

What Is Diabetes?

Diabetes is a chronic disease in which blood glucose (sugar) levels are above normal. People with diabetes have problems converting food to energy. After a meal, food is broken down into a sugar called [glucose](#), which is carried by the blood to cells throughout the body. [Insulin](#), a [hormone](#) made in the [pancreas](#), allows glucose to enter the cells of the body where it is used for energy.

Taking care of diabetes is important. Over the years, ongoing high blood glucose, also called hyperglycemia, can lead to serious health problems.

People develop diabetes because the pancreas produces little or no insulin or because the cells in the muscles, liver, and fat do not use insulin properly. As a result, the glucose builds up in the blood, is transported into the urine, and passes out of the body. Thus, the body loses its main source of fuel even though the blood contains large amounts of glucose.

When insulin is no longer made, it must be obtained from another source—[insulin injections](#) or an [insulin pump](#). When the body does not use insulin properly, people with diabetes may take insulin or other glucose-lowering medications. **Neither insulin nor other medications, however, are cures for diabetes; they only help to control the disease.**

Taking care of diabetes is important. Over the years, ongoing high blood glucose, also called [hyperglycemia](#), can lead to serious health problems. If not managed effectively, diabetes can affect the blood vessels, eyes, kidneys, nerves, gums, and teeth, making it the leading cause of adult blindness, kidney failure, and non-traumatic lower limb amputations. Diabetes also increases a person's risk for heart disease and stroke.

Some of these problems can occur in teens and young adults who develop diabetes during childhood. The good news is that research shows these problems can be greatly reduced, delayed, or possibly prevented through intensive treatment that keeps [blood glucose levels](#) near normal.

The three main types of diabetes are type 1, type 2, and gestational diabetes.

Type 1 Diabetes

Type 1 Diabetes

Symptoms:

- Increased thirst and urination
- Weight loss
- Blurred vision
- Feeling tired all the time

Risk Factors:

- Genetics
- Environment

Type 1 diabetes, formerly called juvenile diabetes, is a disease of the immune system, the body's system for fighting infection. In people with type 1 diabetes, the immune system attacks the beta cells (the insulin-producing cells of the pancreas) and destroys them. Because the pancreas can no longer produce insulin, people with type 1 diabetes must take insulin daily to live.

Type 1 diabetes can occur at any age, but onset of the disease occurs most often in children and young adults. Most cases of diabetes in children under age 10 are type 1 diabetes. In adults, type 1 diabetes accounts for 5 to 10 percent of all cases of diagnosed diabetes.

Symptoms. The symptoms of type 1 diabetes are due to an increase in the level of glucose in the blood and include increased thirst and urination, weight loss, blurred vision, and feeling tired all the time. These symptoms may be mistaken for severe flu or another rapid-onset illness. If not diagnosed and treated with insulin, the child with type 1 diabetes can lapse into a life-threatening condition known as [diabetic ketoacidosis](#) (KEY-toe-asi-DOE-sis) or DKA. Signs of DKA include vomiting, sleepiness, fruity breath, difficulty breathing, and if untreated, coma and death. ([For more information about DKA, click here.](#))

Risk factors. Although scientists have made much progress in predicting who is at risk for type 1 diabetes, they do not yet know what triggers the immune system's attack on the pancreas' beta cells. They believe that type 1 diabetes is due to a combination of genetic and environmental factors that are beyond the individual's control. Researchers

are working to identify these factors and to stop the autoimmune process that leads to type 1 diabetes.

Type 2 Diabetes

Type 2 Diabetes

Symptoms:

- Feeling tired all the time
- Increased thirst and urination
- Weight loss
- Blurred vision
- Frequent infections
- Slow-healing wounds

Risk Factors:

- Being overweight
- Having a family member who has type 2 diabetes
- Being African American, Hispanic/Latino, American Indian, Alaska Native, Asian American, or Pacific Islander including Native Hawaiian

Type 2 diabetes, formerly called adult-onset diabetes, is the most common form of the disease. People can develop it at any age, even during childhood. A progressive disease, type 2 diabetes usually begins with [insulin resistance](#), a condition in which muscle, liver, and fat cells do not use insulin properly. At first, the pancreas keeps up with the added demand by producing more insulin. Over time, however, the pancreas loses its ability to secrete enough insulin in response to meals or to even control the glucose level overnight or during periods of fasting.

Managing type 2 diabetes includes lifestyle changes such as making healthy food choices and getting regular physical activity. In addition, people with type 2 diabetes may take insulin and/or other glucose-lowering medications to control their diabetes.

In the past, type 2 diabetes used to be found mainly in overweight or obese adults ages 40 or older. Now, as more children and adolescents in the United States have become overweight and inactive, type 2 diabetes is occurring in young people.

Symptoms. Symptoms of type 2 diabetes in children may be similar to those of type 1 diabetes. A child or teen may feel very tired or thirsty and have to urinate often due to high blood glucose levels. Other symptoms include weight loss, blurred vision, frequent infections, and slow-healing wounds. High blood pressure or elevated blood lipids (cholesterol) are associated with insulin resistance. In addition, physical signs of insulin resistance may appear, such as [acanthosis nigricans](#) (A-can-tho-sis NIG-reh-cans), a condition in which the skin around the neck, armpits, or groin looks dark, thick, and velvety. Often, this condition is mistaken for poor hygiene.

Some children or adolescents (and adults) with type 2 diabetes may have no recognized symptoms when they are diagnosed. For that reason, it is important for the parents/guardian to talk to their health care providers about screening children or teens who are at high risk for type 2 diabetes.



Risk factors. The key risk factors for type 2 diabetes include being overweight or obese and having a family member who has type 2 diabetes. In addition, type 2 diabetes is more common in certain racial and ethnic groups such as African Americans, Hispanics/Latinos, American Indians, Alaska Natives, Asian Americans, and Pacific Islanders including Native Hawaiians. Other risk factors include having a mother who has had diabetes during her pregnancy (gestational diabetes), having high blood pressure, high cholesterol, abnormal lipid levels, polycystic ovary syndrome, and being inactive.

For children and teens at risk, health care professionals can encourage, support, and educate the entire family to make lifestyle changes that may delay—or prevent—the onset of type 2 diabetes. Changes include making healthy food choices, reaching and maintaining a healthy weight, and engaging in regular physical activity.

Gestational Diabetes

Gestational diabetes develops during pregnancy and is caused by the hormones of pregnancy. These hormones can cause insulin resistance or a shortage of insulin. Although gestational diabetes usually goes away after the baby is born, a woman who has had it is at increased risk for developing diabetes for the rest of her life. In addition, the offspring of that pregnancy are at increased risk for obesity and developing type 2 diabetes.

<http://www.ndep.nih.gov/publications/PublicationDetail.aspx?PubId=97#section1>