Type 1 Diabetes: Causes, Symptoms, and Diagnosis

Written by Kamiah A. Walker

In type 1 diabetes, your body does not produce insulin, which is the hormone necessary for processing glucose. Glucose is used by cells in your body as an energy source, and without insulin, glucose can't get into those cells. It stays in the blood, and when you have too much glucose in your blood, it can damage your organs and other parts of your body.

Therefore, people with type 1 diabetes must take insulin in order to manage their blood glucose levels and make sure their bodies get the energy they need.

Type 1 diabetes used to be called **juvenile diabetes** or **insulin-dependent diabetes**, and you may still hear those names used.

Type 1 Diabetes Causes

Type 1 diabetes is an autoimmune disorder, which means that the immune system turns against your body. Instead of protecting the body, the immune system in people with type 1 diabetes starts to destroy beta cells—and those are the cells that are in charge of making insulin.

The medical community isn't sure what causes the immune system to start destroying the beta cells. Some thoughts are:

- a genetic susceptibility to developing type 1 diabetes
- certain viruses (for example, German measles or mumps)
- environmental factors

Regardless of what triggers the immune system to turn against the beta cells, the end result is the same in type 1 diabetes: gradually, all beta cells are destroyed and the body is no longer able to produce insulin.

Type 1 Diabetes Symptoms

Type 1 diabetes develops gradually, but the symptoms come on suddenly.

As soon as the body is no longer making insulin, blood glucose levels rise quickly, so the following type 1 diabetes warning signs can develop:

- extreme weakness
- extreme tiredness
- rapid weight loss
- increased appetite

- extreme thirst
- increased urination
- nausea and/or vomiting
- fruity breath
- wounds that don't heal well
- blurry vision

These are the signs and symptoms of type 1 diabetes, and if you or your child experience any of them, make an appointment to see your doctor immediately.

Type 1 Diabetes Diagnosis

To diagnose type 1 diabetes, doctors use several blood tests:

- **Glycated hemoglobin (A1c) test:** In 2010, the American Diabetes Association said that the A1c test can be used to help diagnosis type 1 diabetes. The A1c test shows your average blood glucose (blood sugar) level over the past 2 to 3 months.

If you have an A1c of 6.5% or higher on 2 separate occasions, then you may have diabetes.

- **Random blood glucose test:** As the name implies, this is a random test of your blood glucose level—no preparation or warning on your part. If your random blood glucose level is 200 mg/dL or higher, then you may have diabetes.
- **Fasting blood glucose test:** This test also checks your blood glucose level, but it's done after you have fasted overnight. If the fasting blood glucose level is 126 mg/dL or higher on 2 separate occasions, then you may have diabetes.

In fully diagnosing type 1 diabetes, the doctor will also ask about your symptoms, and he or she may also test for the presence of ketones in your urine.

Ketones are created when fat is broken down, and if your body can longer process glucose, it will turn to breaking down fat for energy. High levels of ketones are dangerous, and some people with type 1 diabetes have high levels when they are first diagnosed.

What Happens After a Type 1 Diabetes Diagnosis
Once you—or your child—is diagnosed with type 1 diabetes, treatment can begin to help regulate blood glucose levels. You will have a diabetes treatment team that will help you make the transition to this new world of type 1 diabetes.