

## Prevention and Treatment

What is type 2 diabetes?

If you have diabetes, your blood sugar levels are too high. With type 2 diabetes, this happens because your body does not make enough insulin, or it does not use insulin well (this is called insulin resistance). If you are at risk for type 2 diabetes, you might be able to prevent or delay developing it.

Who is at risk for type 2 diabetes?

Many Americans are at risk for type 2 diabetes. Your chances of getting it depend on a combination of risk factors such as your genes and lifestyle. The risk factors include:

Having prediabetes, which means you have blood sugar levels that are higher than normal but not high enough to be called diabetes

Being overweight or having obesity

Being age 45 or older

A family history of diabetes

Being African American, Alaska Native, American Indian, Asian American, Hispanic/Latino, Native Hawaiian, or Pacific Islander

Having high blood pressure

Having a low level of HDL (good) cholesterol or a high level of triglycerides

A history of diabetes in pregnancy

Having given birth to a baby weighing 9 pounds or more

An inactive lifestyle

A history of heart disease or stroke

Having depression

Having polycystic ovary syndrome (PCOS)

Having acanthosis nigricans, a skin condition in which your skin becomes dark and thick, especially around your neck or armpits

Smoking

How can I prevent or delay getting type 2 diabetes?

If you are at risk for diabetes, you may be able to prevent or delay getting it. Most of the things that you need to do involve having a healthier lifestyle. So if you make these changes, you will get other health benefits as well. You may lower your risk of other diseases, and you will probably feel better and have more energy. The changes are:

Losing weight and keeping it off. Weight control is an important part of diabetes prevention.

You may be able to prevent or delay diabetes by losing 5 to 10% of your current weight. For example, if you weigh 200 pounds, your goal would be to lose between 10 to 20 pounds.

And once you lose the weight, it is important that you don't gain it back.

Following a healthy eating plan. It is important to reduce the amount of calories you eat and drink each day, so you can lose weight and keep it off. To do that, your diet should include smaller portions and less fat and sugar. You should also eat a variety of foods from each food group, including plenty of whole grains, fruits, and vegetables. It's also a good idea to limit red meat, and avoid processed meats.

Get regular exercise. Exercise has many health benefits, including helping you to lose weight and lower your blood sugar levels. These both lower your risk of type 2 diabetes. Try to get at least 30 minutes of physical activity 5 days a week. If you have not been active, talk with your health care professional to figure out which types of exercise are best for you. You can start slowly and work up to your goal.

Don't smoke. Smoking can contribute to insulin resistance, which can lead to type 2 diabetes. If you already smoke, try to quit.

Talk to your health care provider to see whether there is anything else you can do to delay or to prevent type 2 diabetes. If you are at high risk, your provider may suggest that you take one of a few types of diabetes medicines.

What is diabetes?

Diabetes is a disease in which your blood glucose, or blood sugar, levels are too high. Glucose comes from the foods you eat. The cells of your body need glucose for energy. A hormone called insulin helps the glucose get into your cells.

With type 1 diabetes, your body does not make insulin. With type 2 diabetes, your body does not make or use insulin well. Without enough insulin, glucose can't get into your cells as quickly as usual. The glucose builds up in your blood and causes high blood sugar levels.

What are the treatments for diabetes?

Treatments for diabetes can depend on the type. Common treatments include a diabetic meal plan, regular physical activity, and medicines. Some less common treatments are weight loss surgery for either type and an artificial pancreas or pancreatic islet transplantation for some people with type 1 diabetes.

Who needs diabetes medicines?

People with type 1 diabetes need to take a diabetes medicine called insulin to control their blood sugar.

Some people with type 2 diabetes can control their blood sugar with healthy food choices and physical activity. But for others, a diabetic meal plan and physical activity are not enough. They need to take diabetes medicines.

The kind of medicine you take depends on your type of diabetes, daily schedule, medicine costs, and any other health conditions that you have. Over time, you may need to take more than one diabetes medicine.

What are the types of medicines for type 1 diabetes?

If you have type 1 diabetes, you must take insulin because your body no longer makes it.

There are different types of insulin that start to work at different speeds, and the effects of each last a different length of time. Your health care provider will measure your blood glucose to decide on the type of insulin. You may need to use more than one type.

You will also need to check your blood sugar at home. Your provider will tell you how often.

The results of your blood sugar testing can help you make decisions about food, physical activity, and medicines.

You can take insulin several different ways. The most common are with a needle and syringe, an insulin pen, or an insulin pump. If you use a needle and syringe or a pen, you have to take insulin several times during the day, including with meals. An insulin pump gives you small, steady doses throughout the day. Less common ways to take insulin include inhalers, injection ports, and jet injectors.

In rare cases, taking insulin alone might not be enough to manage your blood sugar. Then you would need to take another diabetes medicine.

What are the types of medicines for type 2 diabetes?

There are several different medicines for type 2 diabetes. Each works in a different way. Many of them are pills. There are also medicines that you inject under your skin, such as insulin.

Over time, you may need more than one diabetes medicine to manage your blood sugar. You might add another diabetes medicine or switch to a combination medicine. A

combination medicine contains more than one type of diabetes medicine in the same pill. Some people with type 2 diabetes take both pills and injections.

