

Diabetes

Life Lines



August-September, 2016

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Diabetes - the Medical Perspective

Self-Management of Blood Glucose

Blood glucose monitoring is a familiar day in and day out task for individuals with diabetes. This is just one of the Self-Care Behaviors recommended by the American Association of Diabetes Educators. Blood glucose monitoring provides immediate feedback that can be used to make changes in your diabetes management plan. It is not surprising that the demands of diabetes management can lead to what has been called “diabetes burnout.” Sometimes it is easier to handle the demands of managing your diabetes if you understand the importance and reason for specific monitoring. Blood glucose monitoring may be helpful for the following reasons:

- Detecting and preventing hypoglycemia (low blood glucose)
- Avoiding severe hypoglycemia and hypoglycemia unawareness, which is a condition where blood glucose drops without any awareness of the physical symptoms of hypoglycemia
- Preventing and detecting hyperglycemia (high blood glucose)

- Helping reach and maintain target blood glucose goals
- Understanding how blood glucose responds to different amounts and types of foods and physical activity
- Determining the need for insulin during gestational diabetes
- Calculating appropriate insulin for insulin pumps and for carbohydrate ratios, correction factors, and insulin dosages with multiple daily injections
- Adjusting medication or other treatments when lifestyle changes occur

As with other diabetes self-management behaviors and skills, blood glucose monitoring should be individualized. Be sure to discuss the following important factors with your health-care provider.

1. How often should blood glucose levels be checked? It will depend on what type of diabetes medication you take, your diabetes management goals, age, and overall health and other medical issues. Someone who takes insulin and particularly those who use advanced carbohydrate counting will require more frequent blood glucose testing. For example, if you determine your meal-time insulin dose and correction factor depending on how much carbohydrate you ate, it is necessary to check your blood sugar

prior to meals and snacks. A correction factor is a calculation used to determine an extra dose of insulin to bring elevated blood glucose into target range. On the other hand, someone who manages their diabetes with meal planning and physical activity may be advised to check their blood glucose less frequently.

2. What time of day is best to check blood glucose levels? Again, it all depends on your particular situation. Always follow your health-care provider's recommendations as they are made for your specific needs and goals. Even if you have been advised to only do once a day blood glucose checks consider checking at different times of the day. If you only check your fasting glucose everyday with good results it can give the false assumption that your numbers are normal the rest of the day. By checking two hours after the start of a meal you can assess how your blood glucose responds to food eaten at that meal. Bed-time glucose monitoring is necessary for those who take insulin or medication that has the potential to drop glucose levels over night. A bed-time snack may also be appropriate to assure

blood glucose remains stable over-night.

3. Why does my blood glucose change so much even when I eat the same amount of carbohydrate, take the same diabetes medication, and stick with the same exercise routine? Blood glucose fluctuates through-out the day and night. Factors other than food, diabetes medication, and activity affect blood glucose levels. Physical and emotional stress, certain medications, and hormonal fluctuations can all affect blood glucose levels.
4. What is my target glucose range? General recommendations from the American Diabetes Association are 80-130 mg/dl before meals and less than 180 mg/dl two hours after the start of a meal. Endocrinologist who are physicians specializing in treating diabetes often recommend lower target ranges. Age, duration of diabetes, and other medical factors will influence your target glucose goals. The most important blood glucose monitoring test is Hemoglobin A1C, often known simply as A1C. This test is a reflection of an approximate three- month average blood glucose. Your doctor uses this

test to assess your diabetes control. An A1C below 7 % is the goal for reducing risk associated with diabetes complications. A lower A1C may be appropriate, so always discuss A1C targets with your doctor.

Diabetes and Food

Carbohydrate containing foods affect blood glucose levels the most. Fruit, starches, starchy vegetables, milk/yogurt groups are all carbohydrate containing foods. A fast-acting carbohydrate food like orange juice will affect blood glucose more quickly than whole milk which contains carbohydrate, protein and fat. The fat in the whole milk will take longer to be digested. The sugar takes longer to reach the blood stream because the fat slows the digestive process.

Since carbohydrates raise blood glucose it is important to see a dietitian or certified diabetes educator to help you plan an appropriate amount of carbohydrate for meals and snacks. Eating consistent amounts of carbohydrate at meal and snack time and eating regularly scheduled meals help keep blood glucose stable and controlled.

