

Diabetes

Causes

Insulin is a hormone produced by the pancreas to control blood sugar. Diabetes can be caused by too little insulin, resistance to insulin, or both. To understand diabetes, it is important to first understand the normal process by which food is broken down and used by the body for energy. Several things happen when food is digested:

- A sugar called glucose enters the bloodstream. Glucose is a source of fuel for the body.
- An organ called the pancreas makes insulin. The role of insulin is to move glucose from the bloodstream into muscle, fat, and liver cells, where it can be used as fuel.

People with diabetes have high blood sugar because their body cannot move sugar into fat, liver, and muscle cells to be stored for energy. This is because either:

- Their pancreas does not make enough insulin
- Their cells do not respond to insulin normally
- Both of the above

There are three major types of diabetes. The causes and risk factors are different for each type:

- Type 1 diabetes can occur at any age, but it is most often diagnosed in children, teens, or young adults. In this disease, the body makes little or no insulin. Daily injections of insulin are needed. The exact cause is unknown.
- Type 2 diabetes makes up most of diabetes cases. It most often occurs in adulthood, but teens and young adults are now being diagnosed with it because of high obesity rates. Many people with type 2 diabetes do not know they have it.
- Gestational diabetes is high blood sugar that develops at any time during pregnancy in a woman who does not have diabetes.

Diabetes affects more than 20 million Americans. Over 40 million Americans have pre-diabetes (early type 2 diabetes).

Symptoms

High blood sugar levels can cause several symptoms, including:

- Blurry vision
- Excess thirst
- Fatigue
- Frequent urination
- Hunger
- Weight loss

Because type 2 diabetes develops slowly, some people with high blood sugar have no symptoms.

Symptoms of type 1 diabetes develop over a short period of time. People may be very sick by the time they are diagnosed.

Diabetes Diet

You can improve blood sugar (glucose) levels by following a meal plan that has:

- Fewer calories
- An even amount of carbohydrates (30 - 45 grams per meal)
- Healthy monounsaturated fats

Examples of foods that are high in monounsaturated fats include peanut or almond butter, almonds, and walnuts. You can substitute these foods for carbohydrates, but keep portions small because these foods are high in calories. Learn how to read nutrition labels to help you make better food choices.

Often, you can improve type 2 diabetes control by losing weight (about 10 pounds) and increasing physical activity (for example, 30 minutes of walking per day). In addition to making lifestyle changes, some people will need to take pills or insulin injections to control their blood sugar.

Meal Planning.

Having diabetes does not mean you must completely give up any food, but it does change the kinds of foods you should eat routinely. Choose foods with moderate amounts of carbohydrates (about 30 - 45 grams per meal) to help keep blood sugar levels under good control. Foods should also provide enough calories to maintain a healthy weight. Regular monitoring of blood sugar (glucose) at home will help you learn how different foods affect blood sugar (glucose) levels.



Recommendations

A registered dietitian can help you decide how to balance the carbohydrates, protein, and fat in your diet. Here are some general guidelines:

The amount of each type of food you eat depends on:

- Your diet
- Your weight
- How often you exercise
- Your other health risks

Everyone has individual needs. Work with your doctor, and possibly a dietitian, to develop a meal plan that works for you.

The Diabetes Food Pyramid, which resembles the old USDA food guide pyramid, splits foods into six groups in a range of serving sizes. In the Diabetes Food Pyramid, food groups are based on carbohydrate and protein content instead of their food type. A person with diabetes should eat more of the foods in the bottom of the pyramid (grains, beans, vegetables) than those on the top (fats and sweets). This diet will help keep your heart and body systems healthy. Another method, similar to the new "plate" USDA food guide, encourages larger portions of vegetables (half the plate) and moderate portions of protein (one-quarter of the plate) and starch (one-quarter of the plate).

Grains, Beans, and Starchy Vegetables

(6 or more servings a day)

Foods like bread, grains, beans, rice, pasta, and starchy vegetables are at the bottom of the pyramid because they should serve as the foundation of your diet. As a group, these foods are loaded with vitamins, minerals, fiber, and healthy carbohydrates.

It is important, however, to eat foods with plenty of fiber. Choose whole-grain foods such as whole-grain bread or crackers, tortillas, bran cereal, brown rice, or beans. Use whole-wheat or other whole-grain flours in cooking and baking. Choose low-fat breads, such as bagels, tortillas, English muffins, and pita bread.

Vegetables

(3 - 5 servings a day)

Choose fresh or frozen vegetables without added sauces, fats, or salt. Opt for more dark green and deep yellow vegetables, such as spinach, broccoli, romaine lettuce, carrots, and peppers.

Fruits

(2 - 4 servings a day)

Choose whole fruits more often than juices. Whole fruits have more fiber. Citrus fruits, such as oranges, grapefruits, and tangerines, are best. Drink fruit juices that do NOT have added sweeteners or syrups.

Milk

(2 - 3 servings a day)

Choose low-fat or nonfat milk or yogurt. Yogurt has natural sugar in it, but it can also contain added sugar or artificial sweeteners. Yogurt with artificial sweeteners has fewer calories than yogurt with added sugar.

Meat and Fish

(2 - 3 servings a day)

Eat fish and poultry more often. Remove the skin from chicken and turkey. Select lean cuts of beef, veal, pork, or wild game. Trim all visible fat from meat. Bake, roast, broil, grill, or boil instead of frying.

Fats, Alcohol and Sweets

In general, you should limit your intake of fatty foods, especially those high in saturated fat, such as hamburgers, cheese, bacon, and butter.

If you choose to drink alcohol, limit the amount and have it with a meal. Check with your health care provider about how alcohol will affect your blood sugar, and to determine a safe amount for you.

Sweets are high in fat and sugar, so keep portion sizes small. Here are some tips to help avoid eating too many sweets:

- Ask for extra spoons and forks and split your dessert with others.
- Eat sweets that are sugar-free.
- Always ask for the small serving size.

Learn how to read food labels, and consult them when making food decisions.

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