

Healthy Eating Tip of the Month

The Blood Sugar Balance

Diabetes: A Balancing Act

With nearly 1 out of 10 people in the United States having diabetes, it is likely that you or someone you know has this challenging chronic condition. For people with diabetes, life is a constant balancing act. It is important to control blood sugar, but this is easier said than done. Food, stress, medications, and exercise are just some of the factors that can cause blood sugar to get out of balance from day to day. However, studies have shown that tight blood glucose control can lower the risk of diabetes complications and improve quality of life. This issue of Healthy Eating Tip of the Month will focus on diabetes and specifically how nutrition can play a role in good blood sugar control.

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Diabetes Defined

Diabetes is a condition in which the body cannot process sugar (or glucose) properly. Insulin, a hormone that is normally produced by the body, allows glucose to enter cells. The cells then use glucose for energy. People who have diabetes cannot make enough insulin or their cells become resistant to insulin. High blood sugar (or hyperglycemia) occurs because the glucose remains in the bloodstream instead of being taken up by the cells.



Long term uncontrolled blood sugars can lead to....

- Damage to the retina
- Nerve damage
- Poor circulation
- Foot ulcers
- Bacterial infections
- Kidney disease
- Gum disease
- Heart disease
- Slow stomach emptying

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001356/figure/A000313.B19825/?report=objectonly>

What are the symptoms of diabetes?

Symptoms of undiagnosed diabetes/high blood sugars

- Frequent urination
- Unusual thirst
- Fatigue
- Irritability
- Blurry vision
- Headaches
- Nausea
- Extreme hunger
- Weight loss



<http://www.uofmmedicalcenter.org/healthlibrary/Article/89248>

Diabetes: What's the Difference?

Diabetes refers to a condition in which the body cannot process sugar correctly. However, there are different types of diabetes that are treated in very different ways. Regardless of the type of diabetes, nutrition is an important part of diabetes management. Read below about type 1 and type 2 diabetes as well as some less common types.

Type 1 Diabetes

- Accounts for about 10% of diabetics
- Typically diagnosed before age 30
- Rapid onset
- Insulin deficient
- Dependent on insulin injections
- Unknown cause



Type 2 Diabetes

- Accounts for about 90% of diabetics
- Typically diagnosed after age 30
- Slow onset
- Insulin resistant
- Can be controlled with diet, exercise, medications, and insulin
- Often related to obesity



What is LADA?

Latent autoimmune diabetes in adults (LADA or type 1.5) is a type of diabetes similar to type 1 but with a slow onset that is usually diagnosed in adulthood.

What is Gestational Diabetes?

Gestational diabetes is diabetes that occurs during pregnancy. This type of diabetes is similar to type 2. When the baby is born, blood sugars return to normal. However, gestational diabetes increases the risk for type 2 diabetes later in life.

Monitoring Blood Sugar

Controlling blood sugar has been shown to help reduce the risk of diabetes complications and improve quality of life. Monitoring blood sugar with a glucometer is an important part of managing diabetes.



When to check?

- After waking up
- Before eating
- Before taking insulin
- Before, during, and after vigorous exercise

