

# what is diabetes?



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# WHAT IS DIABETES?

Diabetes is a serious condition which causes higher than normal blood sugar levels. Diabetes affects people from all social, economic and ethnic backgrounds. It is estimated that 30 million Americans have diabetes, including as many as 7 million who have the disease but have not yet been diagnosed.

Diabetes mellitus, the medical term for the condition, occurs when the body cannot make or effectively use its own insulin, a hormone produced by special cells in the pancreas called islet (eye-let) cells. Insulin is like a key that opens the door of a cell so that food, or glucose, can enter. Without insulin, this glucose builds up in the blood and leads to starvation of the body's cells, as well as dehydration and break down of body tissue. There are two major forms of diabetes: type 1, or insulin-dependent diabetes, and type 2, or non-insulin dependent diabetes.

## What is type 1 diabetes?

Approximately 10 percent of people who have diabetes have type 1 or insulin-dependent diabetes, the most severe form of the disease. It occurs when the body's immune system mistakenly identifies its own insulin-producing islet cells as foreign and attacks them. Once all the islet cells are destroyed, the person can no longer make insulin, and must take daily injections of insulin or use an insulin pump to replace this hormone.

## Who gets type 1 diabetes?

Type 1 diabetes usually develops in children and teenagers, and is sometimes called juvenile diabetes. It can, however, occur at any age. It is estimated that one out of every 500 children has this form of diabetes, but only half of them have a family history of the disease. Having a family member with type 1 diabetes does increase the risk for other first-degree relatives. Because of this, scientists are looking at ways to prevent diabetes from occurring in those who are at high risk.

## Is diabetes contagious?

**No.** You cannot get diabetes through personal contact. Diabetes is an autoimmune disease in which your own immune system destroys your insulin-producing cells.

## Can type 1 diabetes be caused by eating too many sweets?

**No.** Type 1 diabetes is not a result of eating too much of anything.

## Can obesity cause type 1 diabetes?

**No.** Unlike the causes of type 2 diabetes, obesity is not a risk factor for the development of type 1 diabetes. Most people who develop type 1 diabetes have normal to low body weight when they are diagnosed, and do not have a history of obesity.

## What are the symptoms of type 1 diabetes?

The onset of type 1 diabetes happens very quickly. The following symptoms may appear suddenly and are usually too severe to overlook. They include:

- Increased thirst
- Increased urination (bed-wetting may occur in children who were previously toilet trained)
- Rapid and unexplained weight loss
- Extreme hunger
- Extreme weakness or fatigue
- Unusual irritability
- Blurred vision
- Nausea, vomiting and abdominal pain
- Unpleasant breath odor
- Presence of yeast and fungal infections which are slow or difficult to heal
- Itchy skin

If left untreated, type 1 diabetes may lead to coma and death.

## Can insulin control diabetes?

Insulin is not a cure, but it is a vital component of a treatment plan designed to meet the individual needs of each person. Those with type 1 diabetes must constantly calculate the amount of carbohydrates eaten at each meal and throughout the day in order to determine the proper amount of insulin needed to control blood sugar levels. In other words, matching food intake with insulin levels is an important part of diabetes management.

## What is the treatment of type 1 diabetes?

The treatment of type 1 diabetes requires a management plan that is best for each person, which includes insulin therapy, exercise and meal planning (carbohydrate counting), as well as emotional support. Working with a physician and a diabetes health care team, individuals with diabetes can usually achieve good diabetes control.

## What is type 2 diabetes?

Approximately 90 percent of those with diabetes have type 2, or non-insulin dependent diabetes. Unlike insulin-dependent diabetes, people with non-insulin dependent diabetes are able to produce some of their own insulin, but their bodies are unable to use this insulin to completely control blood sugar levels. This is known as insulin resistance.

## Who gets type 2 diabetes?

Type 2 diabetes usually develops after the age of 35, although it can occur in younger people as well, especially if they are overweight and have a sedentary lifestyle. Commonly referred to as “adult onset” diabetes, 80 percent of those with this form of diabetes are overweight and have a family history of type 2 diabetes. Certain ethnic groups have a higher risk of developing this form of the disease, including African Americans, Hispanics and American Indians. In addition, women who had diabetes during pregnancy are also at greater risk of developing type 2 diabetes later in life.

## What are the symptoms of type 2 diabetes?

The symptoms of type 2, or non-insulin dependent diabetes, are similar to those of type 1 diabetes. The onset of type 2 diabetes, however, is usually slower and the symptoms are not as noticeable as those for type 1 diabetes. For these reasons, many people mistakenly overlook the warning signs, and often think the symptoms are signs of other conditions, such as aging, overworking or hot weather. Because these symptoms are often ignored, it is estimated that more than six million people in the United States have diabetes and are not aware of it. Individuals who have undiagnosed or untreated diabetes for several years may develop some complications, such as nerve damage, pain or numbness in their hands and feet, or changes in their eyes or kidneys. People who are over 35, overweight, with a family history of diabetes, or who belong to a high-risk group should be checked at least once a year to detect diabetes at its earliest stages.

