

## Diabetes Mellitus, Type 2

### What is type 2 diabetes mellitus?

When you have type 2 diabetes, your body does not make enough insulin or is unable to use insulin properly. This problem with insulin affects the level of sugar in your blood.

Insulin is a hormone produced by the pancreas. (The pancreas is the large gland that lies behind the stomach.) When you digest food, your body breaks down much of the food into sugar (glucose). Your blood carries the sugar to the cells of your body for energy. Insulin helps the sugar leave the bloodstream and enter the cells. This is how insulin lowers the level of sugar in your blood.

When your body does not have enough insulin or has trouble using insulin, the cells of your body do not absorb enough sugar from your blood. As a result, you have high levels of sugar in your blood. When you have too much sugar in your blood, many problems may begin to occur. These problems can be life-threatening if they are not treated. However, proper treatment can control your blood-sugar level.

Type 2 diabetes occurs mostly in adults over age 40, especially overweight adults. Overweight children and adolescents can also have this type of diabetes. More people are becoming diabetic as more people become overweight.

About 16 million people in the U.S. are diabetic. The highest rates of type 2 diabetes in America are among native Americans, Hispanics, and African Americans.

### How does it occur?

The precise cause of type 2 diabetes is not known, although age and weight appear to be factors. As people become older or overweight, they are more likely to have diabetes. Cells in the body become unable to use the insulin made by the pancreas. Heredity is also an important factor.

Women who have given birth to large babies (for example, babies weighing 9 pounds or more), or have had diabetes of pregnancy (gestational diabetes), have a higher risk of developing type 2 diabetes later in life.

### What are the symptoms?

Type 2 diabetes may cause the following symptoms:

- ? increased urination
- ? excessive thirst and the drinking of a lot of fluids
- ? increased appetite
- ? weight gain or loss
- ? blurred vision
- ? skin infections
- ? vaginal infections
- ? tiredness
- ? slowly healing sores
- ? abnormal feelings of prickling, burning, or itching of the skin, usually on the hands or feet
- ? infections of the foreskin in uncircumcised men.

Many people have no symptoms.

### How is it diagnosed?

Your health care provider will ask about your symptoms and test the level of sugar in your blood. If your morning fasting blood sugar (before breakfast) is above 126 milligrams per deciliter (mg/dL), you are diabetic.

Sometimes another test called a glucose tolerance test is done. For this test a sample of your blood is taken when you have not eaten anything since the night before. Then you drink a sugar drink and your blood is tested 2 hours later. If after 2 hours your blood sugar level is over 200 mg/dL, you are diabetic.

Your health care provider may also test a sample of your urine for sugar.

### How is it treated?

The goal of treatment is to control the level of sugar in your blood. You want to try to keep it in the same range as a nondiabetic person. This is done by:

- ? measuring your blood sugar regularly
- ? meal planning
- ? exercise
- ? medication.

You will keep a log of your blood sugar measurements. Your health care provider will check the log to see how well your treatment is working. Also, a test called hemoglobin A1c can tell you and your provider what your average blood sugar has been over the past 3 months. Your provider may do this test every 3 to 6 months to check your overall control of your blood sugar level.

Your health care provider or a dietitian will give you clear guidelines about which foods you should eat and how many calories you should eat each day. If you are overweight, the main treatment is to eat less. Limiting the calories in your diet will help you lose weight. Losing even 7 to 10 pounds can reduce or eliminate your need to take medication for diabetes.

Physical activity is important in managing type 2 diabetes. Exercise improves your circulation and uses up more sugar in your blood. Walking is one of the best exercises you can do. Ask your health care provider for exercise recommendations.

If you can't control your blood sugar with diet and exercise, your health care provider will prescribe medicine to lower your blood sugar. You may need more than one type of medicine to keep your blood sugar in the normal range. If oral medicine doesn't lower your sugar level enough, your provider will prescribe insulin shots. You will learn how to measure your dose, clean your skin, and give yourself shots.

### **How long will the effects last?**

Exercising more and not overeating can often help the body restore its balance of sugar and insulin. You may or may not need to continue taking medicine. Your improvement depends on following the diet and exercise plans prescribed by your health care provider to keep your blood sugar in the recommended range.

### **How can I take care of myself?**

Taking good care of yourself to avoid complications is especially important with diabetes. Possible diabetic complications include heart disease, stroke, blindness, kidney failure, and nerve damage, especially to your feet and legs. Carefully controlling your blood sugar will delay or prevent these complications.

Follow your **diet** plan.

- ? Learn how to make healthy choices when you eat out.
- ? Ask for diabetic meals when you travel (for instance, at hotels or on planes).
- ? Drink water or other noncaloric drinks when you have the urge to eat between meals.
- ? Avoid compulsive eating.
- ? Limit the amount of alcohol you drink.
- ? Buy only the types of food included in your diet plan.
- ? Eat on a regular schedule.
- ? Eat slowly and chew your food thoroughly.

Follow your health care provider's advice for **physical activity**.

- ? Choose activities you like.
- ? Exercise with friends.

Carefully follow the instructions your health care provider has given you for taking any medicine he or she has prescribed.

Other things you can do are:

- ? Learn how to do proper skin and foot care every day.
- ? Stop smoking.
- ? Always carry identification that says you have diabetes, in case of an emergency.

Learn about diabetes and its complications so you can make the correct decisions to control your blood-sugar levels. Many hospitals have diabetes educators and dietitians who can help you. Ask your health care provider to refer you to these people.

You can get pamphlets and information about diabetes, including diabetic cookbooks, from:

The American Diabetes Association  
1701 North Beauregard Street  
Alexandria, VA 22311  
Phone: 800-DIABETES (800-342-2383)

Web site: <http://www.diabetes.org> 

### **What can I help prevent type 2 diabetes mellitus?**

Even if there is a history of diabetes in your family, you may be able to avoid developing the disease if you:

- ? Maintain your recommended weight.
- ? Exercise regularly according to your health care provider's recommendations.
- ? Eat a healthy diet.