



Food as Health for Diabetes

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In the United States, more than 1 in 10 adults live with diabetes. Experts estimate that another 1 in 3 adults have prediabetes and are at increased risk of developing diabetes in the near future.

While you cannot change certain risk factors for developing diabetes such as age, race, and family history, there are many steps you can take to lower your risk of developing diabetes or help manage diabetes if you have it. Lifestyle changes such as choosing nutritious foods have been shown to help people reduce their risk. First, it's important to understand what diabetes is to better understand how nutritious choices can make a positive difference in your health.

What is diabetes?

Diabetes is a disease that occurs when people have too much sugar in their blood over a long period of time. Blood sugar naturally rises when we eat and falls afterward because the body takes sugar from the blood and uses it for energy. For example, sugar from the blood is used to power muscles for you to walk and for your brain to think. With diabetes, the body



is unable to or has difficulty moving sugar from the blood into tissues that use it for energy. Blood sugar levels will stay high over time when this happens. Many of the complications from diabetes are from damage to the blood vessels because of the high amounts of sugar. You may also have heard the term blood glucose, which is the same as blood sugar.



Insulin is a hormone that your body makes in an organ called the pancreas. Insulin helps move sugar out of the blood and into the cells to be used. Think of it like a key that unlocks the door to the cell. With diabetes, a few things may happen to make that key no longer work, depending on the type of diabetes. There are several types of diabetes:

- **Type 1 diabetes:** This type of diabetes is when the pancreas makes very little or no insulin. If insulin is a key, this type of diabetes means we've lost the key. The body stops making insulin. The only treatment is to take insulin shots or use an insulin pump. Type 1 diabetes is usually diagnosed earlier in life.
- **Type 2 diabetes:** The body can still make insulin, but the insulin doesn't work as well anymore. With this type of diabetes, if insulin is a key, the key is rusty, and it becomes hard to turn in the lock. Type 2 diabetes is much more common. It makes up about 90% to 95% of diabetes cases in the U.S. Type 2 diabetes is usually diagnosed in adults.
- **Gestational diabetes:** Gestational diabetes is like Type 2 diabetes but occurs only in pregnant women who did not have any type of diabetes before pregnancy. After the baby is born, this type of diabetes will usually go away, but it may increase the risk of developing Type 2 diabetes in the future.

How will someone know if they have diabetes?

Some people may have no symptoms. But the most common symptoms of diabetes may include:

- Feeling tired all the time
- Feeling thirsty
- Feeling hungry often
- Having to pee often
- Having blurred vision

Health-care providers usually check blood sugar during regularly scheduled doctor's visits. It is important to check it regularly. If you are unsure what your blood sugar normally is, you can always ask at your next appointment. For those diagnosed with diabetes and taking insulin, you should regularly check blood sugar levels throughout the day. Anyone diagnosed but not taking insulin should talk to your health-care provider about the best way to monitor blood sugar. Those with prediabetes may want to have their doctor check their blood sugar levels at least once per year. Your doctor may recommend more frequent checks if you have any other health complications.

How is diabetes harmful to the body?

Blood flows through the entire body. When blood sugar is too high, it causes damage to the body, and this causes health problems.

- **Eyes:** Blurred vision and in the worst cases, blindness
- **Kidneys:** Trouble filtering out the waste from our bodies and may stop functioning properly
- **Nerves:** Difficult for nerves to send signals to different parts of your body, especially the arms and legs
- **Feet:** Poor blood flow and damaged nerves cause poor foot health

- **Mouth:** More likely to have problems with teeth and gums
- **Immune system:** Difficult for people to overcome illnesses like a cold or the flu or for wounds or cuts to heal
- **Heart:** Damage to blood vessels, increased fats in our blood, and increased risk of heart disease

What food choices can you make to help manage your blood sugar levels?

Carbohydrates often have a bad reputation, especially when it comes to diabetes. However, carbohydrates are one of three essential macronutrients, along with protein and fat. The body needs all three macronutrients to allow you to feel good and perform your best. Carbohydrates are found naturally in grains, fruits, starchy vegetables, and dairy products. They are also added to processed foods like cookies, cakes, and candies. Everyone uses carbohydrates for energy. We even have some parts of our body that can only use carbohydrates for energy. Your body breaks down most carbohydrates into simple sugars called glucose and fructose before it uses them.

The magic combo: Protein + fiber

Together, protein and fiber slow down digestion which slows down the rise of blood sugar. They also have the added benefit of keeping you full and satisfied for longer. Fiber can also improve the body's ability to use insulin. Some examples of lean protein would be low-fat dairy, chicken or turkey, lean beef, fish, nuts, or beans. Foods high in fiber include whole grains, fruits, vegetables, and beans.

