Type 1 Diabetes

Type 1 diabetes accounts for 5 percent to 10 percent of diagnosed cases of diabetes.

The risk of developing type 1 diabetes is higher than virtually all other severe chronic diseases of childhood.

Peak incidence occurs during puberty, around 10 to 12 years of age in girls, and 12 to 14 years of age in boys.

The symptoms for type 1 diabetes can mimic the flu in children.

Sources: National Institute for Diabetes and Digestive and Kidney Disorders, and the American Diabetes Association

What is type 1 diabetes?
Type 1 diabetes may also be known by a variety of other names, including the following:

insulin-dependent diabetes mellitus (IDDM)
juvenile diabetes
brittle diabetes
sugar diabetes

There are two forms of type 1 diabetes:

idiopathic type 1 diabetes - refers to rare forms of the disease with no known cause.
immune-mediated diabetes - an autoimmune disorder in which the body's immune system destroys, or attempts to destroy, the cells in the pancreas that produce insulin.

Immune-mediated diabetes is the most common form of type 1 diabetes, and the one generally referred to as type 1 diabetes. The information on this page refers to this form of type 1 diabetes.

Type 1 diabetes accounts for 5 percent to 10 percent of all diagnosed cases of diabetes in the US. Type 1 diabetes usually develops in children or young adults, but can start at any age.

What causes type 1 diabetes?

The cause of type 1 diabetes is unknown, but it is believed that genetic and environmental factors (possibly viruses) may be involved. The body's immune system attacks and

destroys the insulin producing cells in the pancreas. Insulin allows glucose to enter the cells of the body to provide energy.

When glucose cannot enter the cells, it builds up in the blood and the body's cells literally starve to death. People with type 1 diabetes must take daily insulin injections and regularly monitor their blood sugar levels.

What are the symptoms of type 1 diabetes?

Type 1 diabetes often appears suddenly. The following are the most common symptoms of type 1 diabetes. However, each individual may experience symptoms differently. Symptoms may include:

high levels of sugar in the blood when tested
high levels of sugar in the urine when tested
unusual thirst
frequent urination
extreme hunger but loss of weight
blurred vision
nausea and vomiting
extreme weakness and fatigue
irritability and mood changes
In children, symptoms may be similar to those of having the flu.

The symptoms of type 1 diabetes may resemble other conditions or medical problems. Always consult your physician for a diagnosis.

Diabetes Control and Complications Trial

The Diabetes Control and Complications Trial (DCCT), a landmark 10-year study, demonstrated that persons who lowered their blood glucose concentration have a better chance of delaying or preventing diabetes complications that affect the eyes (retinopathy), kidneys (nephropathy), and nerves (neuropathy).

Two groups of patients with type 1 diabetes were studied: one group followed a standard treatment regimen and the other group followed an intensive treatment regimen. Persons who lowered their blood glucose levels practiced the intensive treatment regimens which included careful self-monitoring of glucose, multiple daily insulin injections, and close physician contact.

What can be expected with type 1 diabetes?

Type 1 diabetes may cause the following:
hypoglycemia (low blood sugar, sometimes called an insulin reaction) - occurs when blood sugar drops too low.

hyperglycemia (high blood sugar) - occurs when blood sugar is too high, and can be a sign that diabetes is not well controlled.

ketoacidosis (diabetic coma) - loss of consciousness due to untreated or under-treated diabetes.

Complications that may result from type 1 diabetes include:

heart disease
kidney disease
eye problems
neuropathy
foot problems
Treatment for type 1 diabetes:

Specific treatment for type 1 diabetes will be determined by your physician based on:

your age, overall health, and medical history
extent of the disease
your tolerance for specific medications, procedures, or therapies
expectations for the course of the disease
your opinion or preference

People with type 1 diabetes must have daily injections of insulin to keep their blood sugar level within normal ranges. Other parts of the treatment protocol may include:

appropriate diet (to manage blood sugar levels)
exercise (to lower and help the body use blood sugar)
careful self-monitoring of blood sugar levels several times a day, as directed by your physician
careful self-monitoring of ketone levels in the urine several times a day, as directed by your physician
regular monitoring of the hemoglobin A1c levels
The hemoglobin A1c test (also called HbA1c test) shows the average amount of sugar in the blood over the last three months. The result will indicate if the blood sugar level is under control. The frequency of HbA1c testing will be determined by your physician. It is recommended that testing occur at least twice a year if the blood sugar level is in the target range and stable, and more frequently if the blood sugar level is unstable.

Advances in diabetes research have led to improved methods of managing diabetes and treating its complications. However, scientists continue to explore the causes of diabetes and ways to prevent and treat the disorder. Other methods of administering insulin through inhalers and pills are currently being studied. Scientists are investigating gene involvement in type 1 and type 2 diabetes, and some genetic markers for type 1 diabetes have been identified. Pancreas transplants are also being performed.