

The Range of Glucose Levels in Type 2 Diabetes

By Allen Smith, eHow User



If you've been diagnosed with Type 2 diabetes, then you know how important it is to monitor your blood glucose levels. Like Type 1 diabetes, too much glucose circulating in the blood (called hyperglycemia) can lead to a variety of diseases, including heart disease, kidney failure and loss of eyesight and limbs.

Once upon a time, there was only one way to monitor blood glucose numbers--by drawing blood samples. Today, there are a variety of methods for determining blood glucose levels, so there's no excuse for not monitoring your disease.

What is Diabetes

Diabetes is divided into two major types: Type 1 and Type 2. Type 1 diabetics (also called juvenile or insulin dependent diabetes) is caused by shortage of insulin. Insulin plays a critical role in how the body processes glucose in the blood and converts it into energy. Type 2 diabetics (also called adult onset or insulin independent diabetes) typically have plenty of insulin available in the body but the body cannot use it. Like Type 1 diabetics, Type 2 diabetics have too much glucose in the blood that ultimately causes other serious diseases.

The Normal Range for Blood Glucose

When referring to normal blood glucose ranges, it's important to consider the conditions when measuring the blood. Blood glucose fluctuates throughout the day. Even healthy people can have blood glucose levels that are over 130 mg/dl but usually returns to normal after a brief period--usually 20 to 60 minutes.

The fasting blood glucose levels in healthy individuals is typically between 70 to 130 mg/dl. This is called preprandial blood glucose. After a meal, (also called postprandial blood glucose) glucose levels can be as high as 180 mg/dl. Diabetics, whose disease is under control should have blood glucose levels that is consistent with healthy individuals.

Hemoglobin A1c

Another way to measure blood glucose is by measuring the diabetic's hemoglobin A1c (also called HbA1c). HbA1c represents the average glucose concentration of the red blood cells over the course of their life--about 120 days. Many feel that HbA1c is more accurate than blood glucose levels because it represents how well diabetics manage their disease over an extended period of time. Healthy individuals and diabetics with well controlled disease should have HbA1c of 7 percent or less of their total hemoglobin.

Blood Glucose vs. HbA1c

While both methods of measuring blood glucose are effective and easy, there are arguments over which technique is best for the diabetic. The answer is both.

Physicians often favor blood glucose tests while initially managing newly diagnosed diabetics. Blood glucose tests return values that reflect dynamic changes in diet, [exercise](#) and medications. Once the appropriate medications are determined, physicians will often use HbA1c to monitor their patient's Type 2 diabetes over longer periods of time.

How Diet and Exercise Affect Normal Glucose Ranges

In addition to managing Type 2 diabetes through medication, diabetics will usually add exercise to their daily routine and make adjustments to their diet. Both will affect their glucose ranges.

During and immediately after exercise, blood glucose levels can dip below 70

mg/dl. After [exercising](#), diabetics should eat or drink something that is rich in simple carbohydrates, like fruit juice or hard candy. Their glucose levels should return to levels over 70 mg/dl within 20 to 30 minutes.

The type of carbohydrates they consume will also affect a diabetic's normal glucose ranges. As a general rule, simple carbohydrates will raise glucose values faster than complex carbohydrates and cause faster drops in blood glucose levels. Examples of simple carbohydrates are apples, jam and honey. Examples of complex carbohydrates include oatmeal, spaghetti and bagels.