

# Type 1 Diabetes



Type 1 diabetes (T1D) is a lifelong autoimmune disease that attacks healthy insulin-producing cells in the pancreas needed to regulate blood sugar.<sup>1</sup> Without insulin, blood sugar can't get into cells and builds up in the bloodstream, which is damaging to the body.<sup>2</sup>

## Stages

T1D develops in **three stages**. Today, most people are not diagnosed until Stage 3, when symptoms appear, blood sugar is high and insulin dependence begins. However, risk for T1D is detectable in Stages 1 and 2 as soon as proteins called autoantibodies start to attack healthy cells in the pancreas that produce insulin. This may be years before a person begins experiencing symptoms.

## Causes

While researchers don't know exactly what causes T1D, it can be triggered by a variety of factors, such as family history, viral infections, and changes in the environment. Unlike type 2 diabetes, **T1D cannot be prevented by lifestyle or dietary changes.**

## Risks

T1D can affect people of all ages. Family history is the highest risk factor – having a parent, sibling, or child with T1D increases your risk of developing T1D by up to 15 times.<sup>3</sup> While those with a family history of T1D present a greater risk for developing the disease, approximately 90% of people diagnosed with T1D have no family history at all.<sup>3</sup>

## Diagnosis

A T1D diagnosis can happen suddenly and unexpectedly. Typically, people are diagnosed after they begin experiencing symptoms including:

- Excessive thirst
- Unexplained weight loss
- Blurred vision
- Mood changes
- Frequent urination
- Exhaustion
- Increased hunger

Most people are not diagnosed until they begin experiencing symptoms in the final of T1D's three stages. By this final stage, many people have a blood sugar level that is higher than normal and will already require insulin for the rest of their lives. Life-threatening complications may occur if they don't realize that symptoms are related to T1D and seek out medical care.

Talk to your healthcare provider if you think your child may have T1D. A variety of tests may be performed. Blood sugar levels are measured and, if elevated, may require insulin injections. Testing may also include measurement of diabetes autoantibodies, which confirm T1D and signal that the body's immune system is mistakenly attacking the insulin-producing cells in the pancreas. Ketones can also be measured in the urine or in the blood, which are produced when your body cannot use sugar for energy and instead relies on fat. High ketone levels can cause diabetic ketoacidosis (DKA), which requires hospitalization for IV insulin and fluids.

## Screen and Detect Early

**While T1D cannot be prevented, early detection through autoantibody screening can help individuals to:**

- Reduce risk of life-threatening complications and hospitalization
- Better plan for and manage potential diagnosis
- Potentially participate in research trials to advance management of the disease

Screening can also significantly reduce the incidence of diabetic ketoacidosis (DKA), a serious complication of T1D, among those newly diagnosed.<sup>1</sup>

## Managing T1D at School

T1D can be effectively managed with the right tools and resources. If your child is newly diagnosed with T1D, talk to your healthcare provider about developing a monitoring and management plan. The plan should then be shared with your child's school nurse.

1. JDRF. (n.d.) T1D Basics. <https://www.jdrf.org/t1d-resources/about/>  
2. Centers for Disease Control and Prevention. (2024, May 15). About Type 1 Diabetes. <https://www.cdc.gov/diabetes/about/about-type-1-diabetes.html>

3. Sims, E.K., Besser, R.E.J., Dayan, C., Rasmussen, C.G., Greenbaum, C., Griffin, K.J., Hagopian, W., Knip, M., Long, A.E., Martin, F., Mathieu, C., Rewers, M., Steck, A.K., Wentworth, J.M., Rich, S.S., Kordonouri, O., Ziegler, A.-G., Herold, K.C., (2022). Screening for Type 1 Diabetes in the General Population: A Status Report and Perspective. *Diabetes* 71 (4): pp.610–623. <https://doi.org/10.2337/dbi20-0054>