



Diabetes

MU Patient Education Series

Definition:

Diabetes is a condition involving how your body uses blood sugar, or glucose and insulin. Insulin is a hormone produced by the pancreas that regulates the movement of sugar into your cells. In a healthy body, insulin helps cells accept glucose and convert it to energy. Diabetes causes an insulin deficiency, resistance or both. There are three types of diabetes—Type I, Type II, and gestational.

TYPES:

Type I:

Type I diabetes is a chronic condition in which the pancreas produces little or no insulin. This condition most often is diagnosed during childhood or adolescence but can develop at any age and continues throughout the person's lifetime. When your body does not produce insulin, glucose cannot be converted to cellular energy. Individuals with Type 1 Diabetes require insulin therapy to survive.

Type 2:

Type II diabetes is a chronic condition that affects the way your body metabolizes sugar (glucose), your body's main source of fuel. With type 2 diabetes, your body either resists the effects of insulin, or doesn't produce enough insulin to maintain a normal glucose level. In this case, insulin builds up in the blood instead of entering the cells. This buildup of insulin prevents the conversion from sugar to energy. Type II is the most common form of diabetes but left untreated can be life-threatening.

Gestational:

Gestational diabetes occurs when a pregnant woman's blood sugar levels become elevated. Having gestational diabetes does not indicate that you had diabetes before you were pregnant or that you will have it once your baby is born, but you are at risk for future type 2 diabetes. It is critical that you follow all treatment and care plans to ensure optimal health for you and your baby.



CAUSES:

Type I:

The exact cause of Type 1 diabetes is unknown. Individuals with Type I diabetes do not produce insulin because the body's own immune system mistakenly destroys the insulin-producing cells in the pancreas. Without insulin, glucose builds up in the bloodstream and is not converted to energy. Causes for Type I diabetes are a mix of genetic predisposition, various environmental factors, and exposure to certain viruses that may trigger the disease.

Type II:

In Type II Diabetes, the body becomes resistant to insulin or the pancreas stops producing enough insulin. The pancreas cannot make enough insulin to overcome this rejection, so there is a buildup of sugar in the blood. Like Type I, Type II diabetes is caused by a mix of genetic predisposition and various environmental factors. It has also been found that being overweight or obese can lead to Type II diabetes.

Gestational:

During pregnancy, the body produces extra hormones to sustain the pregnancy and maintain bodily functions. In some women, these hormones interfere with the cells' acceptance of insulin. As the baby grows, more hormones are produced and cells become more resistant to insulin. The pancreas produces more insulin, but cannot always keep up. When this happens, there is excess glucose in the blood and not enough in the body's cells.

WHO IS AT HIGH RISK FOR DIABETES?

There are a variety of factors, both biological and environmental, that put some people at greater risk for diabetes. Some of these risks include:

- Race
- Genetics and family history
- Dietary factors
- Weight
- Age
- High blood pressure
- Lack of physical activity
- High or low cholesterol levels
- Exposure to viral illnesses



SIGNS/SYMPTOMS:

When the cells are not receiving enough insulin, the body will begin to show signs of diabetes. If you are experiencing any of the follow symptoms, be sure to contact to healthcare provider.

- Blurred vision
- Increased thirst
- Frequent urination
- Exhaustion
- Unexplained weight loss
- Hunger
- Ketones present in the urine
- Infections (such as gum, bladder and skin)
- Slow healing sores

DIAGNOSIS/TESTS:

Testing for diabetes usually consists of blood tests. Your physician may test the amount of glucose in your blood by performing tests such as a fasting blood sugar test, a random blood sugar test, or a glycated hemoglobin test (A1C). It is also recommended that blood sugar screening be implemented for certain individuals. Such individuals include overweight adults and children and adults over 45 years old.

TREATMENT/CARE:

Unfortunately, there is no cure for diabetes, although there are treatments for managing symptoms. Medication to stimulate the pancreas to produce insulin, insulin therapy, dietary modifications and exercise can help control blood sugar levels and alleviate symptoms. Here are some more ways to manage diabetes:

- Staying physically active and fit
- Monitoring blood sugar levels
- Insulin therapy/injections
- Pancreas transplant
- Maintain a healthy weight
- Stay up-to-date with vaccinations and physician appointments
- Keep blood pressure and cholesterol at normal levels
- Quit smoking



COMPLICATIONS:

Long-term complications of diabetes develop gradually. The longer you have diabetes and the longer that your blood sugars are not controlled, the higher the risk of complications. Diabetes can also increase the risk for other serious health issues. These complications can be prevented or delayed with proper treatment and care. Therefore, it is essential that you follow your treatment plan exactly. Some possible diabetic complications include:

- High blood pressure
- Heart conditions
- Skin complications
- Mental health complications
- Foot complications
- Nerve damage
- Eye damage
- Kidney damage
- Low blood sugar
- Hearing loss
- Stroke

PREVENTION:

Unfortunately Type I diabetes cannot be prevented; however, there are measures you can take to help avoid Type II and gestational diabetes. Some of these measures include:

- Maintaining a healthy diet
- Staying physically active and fit
- Maintaining a healthy weight
- Losing excess weight if possible
- Regular visits with your physician

CALL YOUR HEALTHCARE PROVIDER IF:

Remember that diabetes is a serious condition that can have serious complications. It is vital that you take care of yourself and follow your treatment plan exactly to help prevent further complications. Given that this condition is so serious, it is important to monitor your health and update your healthcare provider with any changes in your health. Pay attention to your symptoms and if any of the following occur, be sure to contact your physician immediately:

- Unusually high blood sugar
- Loss of appetite



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- Stomach pain
- Unusual extreme thirst
- Fever
- Confusion
- Unusually low blood sugar
- Rapid weight loss
- Blurred vision

If these conditions are not treated, more serious conditions may develop.

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