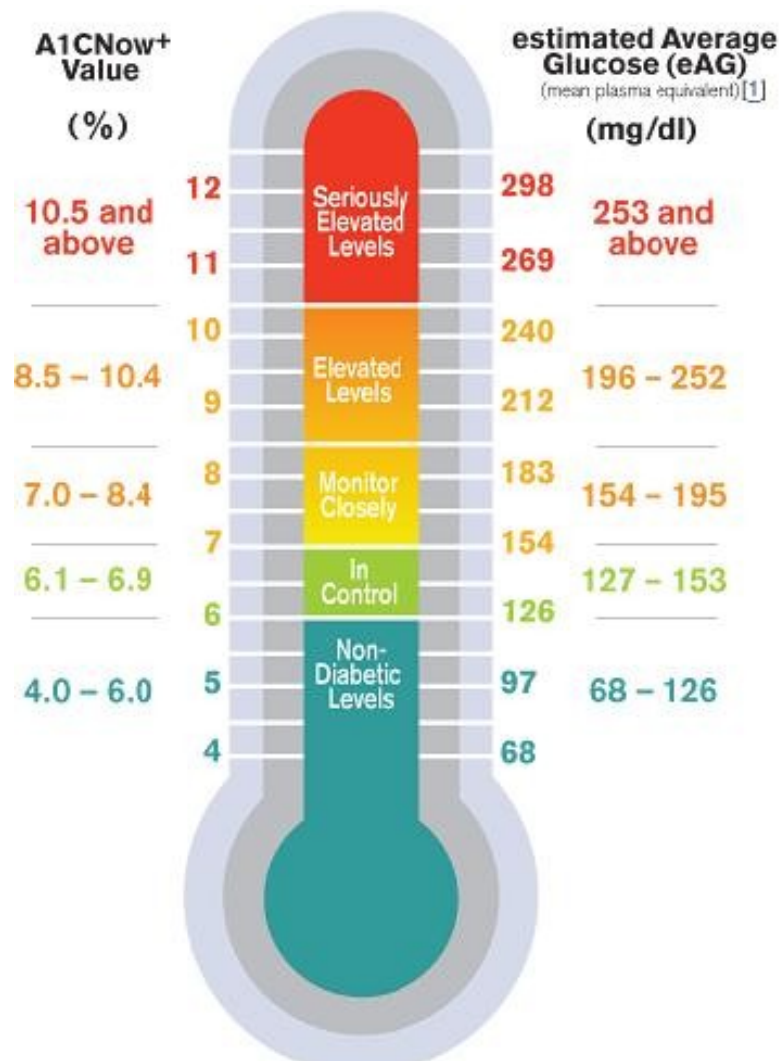
Target blood sugar

Before meals: 70-130 mg/dl

After meals: <180mg/dl

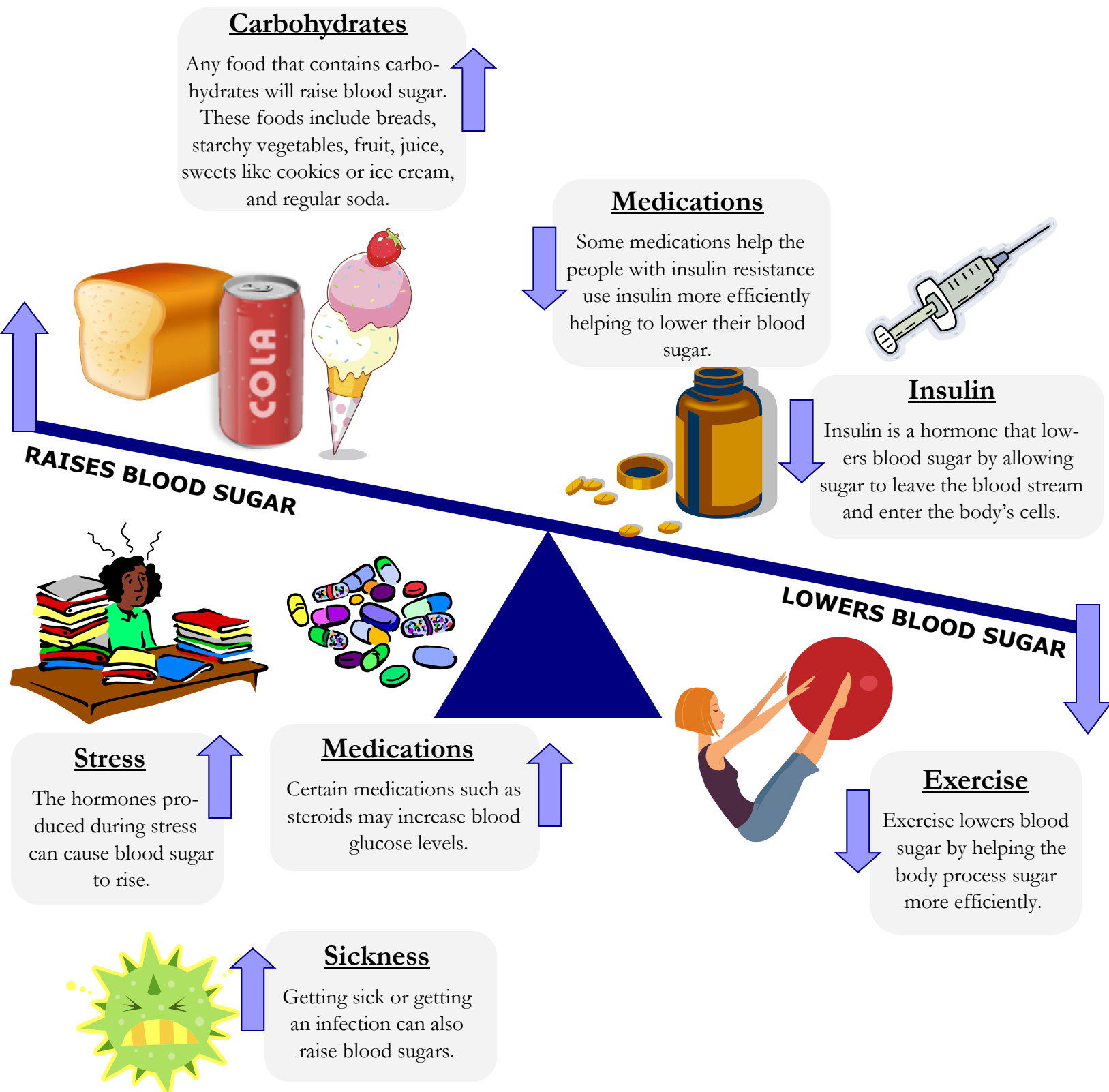
Hemoglobin A1C

Hemoglobin A1C measures the average blood sugar levels over the past 2-3 months. This is a good indicator of long-term diabetes control. People with diabetes should aim for an A1C under 7%.



Balancing Blood Sugar

There are many factors that play into blood sugar control. It is important to understand how each factor affects how people with diabetes process sugar.



How Food Affects Blood Sugar



Carbohydrates

Carbohydrates are the main nutrient that will raise blood sugar. When carbohydrates are eaten, they are broken down into sugars and absorbed into the bloodstream. In a normal person, insulin allows the sugar from the bloodstream to enter the body's cells to be used for energy. People with diabetes do not make enough insulin or cannot use insulin correctly. They must take medications or insulin injections to move the sugar from their bloodstream into their cells.

Carbohydrate containing foods include:

- Starches such as bread, pasta, rice, and other grains
- Fruit such as apples, bananas, pears, oranges, raisins
