

CARBOHYDRATE COUNTING: FOCUS ON CONSISTENCY

For People Who Use Diabetes Pills and Basic Insulin Regimens

If you take diabetes pills that help your body make more insulin, or if you take set amounts of insulin, it is important for you to eat about the same amount of food at about the same times each day. Eating consistent amounts of carbohydrate at meals and snacks will help your diabetes medications work better and keep your blood glucose levels healthy. Carbohydrate counting can help you to plan what to eat. Read Robert's story and *Carbohydrate Counting Basics* to learn more.

ROBERT'S STORY

Robert is 58 years old and has had type 2 diabetes for three years. He takes glyburide (a diabetes medication that helps his body make more insulin), and checks his blood glucose level several times a day. Robert's blood glucose numbers have been high lately and his physician has suggested he work with a dietitian to lower them.

Robert wrote down what he ate and his blood glucose levels before his appointment. (See food and blood glucose record below.) At his visit the dietitian had Robert circle his blood glucose tests that were higher or lower than his goal of 90 to 130 before meals. Next, Robert's dietitian reviewed *Carbohydrate Counting Basics* (see back) and

asked Robert to count how much carbohydrate he had eaten at each meal.

Robert found that his blood glucose levels were higher after meals when he ate more carbohydrate and low after a steak dinner when he had almost no carbohydrate. His dietitian explained that the amount of carbohydrate eaten at a meal or snack has a large effect on how high blood glucose levels will be afterward. Robert was surprised to learn how important carbohydrate is and wanted to know how much he should eat.

Robert's dietitian said that the *first step* was to eat about the same amount of carbohydrate at meals each day—this would let his health care provider match Robert's diabetes medications to how he liked to eat. Once he had a consistent carbohydrate intake, they could look at his blood glucose numbers and make changes if needed.

Robert decided to start by eating at least *3 carbohydrate choices* (to keep his blood glucose level from dropping too low) and no more than *5 carbohydrate choices* at each of his meals (to keep his blood glucose from going too high).

ROBERT'S FOOD AND BLOOD GLUCOSE RECORD

DAY	BG	BREAKFAST	BG	LUNCH	BG	DINNER	BEDTIME BG
Friday	7:30 am BG: 91	1 1/2 cups dry cereal 2 slices toast with margarine 12 oz orange juice 1 cup skim milk CARBOHYDRATE CHOICES: 8	12:00 pm BG: 247	1 hamburger on bun 1 small French fry Medium diet soda CARBOHYDRATE CHOICES: 4-5	5:00 pm BG: 110	6 oz sirloin steak 1/2 cup mashed potatoes 1 cup green beans 1 cup salad with low-fat dressing CARBOHYDRATE CHOICES: 1-2	10:00 pm BG: 55 (5 crackers to treat low BG)
Saturday	8:30 am BG: 106	2 eggs 2 slices toast 1 cup orange juice 1 cup coffee CARBOHYDRATE CHOICES: 4	12:00 pm BG: 109	1 turkey sandwich 1 small handful pretzels 1 apple 1 can diet soda CARBOHYDRATE CHOICES: 4	5:00 pm BG: 112	2 cups spaghetti and tomato sauce 2 slices garlic bread 2 cups skim milk CARBOHYDRATE CHOICES: 10	10:00 pm BG: 274

CARBOHYDRATE COUNTING BASICS

The amount of carbohydrate you eat at meals and snacks can affect how high your blood glucose level rises afterward. The right amount of carbohydrate will depend on how active you are and the types of diabetes medications or insulin you take. (It is the balance between carbohydrate and insulin that determines how high blood glucose will rise after eating.) Work with a dietitian to develop a personal meal plan. Follow the steps below to get started.

STEP 1: KNOW YOUR GOAL

Your “carbohydrate counting” goal will depend on the types of diabetes medications, or insulin, you use.

- **Consistency** *If you take a diabetes medication that increases the amount of insulin your body makes, or if you take insulin injections, eat about the same amount of carbohydrate at meals and snacks each day to keep your blood glucose levels from going too high or too low.*
- **Maximums** *If you do not use diabetes medications that can cause low blood glucose, focus on keeping the amount of carbohydrate you eat moderate to keep your blood glucose from going too high. Remember, it is not healthy to cut out all carbohydrate foods — your body, especially your brain, needs some every day.*
- **Matching** *People with type 2 diabetes who use rapid acting insulin can learn to adjust, or “match” the amount of insulin they take to the amount of carbohydrate they eat at each meal. This means that carbohydrate intake can be varied without causing high or low blood glucose levels.*

STEP 2: KNOW WHAT YOU EAT

- Keeping a food and blood glucose record will help you see how what you eat affects your blood glucose level. Try to measure or weigh foods so you learn what common food portions look like.

STEP 3: KNOW WHICH FOODS HAVE CARBOHYDRATE

- Foods that contain carbohydrate are listed below. **Each portion is 1 carbohydrate choice (15 grams of carbohydrate).**

1 CARBOHYDRATE CHOICE	
Grains, Breads, Cereals, Pasta, and Starchy Vegetables	1 slice or 1 oz bread, 3/4 cup dry cereal, 1/2 cup cooked cereal, 1/3 cup cooked pasta or rice, 1/2 cup potato, peas or corn
Milk and Yogurt	1 cup milk, 2/3 cup (6 oz) unsweetened or sugar-free yogurt
Fruits	1 small fresh fruit, 1/2 cup canned fruit, 1 cup melon or berries, 1/4 cup dried fruit, 1/2 cup fruit juice
Vegetables	3 cups raw vegetables, 1 1/2 cups cooked vegetables <small>(small portions do not need to be counted)</small>
Sweets and Snack Foods	1/2 cup or 3/4 oz snack food (pretzels, chips, 4-6 crackers), 1 oz sweet snack (2 small cookies), 1/2 cup ice cream, 1 tbsp sugar

STEP 4: READ FOOD LABELS

- To count carbohydrate choices look at the grams of “Total Carbohydrate.” 15 grams of total carbohydrate equals one carbohydrate choice. Remember, the nutrition information on food labels is for the standard serving size. If your portion is larger or smaller you will need to adjust the carbohydrate information.

STEP 5: CREATE A MEAL PLAN

- Work with a dietitian to develop a personal meal plan that fits your activity level and lifestyle. Women often have 3 to 4 carbohydrate choices (45 to 60 grams of carbohydrate) and men 4 to 5 carbohydrate choices (60 to 75 grams of carbohydrate) at each meal. If you eat snacks, 1 to 2 carbohydrate choices (15 to 30 grams of carbohydrate) is reasonable.



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