

General Information

What is diabetes?

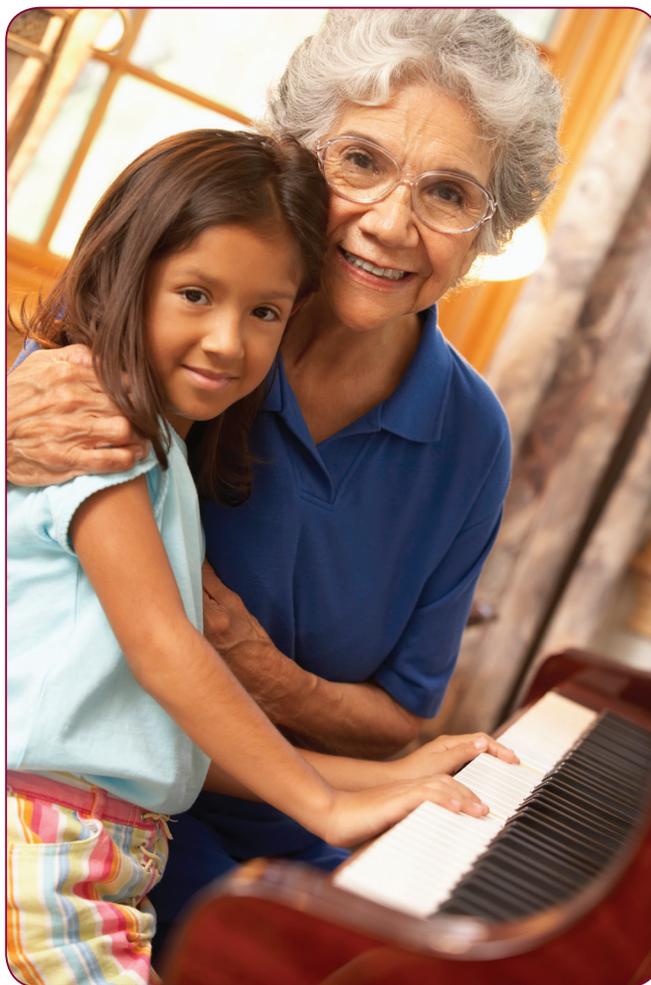
Diabetes is a group of diseases marked by high levels of blood glucose resulting from problems in how insulin is produced, how insulin works, or both. People with diabetes may develop serious complications such as heart disease, stroke, kidney failure, blindness, and premature death.

Types of diabetes

Type 1 diabetes was previously called insulin-dependent diabetes mellitus or juvenile-onset diabetes. Although disease onset can occur at any age, the peak age for diagnosis is in the mid-teens. Type 1 diabetes develops when the cells that produce the hormone insulin, known as the beta cells, in the pancreas are destroyed. This destruction is initiated or mediated by the body's immune system and limits or completely eliminates the production and secretion of insulin, the hormone that is required to lower blood glucose levels. To survive, people with type 1 diabetes must have insulin delivered by injection or a pump. In adults, type 1 diabetes accounts for approximately 5% of all diagnosed cases of diabetes. There is no known way to prevent type 1 diabetes. Several clinical trials for preventing type 1 diabetes are currently in progress with additional studies being planned.

Type 2 diabetes was previously called non-insulin-dependent diabetes mellitus or adult-onset diabetes because the peak age of onset is usually later than type 1 diabetes. In adults, type 2 diabetes accounts for about 90% to 95% of all diagnosed cases of diabetes. Type 2 diabetes usually begins with insulin resistance, a disorder in which the cells primarily within the muscles, liver, and fat tissue do not use insulin properly. As the need for insulin rises, the beta cells in the pancreas gradually lose the ability to produce sufficient quantities of the hormone. The role of insulin resistance as opposed to beta cell dysfunction differs among individuals, with some having primarily insulin resistance and only a minor defect in insulin secretion, and others with slight insulin resistance and primarily a lack of insulin secretion.

The risk for developing type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ethnicity. African Americans, Hispanics/Latinos, American Indians, some Asians, and Native Hawaiians or other Pacific Islanders are at particularly high risk for type 2 diabetes and its complications. Type 2 diabetes in children and adolescents, although uncommon, is being diagnosed more frequently among American Indians, African Americans, Hispanics/Latinos, Asians, and Pacific Islanders.



Gestational diabetes is a form of glucose intolerance diagnosed during the second or third trimester of pregnancy. During pregnancy, increasing blood glucose levels increase the risk for both mother and fetus and require treatment to reduce problems for the mother and infant. Treatment may include diet, regular physical activity, or insulin. Shortly after pregnancy, 5% to 10% of women with gestational diabetes continue to have high blood glucose levels and are diagnosed as having diabetes, usually type 2. The risk factors for gestational diabetes are similar to those for type 2 diabetes. The occurrence of gestational diabetes itself is a risk factor for developing recurrent gestational diabetes with future pregnancies and subsequent development of type 2 diabetes. Also, the children of women who had gestational diabetes during pregnancies may be at risk of developing obesity and diabetes.

Other types of diabetes such as [maturity-onset diabetes of youth](#) or [latent autoimmune diabetes in adults](#), among others, are caused by specific genetic conditions or from surgery, medications, infections, pancreatic disease, or other illnesses. Such types of diabetes account for 1% to 5% of all diagnosed cases.



What is prediabetes?

Prediabetes is a condition in which individuals have high blood glucose or hemoglobin A1C levels but not high enough to be classified as diabetes. People with prediabetes have an increased risk of developing type 2 diabetes, heart disease, and stroke, but not everyone with prediabetes will progress to diabetes. The Diabetes Prevention Program, a large prevention study of people at high risk for diabetes, showed that lifestyle intervention that resulted in weight loss and increased physical activity in this population can prevent or delay type 2 diabetes and in some cases return blood glucose levels to within the normal range. Other international studies have shown similar results.