- Fruit juices
- Starchy vegetables such as potatoes, corn, and peas
- Some dairy products such as milk, yogurt, ice cream
- Sweets such as candy, cookies, cake, regular soda



Do vegetables affect blood sugar?

Starchy vegetables such as corn, potatoes, and peas contain some carbohydrates that will raise blood sugar. Most vegetables contain no or minimal amount of carbohydrates. This makes vegetables a great between meal snack for someone with diabetes.

Some of the low or no carbohydrate vegetables include:

- Celery
- Carrots
- Broccoli
- Mushrooms
- Lettuce
- Spinach



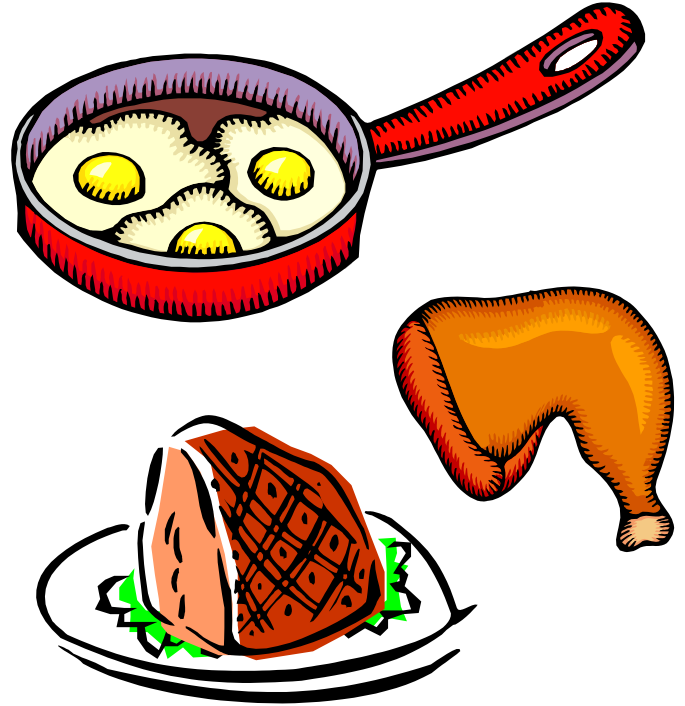
How Food Affects Blood Sugar

Protein

Protein foods contain minimal or no carbohydrates on their own. Be aware that adding sauces, gravies, or other condiments may increase the carbohydrate content. The breading on protein sources will also increase carbohydrate content.

Low-carbohydrate protein foods include:

- Chicken, turkey, or other poultry
- Fish
- Deli meats
- Eggs
- Beef
- Ham



Fats

Fats such as oil and butter do not raise the blood sugar. Be aware that a lot of foods that are high in fat are also high in carbohydrates as well.

