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What is diabetes? Are You At Risk?

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UtahStateUniversity COOPERATIVE EXTENSION

Food $ense Nutrition Education

Diabetes: Are You At Risk?

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Edited by Dr. Nedra Christensen and Heidi LeBlanc

What is diabetes?

Diabetes is a disease that affects the way your body uses carbohydrate, fat, and protein.

When you eat, carbohydrate from food is broken down into a sugar, called glucose. After digestion, glucose is released into the blood to be transported to the rest of the body. When glucose hits the bloodstream, a hormone, called insulin, is released from your pancreas. Insulin acts as a key to open cell membranes so that glucose can enter and be used by cells for energy.

In diabetes, the body can not make insulin or becomes less sensitive to it. Without insulin, glucose does not enter body cells and remains in the bloodstream. Over time, glucose builds up in the bloodstream.

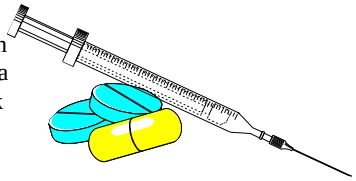
Too much glucose in the bloodstream can cause long term and immediate problems for the body. At high levels, glucose is very damaging to eyes, nerves, arteries, and the kidneys. Also, when blood glucose is too high, the body rids itself of some glucose by sending it to the kidneys where glucose is put into your urine. This process places an extra strain on the kidneys, and can cause permanent damage.

There are three major types of diabetes: Type 1, Type 2, and Gestational diabetes.

Type 1 occurs when the body is unable to make insulin. The treatment for type 1 diabetes includes diet, exercise, and insulin replacement in the form of a shot or pump. Five to 10% of all known cases of diabetes are type 1. This type of diabetes usually occurs early in life (before age 30), but can affect all ages.

Type 2 develops when the body becomes less sensitive to insulin over time. To compensate, the body produces more insulin to have the same effect. After a while, the body's ability to mak insulin wears out, and the body no longer makes enough insulin. A risk factor for type 2 diabetes is being overweight. Weight loss, diet, exercise, and sometimes medications are used to treat type 2 diabetes. About 90 percent of all known diabetes cases are type 2. This type of diabetes becomes evident later in life (usually after the age 30).

Gestational Diabetes occurs in women when hormone levels cause the body to be less sensitive to insulin during pregnancy. Often diet is used to control this form of diabetes. Gestational diabetes usually ends when the pregnancy is over, but women who have had it are at a greater risk for developing gestational diabetes in future pregnancies and diabetes later on in life.



How do you know if you have diabetes?

More than 15 million Americans have diabetes, but many do not realize it. Some people have outward signs of diabetes like tiredness, increased thirst and urination, hunger, weight loss, poor healing of wounds or cuts, blurred eyesight. Others do not have any outward signs of diabetes at all.

The only way to know if you have diabetes is to be tested for it. There are several blood tests to diagnose diabetes. Random Plasma Glucose Test: Blood sugar is tested without fasting. You have diabetes if your blood sugar is 200 or more. A fasting plasma glucose test must be done on another day to confirm diagnosis of diabetes.

Fasting Plasma Glucose Test: Blood sugar is tested after fasting for 8 hours. You have diabetes if you have 2 fasting blood sugars more than 126 that were taken on different days. Fasting levels between 110-126 are considered higher than normal and places a person at greater risk of developing diabetes.

Oral Glucose Tolerance Test: Blood sugar is tested after fasting for 8 hours. Then a liquid with 75 grams of glucose is given to you to drink. Several more blood sugar tests will be taken. You have diabetes if blood sugar is 200 or more within a two hour period after drinking the glucose liquid.

It is recommended that those over the age of 45 check their blood sugar at least once every three years. Those who have a high risk should be tested at an earlier age and more often.

Are you at risk? Take this risk test and find out.

1. Age: ☐ 0-45 ☐ 46-64 ☐ 65 or over
2. Height _____ Weight _____
3. Parent with diabetes ☐ One ☐ Both ☐ None
4. Sister or brother with diabetes ☐ Yes ☐ No
5. I have high blood pressure, high cholesterol, or high triglyceride levels. ☐ Yes ☐ No
6. I have had gestational diabetes, or delivered a baby weighing more than 9 pounds. ☐ Yes ☐ No
7. I have had previous fasting blood glucose tests that were higher than 110. ☐ Yes ☐ No
8. Race: ☐ Caucasian ☐ African American ☐ Native American ☐ Hispanic ☐ Other
9. I get little or no exercise in a normal day. ☐ Yes ☐ No

To find out your risk, turn to the next page.