Even if you don't usually take insulin, you may need it at special times, such as during pregnancy or if you are in the hospital.

What else should I know about taking medicines for diabetes?

Even if you take medicines for diabetes, you still need to eat a healthy diet, stop smoking, take your other medicines, and get regular physical activity. These will help you manage your diabetes.

It is important to make sure that you understand your diabetes treatment plan. Talk to your provider about:

What your target blood sugar level is

What to do if your blood sugar gets too low or too high

Whether your diabetes medicines will affect other medicines you take

If you will have any side effects from the diabetes medicines

You should not change or stop your diabetes medicines on your own. Talk to your provider first.

## Managing Diabetes

What are the diabetes ABCs?

The diabetes ABCs can help you manage your blood glucose, blood pressure, and cholesterol levels. If you smoke, quitting is also important. Managing your ABCs may lower your chances of having health problems from diabetes, such as a heart attack, stroke, kidney disease, blindness, and foot or leg amputations.

A is for the A1C blood glucose test

The A1C test shows your average blood glucose level over the last 3 months. This test is done at a health care professional's office or lab. For most people with diabetes, their goal is an A1C level below 7%.<sup>1</sup> Your A1C goal may be different if you have other health problems.<sup>2</sup> Ask your health care team how often you should have the test and what your goal should be.

B is for blood pressure

High blood pressure [NIH external link](#) can damage your heart, kidneys, brain, and eyes. Some people with diabetes have a blood pressure goal below 130/80 mm Hg.<sup>2,3</sup> If you have heart disease or are at high risk for diabetes health problems, your goal may be lower. Ask your health care team what your goal should be.

C is for cholesterol

Cholesterol [NIH external link](#) is a fat, also called lipid, that is produced by your liver. Unhealthy levels of cholesterol in your blood can build up and clog your blood vessels, which may result in a heart attack or a stroke. Ask your health care team how often you need a cholesterol test [NIH external link](#), also called a lipid panel, and what your cholesterol level should be. Some people may need to take a medicine called a statin [External link](#), or another medicine, to lower their cholesterol for heart health.

S is for stop smoking

Not smoking is important for your health, especially if you have diabetes. Both smoking and diabetes can make your blood vessels narrow. E-cigarettes aren't a safe option either. If you smoke, vape, or use other tobacco products, stop. Ask for help [External link](#) so you don't have to do it alone.

How can a healthy lifestyle help manage my diabetes?

Staying healthy when you have diabetes can be a challenge. But leading a healthy lifestyle may help keep your blood glucose, blood pressure, and cholesterol levels in the ranges recommended by your health care team.

#### Create a healthy meal plan

You may worry that having diabetes means going without foods you enjoy. The good news is that you can still eat your favorite foods, but you might need to eat smaller portions or enjoy them less often. Work with your health care team, which may include a registered dietitian or a diabetes educator, to create a meal plan that works for you.

Talk with your health care team about any challenges you may have finding healthy food [External link](#). A doctor, registered dietitian, diabetes educator, or social worker may be able to recommend resources that can help you. The U.S. Department of Agriculture also provides a list of resources [External link](#) about affording healthy food and finding help from food assistance programs.

#### Get physical activity

Physical activity may help you lower blood glucose, blood pressure, and cholesterol levels. Being active may also help you get better sleep and improve your mood. Try to get at least 150 minutes of moderate-intensity [External link](#) physical activity, such as brisk walking, each week. If you can, try to do muscle-strengthening activities, such as wall push-ups or seated arm raises, two days a week.<sup>4</sup>

#### Reach and maintain a healthy weight

If you are overweight or have obesity, ask your health care team how you can manage your weight. To lose weight, you may need to consume fewer calories or get more physical activity. Your health care team may also recommend medicines or surgery to help manage your weight.

#### Get enough sleep

Getting enough sleep may improve your mood, energy level, and blood glucose level. Most adults should aim for about 7 to 8 hours each night.<sup>5</sup> Children and adolescents may need more sleep.

#### Take care of your mental health

Feeling stressed, sad, or angry can be common for people with diabetes. Many people with chronic, or long-term, illnesses such as diabetes develop anxiety or other mental health conditions [NIH external link](#). Learn healthy ways to lower your stress [NIH external link](#), and ask for help from your health care team or a mental health professional.

#### How can I check my blood glucose level at home?

If you take insulin or other diabetes medicines, checking your blood glucose level at home may help you avoid high or low blood glucose levels. Even if you do not use insulin, checking your blood glucose level at home can help you manage your diabetes. The test results may help you and your health care team make changes to your meal plan, physical activity level, or diabetes medicines. It may help you understand how certain types of food affect your blood glucose level. You do not get the same level of detail from blood tests—such as the A1C test—that you take at a health care professional's office.

If you have type 1 diabetes, your health care team may ask you to check your urine at home for substances called ketones. A large amount of ketones in your urine may mean that you need to manage your diabetes more carefully. Work with your primary health care professional—who may be a doctor, physician assistant, or nurse practitioner—to change your diabetes care plan. If high levels of ketones are left untreated, you may develop a dangerous condition called diabetic ketoacidosis [External link](#).

