\text{Total Carbs}} = \frac{20}{\text{Total grams of Carbs you plan to eat}} \text{ g}$$

Now you try! Using the label for cereal at the right, imagine how much cereal you would like to eat, and then calculate how many grams of carbs are in your portion size.

I would like to eat _____ of cereal (portion size)
 Number Unit

$$\frac{\text{Portion Size}}{\text{Serving Size}} \div \frac{\text{Total Carbs}}{\text{Total grams of Carbs you plan to eat}} = \text{g}$$

HINT: Use decimals
 NOT fractions e.g. $\frac{3}{4} = 0.75$

Uncle Sam Original - 10 oz.

Nutrition Facts	
Serving Size: 3/4 cup (55g)	
Servings Per Container About 5	
Amount Per Serving	
Calories 190	Calories from Fat 40
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 0.5g	3%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 135mg	6%
Potassium 250mg	7%
Total Carbohydrate 38g	13%
Dietary Fiber 10g	40%
Soluble Fiber 2g	
Insoluble Fiber 8g	
Sugars less than 1g	
Protein 7g	

How to Determine the Total Grams of Carbs You Plan to Eat:



Create a Cheat Sheet

Believe it or not, even those of us that eat a wide variety of foods generally eat the same 20 different foods in rotation. By spending time now, you can save yourself some time later by creating your own personal cheat sheet with the serving size and grams of carbs for your favorite foods. Perfect refrigerator art!





Food	Portions Size	(g)rams of Carb
Grains		
Fruits		
Starchy Vegetables		
Milk and Yogurt		
Sweets and Treats		
Other (Common Combinations e.g. pizza)		

How to Determine the Total Grams of Carbs You Plan to Eat:

Using Apps and Websites

There are many apps or websites you can use to look up the carb content for all of the food you eat. On many of them you can put in your portion size, or the amount you plan to eat, and the program will automatically calculate the total grams of carb in your portion-- you can skip the math that we learned on the last page!

Here are some of our favorites:

 <p>Lose it! iPhone & Android, FREE</p> <p>Track diet and exercise</p>	 <p>Fooducate iPhone & Android, FREE</p> <p>Helps you decide what to eat by giving foods a grade</p>	<p>PredictBGL Diabetes Manager iPhone, FREE</p>   <p>Diabetes:M Android, FREE</p>
<p>Directions for Carb Counting:</p> <ol style="list-style-type: none">1. Follow steps to create an account. Note: you must be 18 years old.2. Click the big blue "+" button and select a meal.3. Type the name or scan the barcode of the food you are going to eat.4. Enter your portion for the food or drink.5. Touch "save" or "add" in the top right corner.6. Repeat for each food in your meal or snack.7. Then touch the meal title (for example "Breakfast") to see your total carbs entered at that meal.	<p>Directions for Carb Counting:</p> <ol style="list-style-type: none">1. Click Health Tracker2. "Add" in the top right3. Select which meal you want to add food to4. Then search for or scan the barcode of the food you are going to eat8. Enter your portion for the food or drink and "OK"9. Repeat for each food in your meal or snack.10. Then select Health Tracker in the menu on the top left and select each food, tap nutrition, to find the Carbs in your portion.11. Add the carbs together for each food/drink.	<p>After you practice and are very confident in calculating your insulin dose, there are some apps that will make your life even easier...</p> <p>These apps do it all! Enter your food & drinks and they will add up your total carbs. Then they can calculate your recommended insulin dosage using your individual blood sugar target, blood glucose reading (can link!), correction factor, carb intake, carb ratio, and insulin on board.</p>

Planning Your New Routine:



When to Check, Correct, and Cover

Remember we want to check our blood sugar at least 4 times a day. By collecting and sharing this information you and your doctor or nurse will be able to adjust your medications to get your blood sugar as close to your target as possible so you can stay out of the hospital and feel great! **Don't forget to bring your meter to every clinic visit.**

Let's create a schedule for a typical day to help you stay on track. Of course this schedule may need adjustments depending on the day, but at least you will have a good foundation.

Time	Are you eating? If so, what?	Count Carbs	Check	Correct	Cover

REMEMBER:

1. Don't check and correct if it has been less than 3 hours from your last insulin dose. This is the 3 Hour Rule. You still need to cover if you are eating carbs.
2. Correct does NOT always mean "give insulin":
 - If your Blood Glucose is less than 70mg/dL follow 15/15 rule (15g Carb then recheck in 15 min) and repeat until its above 70mg/dL.
 - If it's above 250mg/dL, give insulin and check for ketones. If you have ketones, drink a lot of water & relax—exercise will make it worse. Call us if they are moderate to large.
3. If it's been less than 3 hours from your last dose AND you have a snack that is less than ½ of your carb ratio you don't have to check, correct, or cover it! With my current carb ratio that means I can have a _____ gram carb snack without covering.