Is there any way to prevent diabetes?

There are many factors that affect whether or not you develop diabetes. You have no power to change some factors, like age, family history, and race. However, lifestyle, how you eat and exercise, are factors you can control. These factors do have a big impact on your weight, blood pressure, cholesterol, triglycerides, and blood glucose levels.

By making healthy lifestyle changes, you can decrease your risk of developing diabetes. Unfortunately, even though you do make healthy lifestyle changes, it does not guarantee that you will never develop diabetes. However, how you eat and exercise are areas of your life that you can control. Don't wait until it is too late. Begin now to develop healthy lifestyle habits.

Getting Started Making lifestyle changes can be overwhelming if you try to do it all at once. The best tip for success is to make gradual changes over time. Begin by choosing one or two small goals to focus on. Give yourself a couple of weeks or a month to make it a habit. When you feel comfortable with those habits, then move on to another goal while maintaining your newly developed habits.

Healthy Eating

Eat to follow MyPyramid. Grab 6-11 servings of low-fat, whole-grain bread, cereal, rice and pasta products. Pick at least 3-5 servings of vegetables and 2-4 servings of fruit a day.

Choose 2-3 servings each of low-fat dairy products and lean meat. Use oils, fats, and sweets in small amounts.

Cut the fat. To lower the fat in your diet, begin by choosing low-fat or fat-free margarine, mayonnaise, sour cream, salad dressing, and cream cheese. If this does not appeal to you, just use less of a full fat choice. Next, choose lower-fat dairy products. Then, use lean cuts of meat. Drain hamburger. Be careful how you cook meat. A lot of fat can be added to meat if it is cooked or fried in oil or other fats. Low fat cooking methods include baking, broiling, grilling, and frying with non-stick cooking spray.

Watch portion sizes. Many of us simply eat too much. Here are some tips:

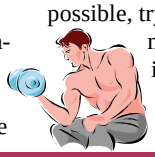
*Follow the suggested amounts and serving sizes of MyPyramid

*Pass up second helpings.

*Only eat until you do not feel hungry, not until you are too full.

*Take less food. You know about how much you usually eat. Just make or dish up less food.

Exercise. When you exercise, you not only are more sensitive to insulin during the exercise, but it also helps you to lose or maintain weight. It is recommended that you get at least 30 minutes of continuous physical activity on 3-4 days a week. If this is not possible, try breaking it up into 5 or 10 minute segments. Any increase in activity will help. The key is to be more active in your everyday life.

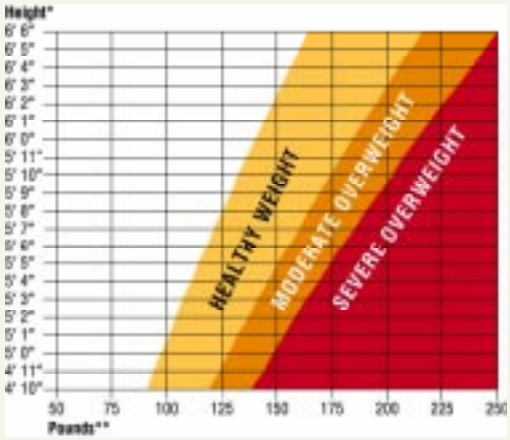


Scoring the Risk Test

Score test by adding up the points for each question.

1. **Age:** 0-45 0 points; 46-64 2 points; 65 & over 3 points

2. **Weight for Height:**
Healthy 0 points; Moderate Overweight 2 points; Severe Overweight 3 points



3. **Parents:** None 0 points; One 1 point; Both 2 points
4. **Sibling:** No 0 points; Yes 2 points

5. **Blood Pressure, Cholesterol, Triglycerides:** No 0 points; Yes 2 points

6. **Gestational Diabetes:** No 0 points; Yes 2 points

7. **Blood Glucose:** No 0 points; Yes 2 points

8. **Race:** Caucasian 0 points; African America 2 points;
Hispanic American 2 points; Pacific Islander 2 points;
Asian American 2 points; Native American 3 points

9. **Exercise:** No 0 points; Yes 2 points

Totals

0-3	Low Risk
4-9	Moderate Risk
10 & over	High Risk

This is to determine your *risk* of developing diabetes. The only way to know if you have diabetes for sure is to be tested by a doctor.

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Sources: 1) American Diabetes Association at www.diabetes.org 2) Duyff R. *The American Dietetic Association's Complete Food & Nutrition Guide.* Chronimed Publishing: Minneapolis, MN; 1996 3) *Dietary Guidelines for Americans*. USDA & USDHHS: 1995.