Portion size effects how much carbohydrate a food contains. A carbohydrate choice or serving is the amount of food that provides 15 grams of carbohydrate. Generally, most people with diabetes need between 3 to 5 carbohydrate choices per meal (45-75 grams carb) and possibly 1 or 2 carbohydrate choices (15-30 carb choices) for a snack between meals and sometimes at bed-time. Snacks are not always a necessary part of a diabetes meal plan. Sometimes snacks can just be a source of unwanted calories.

Remember, there is no one “diabetes diet” that is appropriate for everyone. The main objective for diabetes meal planning is to lower carbohydrate intake enough to keep blood glucose within target ranges. This may look different from person to person, but meals and snacks should include lean protein, healthy fats, lower-fat dairy, starches, and fruits and vegetables within carbohydrate allowance.

Work with your health care provider to set blood glucose target ranges, determine an appropriate monitoring schedule and develop a diabetes meal plan that fits your needs and lifestyle.

Recipes to Try

Autumn Vegetable Soup

6 servings per recipe

Ingredients

- 1 Tablespoon olive oil
- 1 large onion, finely chopped
- 1 red bell pepper, chopped
- 2 teaspoon dried rosemary
- ¼ teaspoon red pepper flakes
- 2 pounds butternut or other hard-shelled squash
- 4 cups low-sodium low fat chicken broth
- 1 – 15 ounce can cannellini beans, rinsed and drained
- 1 bunch Swiss chard, tough stems removed, coarsely chopped



Directions

1. Warm oil in a large saucepan over medium heat. Add the onion, bell pepper, rosemary, and pepper flakes. Sauté until the onion and bell pepper are tender, about 12 minutes.
2. Add the squash and cook, stirring frequently, about 2 minutes.
3. Add the 4 cups broth and the beans. Bring to a boil, reduce the heat to simmer, stirring occasionally, about 25 minutes.
4. Add the chopped chard and simmer until wilted, about 5 minutes. Thin the soup with more broth if desired.
5. Preparation time: 5-10 minutes.

Nutrition Facts per serving

Calories	175	Fat	4 gram
Protein	10 grams	Calories from fat	32
Carbohydrate	30 grams	Cholesterol	0 mg
Fiber	7 grams	Sodium	345 mg

Banana Bread

14 slices per recipe

Ingredients

- 1 cup whole wheat flour
- 1 cup flour
- ½ teaspoon baking soda
- ½ teaspoon salt
- 1 cup Splenda
- ¼ cup butter, softened
- 2 large eggs
- 1 ½ cup mashed ripe banana (about 3 bananas)
- 1/3 cup plain low-fat yogurt
- 1 teaspoon vanilla extract



Directions

1. Preheat oven to 350 °F.
2. Coat loaf pan with cooking spray.
3. Combine flours, baking soda, and salt.
4. Mash 3 bananas. Set aside.
5. Place sugar and butter in a large bowl, and beat with a mixer at medium speed until well blended (about 1 minute).
6. Add the eggs, banana, yogurt, and vanilla; beat until blended.
7. Add flour mixture; beat at low speed just until moist.
8. Spoon batter into loaf pan.
9. Bake 1 hour or until wooden pick inserted in center comes out clean. Cool 10 minutes in pan on a wire rack; remove from pan. Cool completely on wire rack

Nutrition facts per serving

Calories	135	Fat	4 grams
Protein	4 grams	Calories from fat	39
Carbohydrate	21 grams	Cholesterol	21 mg
Fiber	2 grams	Sodium	188 mg

These and other recipes available at
<http://urbanext.illinois.edu/diabetesrecipes/intro.cfm>

Sample Menu

BREAKFAST	Amount/ Portion
Banana Bread †	1 slice
Soft tub margarine spread	1 teaspoon
Scrambled egg	1 egg
Cheerios	¾ cup
Sliced strawberries	1 ¼ cups
Skim milk	1 cup
530 Calories; 63 grams carbohydrates; 4 carbohydrate choices	
LUNCH	
Autumn Vegetable Soup†	1 serving
Stuffed Green Peppers†	1 serving
Banana	½ medium
Skim milk	1 cup
572 Calories; 78 grams Carbohydrates; 5 Carbohydrate Choices	
DINNER	
Chicken Stew †	1 serving
Beet and Orange Salad with Walnuts and Feta Cheese †	1 serving
Individual apple Pie †	1 serving
Vanilla ice cream	½ cup
Skim milk	1 cup
844 Calories; 71 Carbohydrates; 5 Carbohydrate Choices	
Total: 1946 Calories, 212 Carbohydrates, 14 Carbohydrate Choices	

† Recipes from *Recipes for Diabetes* at
<http://urbanext.illinois.edu/diabetesrecipes/>
 or this newsletter