## What is the treatment of type 2 diabetes?

The treatment for type 2 diabetes focuses on improving the person’s ability to more effectively use the insulin his/her own body produces to normalize blood sugar levels. A treatment program including diet, exercise and weight loss will help decrease insulin resistance and, in turn, lower blood sugar levels. If blood sugar levels are still high, there are many medications which can help to either stimulate more

insulin production in the pancreas or help the body better use the insulin it makes. Insulin injections may be needed if these oral medications, along with diet and exercise, do not lower blood sugar levels enough.

## Are there other forms of diabetes?

**Yes.** While type 1 and type 2 are the most common forms of diabetes, better scientific tools have made it possible for researchers to define other kinds of diabetes. For example, insulin-dependent diabetes, known as type 1, can be further broken down into type 1A and type 1B. Type 1A diabetes occurs when the patient’s own immune system destroys the insulin-producing cells. But type 1B occurs when it is not known what caused the failure of insulin production.

Type 1B is most commonly seen in young African American individuals who may be diagnosed with extremely high blood sugar levels, known as ketoacidosis, and then need insulin injections. Some of these individuals can again begin to make their own insulin and may, eventually, be able to control their diabetes without insulin injections.

Other types of diabetes have also been identified, including those types which are related to certain hereditary abnormalities that interfere with the body’s ability to sense sugar levels. In this type of diabetes, the person lacks the ability to signal the insulin-producing cells to make the right amounts of insulin that the body needs.

## What is gestational diabetes?

Diabetes that occurs during pregnancy is called gestational diabetes, and it is a common form of diabetes that develops toward the end of the second trimester in up to four percent of all pregnant women. This type of diabetes results from elevated levels of certain hormones that the body produces during pregnancy.

During the later stages of pregnancy, the placenta produces hormones which require increased insulin production. If the mother’s body cannot meet the increasing need for insulin, the blood sugar rises. If left untreated, the high blood sugar levels can lead to large babies (over nine pounds), premature birth and delivery requiring cesarean section to avoid harm to the baby. Uncontrolled blood sugars may also cause hypoglycemia, or low blood sugar, in the newborn. Most women are routinely checked for gestational diabetes by their obstetrician between the 24th and 28th weeks of pregnancy.

Although this type of diabetes usually goes away after the baby is delivered, these women have a much higher risk of developing type 2 diabetes during their lifetime.

## Who develops gestational diabetes?

Those women who are at risk for gestational diabetes include:

- Women who are overweight
- Women over age 35
- Women with a previous history of gestational diabetes
- Women who previously had a baby weighing more than nine pounds
- Women with a history of diabetes in their families
- Women who have had toxemia, a condition which causes elevated blood pressure and swelling, during pregnancy
- Women who have previously had a stillborn baby

## What is the treatment for gestational diabetes?

The treatment for gestational diabetes includes individualized meal planning and, if needed, insulin. After delivery, the mother's blood sugar usually returns to normal and she no longer has gestational diabetes. However, women who have had gestational diabetes should be aware that approximately 50 percent develop type 2 diabetes. Therefore, it is important to know the signs and symptoms of diabetes, have regular tests by your doctor, keep a normal weight and remain physically active.

## Can medications cause diabetes?

**Yes.** Steroids such as Prednisone, Dexamethasone, and Medrol, as well as certain anti-rejection drugs used in organ transplantation (cyclosporine, FK506), may cause blood sugar levels to rise when used. Sometimes, diabetes may continue even after the use of these medications has stopped.

## Is pancreatitis a form of diabetes?

**No.** Pancreatitis is an infection or inflammation of the pancreas, which can sometimes destroy insulin-producing cells, resulting in diabetes. Severe pancreatitis may result

in the need to surgically remove the pancreas, which would cause diabetes.

## What are the problems associated with diabetes?

New advances in research and treatment methods are helping people with diabetes live full, active and healthy lives. However, it is important to remember that diabetes is a serious, chronic condition with potential short-term and long-term complications. Those who take insulin must constantly be concerned about low blood sugars. Severe insulin reactions can usually be avoided by frequent self-monitoring of blood sugar levels and by carefully following an individualized meal and exercise program.

People with undiagnosed, untreated or long-term diabetes are at risk of developing complications, including nerve and blood vessel damage. These potential complications, which can affect the eyes, kidneys, limbs, heart, brain and stomach, may occur after many years of diabetes. Early detection, improved medications and new technologies may help prevent or minimize diabetes-related complications.

**If you are experiencing symptoms of diabetes, you should consult your physician immediately. If you need additional information, please contact:**

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