



Patient Information

Understanding Diabetes

An estimated 23.6 million people in the United States (7.8% of the population) have diabetes, a disorder of the metabolism that affects the way the body uses food for energy and growth. When you eat, the food is broken down into glucose, a form of sugar in your blood. Insulin, a hormone produced by the pancreas, moves the glucose from the bloodstream into the organs that turn it into fuel. When glucose is passed through your bloodstream correctly, it is used for growth and energy by the cells; however, if insulin is not present, the glucose will not be consumed and stays in your bloodstream.

When you have diabetes, you are considered to have high blood sugar because your pancreas, a large gland behind your stomach, produces little or no insulin, and therefore, your body is not able to process enough of the sugar you get from food and it stays in your blood.

The 3 main types of diabetes are: type 1 diabetes, which usually is diagnosed in childhood and occurs when the body makes little or no insulin; type 2 diabetes, which usually occurs in adulthood, makes up most diabetes cases (approximately 90% to 95% of people with diabetes), and occurs when the pancreas is limited in its capacity to produce enough insulin to keep blood glucose levels normal because there is resistance to the actions of insulin at the tissue level; and gestational diabetes, which develops in women during pregnancy.

How do I know if I'm at risk?

The cause of type 1 diabetes is unknown, but genetic factors play a major part, so

you are at greater risk if a parent or sibling has the disorder. If a family member does have diabetes, you may get tested for diabetes autoantibodies; if these are present, you are at risk for developing diabetes. Exposure to viral illness also increases your risk for type 1 diabetes. It also is more common in whites than in any other race.

Type 2 diabetes is more common if you are overweight; excess fatty tissues make your cells more resistant to insulin. An increase in age will put you at greater risk for a similar reason. As you age, you tend to exercise less, causing your body to lose muscle mass and gain fat.

Any woman who is pregnant can develop gestational diabetes, though the risk is greater for some women. Women over the age of 25 years, who have a family or personal history of diabetes, are more vulnerable to the disease.

What are the warning signs?

Since type 2 diabetes develops more slowly than other types, you may not experience any symptoms. You also may develop ketones, which will be present in your urine. Ketones are the result of the breakdown of muscle and fat that occurs when there is not enough insulin in the body.

The warning signs of diabetes vary depending on the type you have. For the most part, however, you may experience blurry vision, fatigue, frequent urination, hunger, or weight loss.

What tests do I need?

Type 1 and type 2 diabetes are determined using a glycated hemoglobin test. This



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blood test measures the percentage of oxygen-carrying protein in the red blood cells over the course of 2 to 3 months. The tests are evaluated at 2 separate times, and if the results are not consistent, or are inaccurate because of pregnancy, your doctor may suggest 2 other tests.

A random blood sugar test is taken at a random time, regardless of when you ate last, to determine your blood sugar level. A fasting blood sugar test is taken after an overnight fast.

How can I avoid the problem?

Type 1 diabetes is unavoidable; it may develop regardless of your precautions. However, type 2 and gestational diabetes may be prevented with some healthy lifestyle choices. Eating healthy and maintaining a healthy weight will help prevent complications.

Exercising more often will help you lose excess weight. Try to keep your body in a healthy weight range by focusing on changing your eating and exercise habits. Even 30 minutes of exercise a day can help you avoid developing diabetes.

How is it treated?

Blood sugar monitoring, taking insulin, and other medications may play a role in the treatment of your diabetes, depending on the type you have. Regardless of the type, however, it is important to maintain a healthy weight and healthy diet.

Common-sense healthy eating is important in helping you manage your disease. Eat plenty of fruits, vegetables, and whole grains. Focus on foods that are high in nutrition and low in fat and calories. Also, stay away from animal products and sweets, only eating them occasionally and in moderation.

Physical activity, such as aerobic exercise, also is very important to maintain your diabetes. Your blood sugar is lowered during exercise because the sugar is transferred to your cells to use as energy. It is recommended that you aim for a minimum of 30 minutes or more of exercise most days of the week.

Do things you enjoy, such as walking, swimming, or biking. If exercising is new for you, start slowly and build up your stamina. But before you begin, consult your doctor to make sure your body is ready to begin the activity you have chosen.

Type 1 and type 2 diabetes commonly require medication to maintain a healthy blood sugar level. It is important to monitor your blood sugar level using a glucose meter in order to find out if you are in danger of levels that are too low or too high. If your levels are low, you may need to take insulin with a fine needle and syringe, or insulin pen.

For more information on diabetes, visit the National Diabetes Information Clearinghouse Web site at <http://diabetes.niddk.nih.gov/dm/pubs/overview/>. ●

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