High fat, high carbohydrate foods:

- Donuts
- Baked goods such as cookies, brownies, and cake
- Ice cream
- Pizza
- French fries
- Coffee drinks made with whole milk



We often eat food that is a combination of carbohydrate, protein, and fat. For example, a sandwich may contain carbohydrates in the bread, protein in the deli meat, and fat in the cheese. It is important to remember that only the carbohydrate in the bread works to raise blood sugar.

A Healthy Plate

Vegetables

2 cups raw or 1 cup cooked

- Salad
- Green beans
- Broccoli
- Carrots
- Squash

Starch

½ cup- Look for whole grain

- Rice
- Pasta
- Mashed potatoes
- Small baked potato

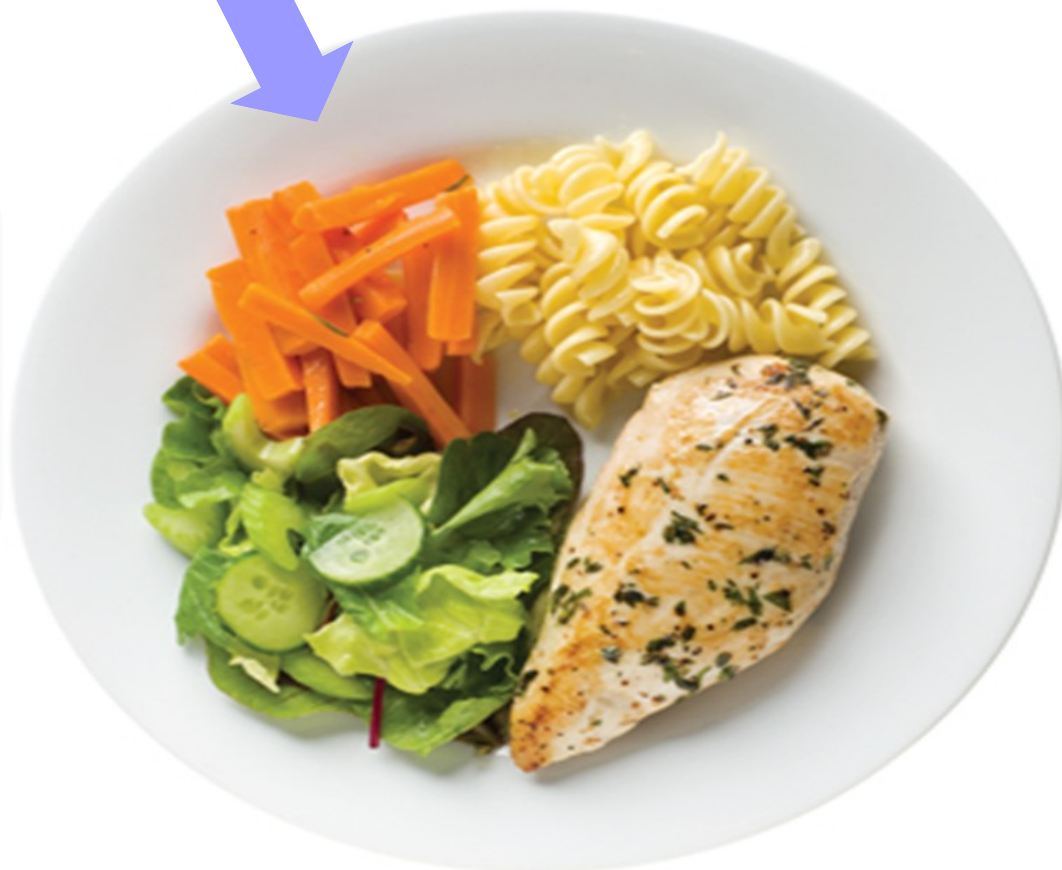
Protein

3 ounces- Look for lean meat

- Poultry
- Fish
- Meat Substitutes

Portion control and moderation can be very helpful for people with diabetes. Studies have shown that portion control has helped control blood sugars in type 2 diabetics. Measure out portions and make a balanced plate with about 1/2 vegetables, 1/4 starch, and 1/4 lean protein.

Fiber slows the digestion of carbohydrates and may contribute to better blood sugar control. Choose high fiber foods like vegetables, fruit, and whole grains.



What's Cooking?

Chicken and asparagus tossed with penne

Ingredients

- 1 1/2 cups uncooked penne pasta
- 1 cup chopped asparagus
- 6 ounces boneless, skinless chicken breasts, cut into 1-inch cubes
- 2 cloves garlic, minced
- 1 can (14.5 ounces) diced tomatoes with herbs, including juice
- 1 ounce soft goat cheese, crumbled
- 1 tablespoon Parmesan cheese

Directions

Fill a large pot 3/4 full with water and bring to a boil. Add the pasta and cook until al dente (tender), 10 to 12 minutes, or according to the package directions. Drain the pasta thoroughly. Set aside.

