

Type 1 Diabetes

Our bodies need fuel for proper function. **Glucose** (sugar) is the fuel that our cells use to produce energy. In order to process the sugar we eat in various foods, our bodies produce **insulin**. Insulin is a hormone made by **beta cells**, clusters of cells in the **pancreas** (an organ located in the upper abdomen).

In **type 1 diabetes**, the beta cells in the pancreas are unable to make insulin because of **autoimmune** disease. This means that the body's immune system makes **autoantibodies** that attack and destroy the pancreatic beta cells. **Type 2 diabetes** is the result of the body's not being able to properly use the insulin made by the pancreas, and it occurs in adults and children who are overweight. Because type 1 diabetes usually starts in childhood, it is sometimes called **juvenile diabetes**. Type 1 diabetes is a serious illness that cannot be cured, but it can be treated and controlled. The October 22/29, 2003, issue of *JAMA* includes an article about type 1 diabetes.

CHARACTERISTICS OF UNTREATED TYPE 1 DIABETES

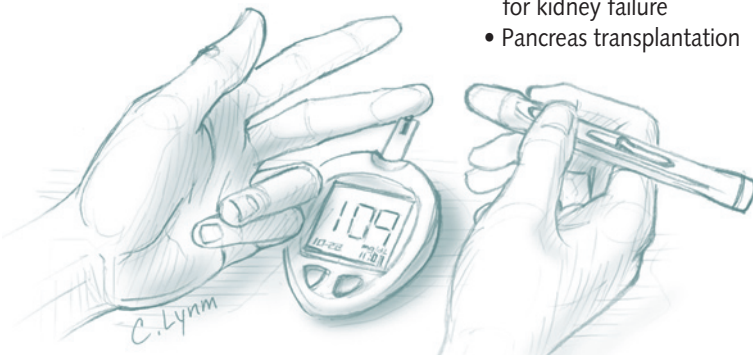
- Thirst
- Frequent urination
- Weight loss
- Poor infant growth
- High blood glucose level

COMPLICATIONS OF TYPE 1 DIABETES

- **Diabetic ketoacidosis**—a life-threatening medical condition, also known as diabetic coma, is caused by the body's need to break down fats for energy instead of using sugars
- Kidney failure
- Diabetic **retinopathy**—damage to the retina of the eye
- **Gastroparesis**—the stomach does not empty properly, allowing partially digested food to accumulate
- Diabetic **neuropathy**—loss of sensation and nerve control of body functions
- Increased occurrence of infections
- Poor circulation, especially in the feet and legs
- Coronary heart disease

MANAGEMENT OF TYPE 1 DIABETES

- Insulin injections—oral medications do not work
- Diet
- Exercise
- Frequent checks of blood glucose levels
- Management of other medical problems including high blood pressure and coronary heart disease
- Screening for and early recognition of diabetes complications
- Kidney dialysis or transplantation for kidney failure
- Pancreas transplantation



FOR MORE INFORMATION

- National Institute of Diabetes & Digestive & Kidney Diseases
800/891-5390
www.niddk.nih.gov
- American Diabetes Association
800/DIABETES (342-2383)
www.diabetes.org

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on diabetes and the kidney was published in the June 25, 2003, issue; one on insulin was published in the May 7, 2003, issue; one on diabetes was published in the May 15, 2002, issue; one on type 2 diabetes in children was published in the September 26, 2001, issue; and one on managing type 2 diabetes was published in the January 12, 2000, issue.

Sources: National Institute of Diabetes & Digestive & Kidney Diseases; American Diabetes Association

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