

# Outreach Resources

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## What is Type 1 Diabetes? (A simplified explanation)

Type 1 diabetes (T1D) often develops in children, adolescents, and young adults, so it's sometimes called "juvenile diabetes." However, it is diagnosed in adults just as frequently—85 percent of people living with T1D are adults. Type 1 diabetes is not contagious; you cannot catch T1D from someone who has it. Researchers continue to study how and why T1D occurs, and believe both genetic factors and environmental triggers are involved. Its onset has nothing to do with diet or lifestyle. There is nothing you can do to prevent T1D, and, at present, there is no cure. People living with T1D manage its challenges and complications with diet, exercise, and insulin.

### About Blood-Sugar Levels

A healthy pancreas produces insulin, a hormone that enables people to get energy from food. The pancreas of a person with T1D doesn't produce any insulin. Without insulin, the glucose builds up in the blood, causing high blood sugar, or hyperglycemia. Blood-sugar levels that are too high and go untreated for long periods of time can lead to ketoacidosis, a very serious condition. Very high blood sugars for an extended period of time can eventually lead to coma and death.

In people without T1D, the pancreas maintains a "perfect balance" between food intake and insulin. When a person eats, the pancreas puts out the exact amount of insulin needed to turn the glucose into energy. If the person eats a lot, the pancreas produces a lot of insulin. If the person eats just a little, the pancreas produces a small amount of insulin.

### Insulin Needs

Since people with T1D can't produce their own insulin, they must put insulin into the bloodstream through injections with a syringe or an insulin pump. If people with T1D inject too much insulin (or eat too little), they may have a hypoglycemic reaction. Hypoglycemia (low blood sugar) is

the most common complication in children and adults with T1D. It can be very serious and requires immediate action.

People with T1D often struggle to determine how much insulin to inject. In a perfect world, this question would have an easy answer (e.g., always eat a certain amount of food and inject a certain amount of insulin). However, there is no way to know how much insulin to inject with complete accuracy. Many factors influence how much insulin people need to achieve the right balance of glucose and insulin. These factors include foods with different absorption rates as well as the effects of stress, illness, and exercise. Also, as children grow, their insulin needs change. Since determining how much insulin the body needs to balance the amount of glucose is really a best guess, sometimes the guess is inaccurate, and high or low blood sugar results.

### Risk of Complications

Experiencing high-blood-sugar levels over a number of years can cause serious damage to the organ systems, including complications affecting the heart, nerves, kidneys, eyes, and other parts of the body. A number of studies, however, have proven that careful monitoring and control of blood-sugar levels greatly reduces the threat of these complications. Researchers are also making progress in developing new treatments and technologies to help people with T1D stay healthy and lead active and productive lives.