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What is the significance of the HbA1C Test?

Transcript:

It's one of the commonly used tests to diagnose prediabetes and diabetes and is also the primary test to help you and your health care team manage your diabetes. Higher A1C levels are linked to diabetes complications, so reaching and maintaining your individual A1C goal is crucial if you have diabetes.

Sugar (glucose), a primary source of energy to your body, floats in your blood from the carbs you eat, like fuel needed for energy to run your car. The levels fluctuate every minute of your lifetime. Still, the body maintains a normal range through the secretion of two pancreatic hormones, insulin and glucagon.

Insulin is released when the glucose level in your blood rise, and glucagon is released when your blood glucose level falls, causing the liver to release stored glucose as glycogen into the bloodstream. This process is called glycogenolysis, thereby increasing the level of glucose in the bloodstream.

HbA1C is also called glycosylated haemoglobin. The glucose in your blood reacts with the amino group on a haemoglobin molecule, forming ketamine.

The HbA1c formation is proportional to the blood glucose concentrations. Because the average red blood cell life is approximately 120 days, the glycosylated haemoglobin level reflects the intermediate blood glucose level during the previous 2 to 3 months.

A fasting blood sugar level of 99 mg/dL or 5.6mmol/dl or lower is average, 100 to 125 mg/dL indicates you have prediabetes, and 126 mg/dL or higher means you have diabetes.

This test is the key to performing to check whether you have diabetes. HbA1C blood test gives information about your blood sugar levels for approximately three months. It is also referred to as the 'memory test to check on your blood sugar for the past three months. In other words, it gives a mean average level in your blood at any time.

If you do a morning fasting level, it reveals the blood sugar level at that moment. In this test, you will get the average blood sugar value for the past 2 to 3 months. That is why it is also called a 'memory test'.

If you are on medication for diabetes, this test measures average blood sugar over 2 to 3 months. The result tells you how well your diabetes treatment plan works when you have diabetes type 1 or 2.

You should have an HbA1c test at least two times each year if you have diabetes. It's not a fasting test. You can take it any time of day, before or after eating, because it gives the average for the past 2-3 months.

Glucose in your bloodstream is lodged in the haemoglobin, the blood pigment which carries oxygen from the lungs to each cell in your body.

Glucose gets into the red cell and coats the haemoglobin, as mentioned before. So, this test measures how much of your haemoglobin is covered with sugar.

For people without diabetes, the normal range for the haemoglobin A1c level is between 4% and 5.6%. Haemoglobin A1c levels between 5.7% and 6.4% mean you have prediabetes and a higher chance of getting diabetes. Levels of 6.5% or higher mean you have diabetes.

Nondiabetics can have a high HbA1C, but that does not mean diabetes. According to a study by Elizabeth Selvin, a single elevated A1C level greater than 6% was found in the general population with no history of diabetes.

If you have diabetes, an ideal HbA1c level is 48mmol/mol (6.5%) or below.

A person with diabetes is on the borderline situation for a hypoglycemic attack with this number, i.e. 6.5% or below. So, the doctors will tell you to keep it under 7.2%

The pigment haemoglobin, which carries oxygen for distribution to each cell in the body, plays an integral part in the HbA1C test.

Glucose goes into your red blood cells and coats molecules of haemoglobin. The more glucose you have in your blood, the more coated haemoglobin molecules you have.

Hemoglobin A1c (HbA1c), also called glycosylated haemoglobin, is a haemoglobin compound produced when glucose reacts with the amino group on a haemoglobin molecule, forming ketamine. The glucose molecule is attached to one or both N-terminal valines of the β-polypeptide chains of normal adult haemoglobin.

The A1c measures how much of your haemoglobin is coated with sugar. The higher your level, the greater your chance for problems down the road. That means your blood sugar control plan isn't working at its best.

Performing this test every three months until the diabetic situation is well controlled helps doctors fine-tune your diabetic management.

So viewers, please take the readings from this test and take all measures, such as eating a low glycemic plant-based diet, controlling your blood sugar with medication your doctor has prescribed, and mostly a daily walk for one or more hours daily.

If you have type 1 diabetes HbA1C test needs to be done 3-4 times each year; if you are a prediabetic, once a year test is sufficient, and if you have type 2 diabetes, once in 6 months would suffice.
If this test is done on a person who does not have diabetes, the HbA1C examination will reveal that the result would be below 5.7%
What happens if HbA1c is high?
If your HbA1c levels are high, it may be a sign of diabetes, a chronic condition that can cause serious health problems, including heart disease, kidney disease, and nerve damage.
The fastest way to reduce your HbA1C is:
Lifestyle to Lower Hemoglobin A1c (HbA1C) 1) Lose Weight. 2) Exercise. 3) Quit Smoking. 4) Get More Sleep. ...
Dietary Changes that May Lower Hemoglobin A1c (HbA1C) 1) Avoid Sugar and Processed Carbs. 2) Increase Fruits, Vegetables, and Fiber. 3) Mediterranean Diet. ...
Supplements that May Lower Hemoglobin A1c (HbA1C.
Here are ten supplements that may help lower blood sugar.
Cinnamon. Cinnamon supplements are either made from whole cinnamon powder or an extract. ...
American Ginseng. ...
Probiotics. ...
Aloe Vera. ...
Berberine. ...
Vitamin D. ...
Gymnema. ...
Magnesium.
Chromium
Discuss supplements with your doctor, especially if you're taking medicine or insulin for diabetes. Some of the above accessories may interact with medications and raise the risk of blood sugar dropping too low.
I hope this presentation has given the importance of maintaining an HBA1C within a specific range that reveals well control of your diabetes.
Stay safe, and goodbye for now.