

Overview

Diabetes occurs when blood sugar levels in the body consistently stay above normal. Approximately 30.3 million people in the US, or 9.4% of the population have diabetes. Of those, 29 million have Type 2 diabetes, and 7.2 million people are undiagnosed.



Diabetes Testing

The **fasting plasma glucose test** is easy to do, convenient, and less expensive than other tests. The standard diagnosis of diabetes is made when two separate tests show that your fasting blood glucose level is greater than or equal to 126 mg/dL.

The **oral glucose tolerance test** is still commonly used for diagnosing gestational diabetes. The test is performed after an overnight fast. Blood is drawn two hours before and after drinking a pre-mixed sugary beverage. The blood samples are taken up to four times to measure the amount of glucose in the blood.

The **hemoglobin A1C test** is used to diagnose Type I and Type II diabetes and then to determine how well your diabetes is being controlled. When diabetes is not controlled, sugar builds up in the blood and combines with hemoglobin, forming glycated hemoglobin. Therefore, the average amount of sugar in the blood can be determined by measuring the hemoglobin A1C level. The amount of hemoglobin A1C will reflect the last several weeks of blood sugar levels, typically encompassing a period of 120 days (the life of a red blood cell).

Types of Diabetes

Type I (insulin-dependent) diabetes is an autoimmune disease where the body attacks the cells in the pancreas. Type I diabetes can be caused by genetics or certain viral infections.

Type II (non-insulin-dependent) diabetes occurs when the body does not respond to, or cannot use, its own insulin. Type II diabetes occurs in 90-95% of diabetics and usually occurs in adults over the age of 40, most often between the ages of 50 and 60. Type II diabetes is considered to be primarily due to lifestyle.

Gestational diabetes can sometimes occur during pregnancy and is similar to Type II diabetes. During pregnancy, several hormones partially block the actions of insulin, thereby making the woman less sensitive to her own insulin. However, it usually goes away after the baby is delivered.



Normal fasting blood glucose is
70-100 mg/dL



Hemoglobin A1C Test
Normal Less than 5.7%
Prediabetes 5.7% to 6.4%
Diabetes 6.5% or above



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Symptoms

Type I Diabetes

- Frequent urination
- Unusual thirst
- Extreme hunger
- Unusual weight loss
- Extreme fatigue and irritability

Type II Diabetes

- Any of the Type I symptoms
- Frequent infections
- Blurred vision
- Cuts or bruises that are slow to heal
- Tingling or numbness in the extremities

Diabetes Prevention and Management

- A healthy diet can prevent the development of Type II diabetes in people with impaired glucose tolerance.
 - Eat healthy carbohydrates, such as fruits, vegetables, whole grains, legumes, and low-fat dairy products.
 - The amount of carbohydrates you consume in a day is crucial in managing blood glucose. Work with a dietitian to find out the right amount for you.
 - Avoid saturated and trans fats. Check nutrition labels on packaged foods for fat content.
 - Limit your sugar intake.
- Medications like Metformin and Precose are used to prevent the onset of Type II diabetes and in people with prediabetes. Speak with your doctor to see if medication is right for you.
- A moderate weight loss of 10 to 15 pounds may help you lower your blood glucose, blood pressure, and improve your blood fats. Losing this weight may also help you cut down on some of the medicines you take.
- Limit your consumption of alcoholic beverages.
- Make sure to get enough sleep and manage your stress.
- Quitting tobacco is one of the best ways to help prevent the damaging effects of diabetes.
- Get regular exercise – it is medicine.
 - Exercise can have a profound effect on the signs and symptoms of both Type I and II diabetes.
 - Aim for at least 2.5 hours per week (check with your doctor first).
 - You are not limited to cardiovascular activity; resistance (strength) training has also been shown to improve insulin sensitivity.



Resources

Diabetes.org | eMedicine.Medscape.com | WebMD.com



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