

What Is Diabetes Mellitus?



Diabetes mellitus, also called diabetes, is a term for several conditions involving how your body turns food into energy. When you eat a carbohydrate, your body turns it into a sugar called glucose and sends that to your bloodstream. Your pancreas releases insulin, a hormone that helps move glucose from your blood into your cells, which use it for energy.

When you have diabetes and don't get treatment, your body doesn't use insulin like it should. Too much glucose stays in your blood, a condition usually called high blood sugar. This can cause health problems that may be serious or even life-threatening. There's no cure for diabetes. But with treatment and lifestyle changes, you can live a long, healthy life.

Diabetes comes in different forms, depending on the cause.

Prediabetes

Prediabetes is when your blood sugar is higher than it should be but not high enough for your doctor to diagnose diabetes. More than a third of people in the United States have it, but most of them don't know it.

Prediabetes can make you more likely to get type 2 diabetes and heart disease. Exercising more and losing extra pounds, even as little as 5% to 7% of your body weight, can lower those risks.

Type 1 Diabetes

Type 1 diabetes is also called insulin-dependent diabetes. It used to be called juvenile-onset diabetes, because it often begins in childhood. Type 1 diabetes is an autoimmune condition. It happens when your body attacks your pancreas with antibodies. The organ is damaged and doesn't make insulin. Your genes might cause this type of diabetes. It could also happen because of problems with cells in your pancreas that make insulin.

Many of the health problems that can come with type 1 happen because of damage to tiny blood vessels in your eyes (called diabetic retinopathy), nerves (diabetic neuropathy), and kidneys (diabetic nephropathy). People with type 1 also have a higher risk of heart disease and stroke.

Treatment for type 1 diabetes involves injecting insulin into the fatty tissue just under your skin. You might use:

- Syringes
- Insulin pens that use prefilled cartridges and a thin needle
- Jet injectors that use high-pressure air to send a spray of insulin through your skin
- Pumps that send insulin through a tube to a catheter under the skin of your belly

A test called the A1C blood test estimates your blood sugar levels over the previous three months. Your doctor uses it to see how well your blood sugar is controlled. That helps them know your risk of complications.

If you have type 1 diabetes, you'll need to make changes including:

- Frequent testing of your blood sugar levels
- Careful meal planning
- Daily exercise
- Taking insulin and other medications as needed

Type 2 Diabetes

Type 2 diabetes used to be called non-insulin-dependent or adult-onset diabetes. But it's become more common in children and teens over the past 20 years, largely because more young people are overweight or obese. About 90% of people with diabetes have type 2.

When you have type 2 diabetes, your pancreas usually creates some insulin. But either it's not enough or your body doesn't use it like it should. Insulin resistance, when your cells don't respond to insulin, usually happens in fat, liver, and muscle cells. Type 2 diabetes is often milder than type 1. But it can still cause major health complications, especially in the tiny blood vessels in your kidneys, nerves, and eyes. Type 2 also raises your risk of heart disease and stroke.

People who are obese -- more than 20% over their target body weight for their height -- have an especially high risk of type 2 diabetes and the health problems that can follow. Obesity often causes insulin resistance, so your pancreas has to work harder to make more insulin. But it's still not enough to keep your blood sugar levels where they should be.

Treatment for type 2 diabetes involves keeping a healthy weight, eating right, and exercising. Some people need medication, too. Your doctor might do an A1C test a few times a year to see how well you've been controlling your blood sugar.

Gestational Diabetes

Pregnancy usually causes some form of insulin resistance. If this becomes diabetes, it's called gestational. Doctors often spot it in middle or late pregnancy. Because a woman's blood sugars travel through their placenta to the baby, it's important to control gestational diabetes to protect the baby's growth and development.

Doctors report gestational diabetes in 2% to 10% of pregnancies. It usually goes away after birth. But up to 10% of women who have gestational diabetes get type 2, weeks or even years later.

Gestational diabetes is more of a risk for the baby than the mother. A baby might have unusual weight gain before birth, trouble breathing at birth, or a higher risk of obesity and diabetes later in life. The mother might need a cesarean section because of an overly large baby, or they might have damage to their heart, kidney, nerves, and eyes.

Gestational diabetes treatment involves:

- Careful meal planning to make sure you get enough nutrients without too much fat and calories
- Daily exercise
- Keeping weight gain under control
- Taking insulin to control your blood sugar levels, if needed

Other Forms of Diabetes

In 1% to 5% of people who have diabetes, other conditions might be the cause. These include diseases of the pancreas, certain surgeries and medications, and infections. In these cases, your doctor might want to keep an eye on your blood sugar levels.