We can group carbohydrates into simple and complex.

- **Simple carbohydrates**, like granulated (white) sugar, are called refined sugars and cause blood glucose and insulin levels to rise quickly.
- **Complex carbohydrates** cause a slow and steady rise in blood sugar. Complex carbohydrates are the ones you want to prioritize when making blood-sugar-friendly food choices.

With diabetes, choose complex carbohydrate choices more often. These include things like whole fruits and vegetables, oats, whole grains like brown rice or whole-wheat bread, and legumes. Legumes include beans, peas, lentils, and even peanuts. Many of these foods are also high in fiber.

When possible, limit refined sugars, like those found in candy or baked goods. Refined sugars added to items during processing are called added sugars. Don't forget about what you are choosing to drink. Many drinks are a major source of added sugar in the diet. Sugar-sweetened beverages include drinks like soda or sweet tea, but also certain fruit juices and sports drinks. Even though 100% fruit juice doesn't usually have added sugar, it can also raise blood sugar quickly and a person with diabetes should choose it less often.

The Nutrition Facts label is a good tool to learn how much added sugar is in a food or drink. Look specifically for the line that says added sugars. These added sugars are often hidden even in foods you wouldn't expect like salad dressings, pasta sauces, and condiments.

Diabetes can significantly increase the risk of developing heart disease. Along with monitoring your blood sugar, it's important to pay attention to your heart health by minimizing saturated fat and sodium in your diet. You can find saturated fat in butter, full-fat dairy products, fried foods, and some meats. You can find sodium in fast food, frozen meals, and processed meats like deli meat and bacon.

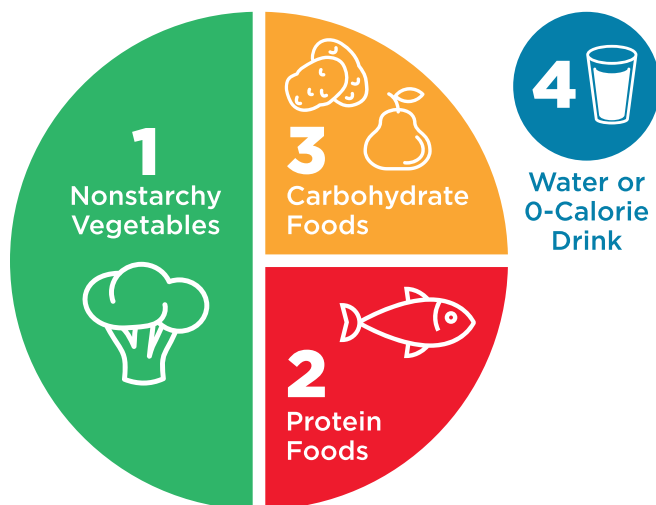
Luckily, foods that are full of complex carbohydrates and low in added sugar are often low in saturated fat and sodium.

This may seem like a lot to remember when making food choices. The Diabetes Plate Method provides a good visual reminder to help you guide your food choices.

What is the Diabetes Plate Method?

The American Diabetes Association designed the Diabetes Plate Method as a stress-free way of mapping your meals. This method recommends filling half of your plate with non-starchy vegetables such as:

- Leafy greens
- Broccoli and cauliflower
- Squash and zucchini
- Tomatoes
- Carrots
- Peppers
- Onions
- Brussels sprouts



- Radishes
- Green beans

Next, you fill one-fourth of your plate with lean protein. Suggestions include chicken breast, turkey, fish, beans, peas, and lentils. Fill the remaining quarter with energy-rich carbohydrate foods such as whole-wheat pasta, brown rice, potatoes, and whole-grain bread. This simple method allows you to visualize a nutritious plate without the need for scales or measurements.

Bringing it all together

There are several changes you can make to follow a blood-sugar-friendly diet. The steps below will help you achieve a nutritious and balanced diet.

1. Follow the Diabetes Plate Method, when possible.
2. Try to choose foods with added sugar less often.
3. Include fiber and lean protein in meals and snacks.
4. Look for ways to minimize saturated fat and sodium.

It is common for people living with diabetes to feel frustrated or intimidated when making food choices. Rather than thinking about what you can't have, think about the opportunity to try new foods and enjoy a new way of eating that will improve your blood sugar and support your overall health.

Resources

- <http://www.diabetes.org/diabetes-basics/symptoms>
- <https://diabetes.org/healthy-living/recipes-nutrition/eating-well>
- <https://www.cdc.gov/diabetes>
- <https://www.cdc.gov/diabetes/data/statistics-report>

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