In a pot fitted with a steamer basket, bring 1 inch of water to a boil. Add the asparagus. Cover and steam until tender-crisp, about 2 to 3 minutes.

Spray a large nonstick frying pan with cooking spray. Add the chicken and garlic and saute over medium-high heat. Cook until the chicken is golden brown, about 5 to 7 minutes. Add the tomatoes, including their juice, and simmer 1 minute more.

*from Mayo Clinic at

<http://www.mayoclinic.com/health/healthy-recipes/NU00480>



Nutrition Facts:

Calories	455
Total fat	8g
Sat fat	3.5g
Sodium	240mg
Carbohydrate	55g
Dietary fiber	6.5g
Protein	41g



What's in the News



First Ever Guidelines for Kid's Type 2 Diabetes

<http://www.kvue.com/news/health/kids-doctor/189215401.html>

Though type 2 diabetes is typically considered an adult-onset disease, it is becoming more and more common in children. The American Academy of Pediatrics recently published guidelines for treating type 2 diabetes in children.

Cinnamon Has No Benefit for People With Diabetes

<http://www.diabetes.org/news-research/research/access-diabetes-research/baker-cinnamon-has-no-benefit-for-people-with-diabetes.html>

Cinnamon has been a widely debated topic regarding its effects on blood glucose control. The American Diabetes Association (ADA) reviews a study in which cinnamon is shown to have no effect on blood glucose control in type 1 and type 2 patients.

Gestational diabetes puts moms, babies at risk

http://www.pennlive.com/bodyandmind/index.ssf/2013/01/gestational_diabetes_cases_cou.html

Gestational diabetes is a known risk factor for developing type 2 diabetes in the future. It may also pose an immediate risk to the pregnancy as well as a risk for the development of type 2 diabetes and obesity in the child.

For more information on diabetes and nutrition, check out:

- **The American Diabetes Association**

<http://www.diabetes.org>

- **dLife**

<http://www.dlife.com/homepage>

- **CDC: Diabetes Public Health Resource**

<http://www.cdc.gov/diabetes>

- **Juvenile Diabetes Research Foundation**

<http://www.jdrf.org/>

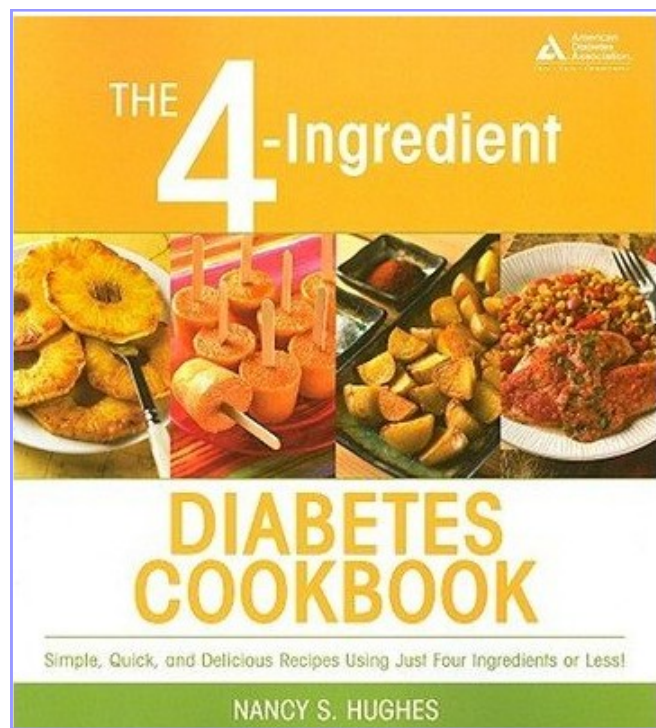
- **USDA: ChooseMyPlate.gov**

<http://www.choosemyplate.gov/>



Visit the Healthy Eating Tip of the Month Bulletin Board and win a prize!

Start measuring out your portions in style with Pier 1 Imports floral measuring cups!



Get some quick and easy meal ideas from Nancy S. Hughes' "The 4-Ingredient Diabetes Cookbook." All meals meet the guidelines of the American Diabetes Association (ADA).

Stop by the Healthy Eating Tip of the Month bulletin board in the UH Café to learn more about balancing your blood sugar and enter your name to win the above prizes.

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