

## Diabetes: Type 2

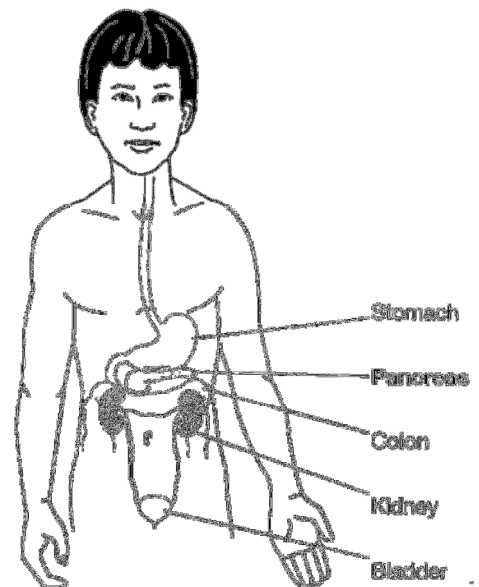
Diabetes is a disease that affects how the body uses glucose. Glucose is a type of sugar in the blood that comes from the foods we eat. It is the main source of energy needed to supply fuel for the body to function.

The pancreas is the organ in the body that produces insulin (Picture 1). Insulin is a hormone that is needed to allow glucose to enter the body's cells for energy. Without insulin, the body cannot use the glucose in the blood.

### Types of Diabetes

There are two kinds of diabetes: Type 1 and Type 2. People with Type 1 diabetes do not produce any insulin. They always depend upon insulin injections as part of their blood sugar control.

Type 2 diabetics may produce some insulin but not enough, or else the body does not recognize the insulin. If your child has Type 2 diabetes, his body either does not make enough insulin or his body cannot properly use the insulin it makes. This is called "insulin resistance." It causes a buildup of sugar in the bloodstream. Most adult diabetics have Type 2 diabetes.



**Picture 1** The pancreas produces insulin.

### Treatment for Type 2 Diabetes

The treatment for Type 2 diabetes involves weight loss through careful meal planning and keeping active. Many patients also take medicine by mouth or insulin shots to control Type 2 diabetes. Your child's health care team will help you and your child to develop a treatment plan that is best for your child's needs.

### How the Medicines Work

The goal of diabetes medicines is to keep the blood sugar in control. Medicines that are taken by mouth for Type 2 diabetes work in several ways. Some help the insulin-producing cells in the pancreas work better, some help the body become more sensitive to insulin and some control over-production of glucose.

### Control of Type 2 Diabetes

Your child's health care provider will monitor his diabetes control through blood tests. You will also need to test your child's blood daily and keep a record (log) of his blood sugar readings. You should always bring your child's log from home to each health care visit.

## Normal Blood Sugar Values

- For non-diabetic teens or adults, a normal blood sugar value before a meal (fasting) is 70 to 109 mg/dl. For diabetics, a normal fasting blood sugar is the same.
- For teens or adults with Type 2 diabetes, a normal blood sugar two hours after a meal is under 150.
- The goal of your child's healthcare plan is to keep blood sugars normal.
- If a person's blood sugar is under 70, it is called "hypoglycemia" or low blood sugar (see the Helping Hand, *Low Blood Sugar (Hypoglycemia)*, HH-I-24).
- When blood sugar is higher than normal, it is called "hyperglycemia" or high blood sugar (see the Helping Hand, *Diabetes: Ketoacidosis*, HH-I-23).

## Diet Guidelines

The treatment team dietician will show you how to count carbohydrates for a meal plan that is right for your child. Type 2 diabetes in children is associated with being overweight. Your dietician will also provide a diet to promote healthy weight loss.

## Exercise

Exercise will help reduce your child's insulin resistance and keep his blood sugar in better control. Exercise also increases a person's energy level and helps with weight loss. Starting gradually and exercising for 30 minutes most days of the week helps to build strength and control blood sugar. Exercising with friends, through sports or with music, can help make exercise fun for your child. The only times it is not a good idea to exercise are during illness or when blood sugars are over 250 and the child has been spilling ketones in his urine (see the Helping Hand, *Diabetes: Testing Urine for Ketones*, HH-I-40).

## Complications of Diabetes

If your child's blood sugar stays out of the normal ranges, it can cause changes in his body's tiny blood vessels. Your child's kidneys, eyes, fingers, toes and even his heart can be affected. Out-of-control diabetes can also cause your child to miss work and school days. To keep your child feeling his best and to help control his diabetes, it is important to work closely with his health care team.

If you have any questions, be sure to ask your child's doctor or nurse.