

## What in the Medical World is Hemoglobin A1c?

Has your doctor ever ordered a blood test called hemoglobin A1c, and you are wondering what in the world is hemoglobin A1c? Well, don't feel alone. Many other folks have asked the same question.

Hemoglobin A1c is a test to determine an average blood sugar level over the last six to twelve weeks and is most often ordered in correlation with daily monitoring of blood sugar levels in people who have diabetes. Hemoglobin A1c is the most accurate indicator of how well diabetes is controlled.

Hemoglobin is a molecule on the red blood cell that carries oxygen to all tissues in the body. Oxygen as well as glucose binds very easily to the hemoglobin molecule. High concentrations of plasma glucose in the blood increase the amount of glucose that binds to the red blood cell. Hemoglobin A1c is measured in a percent; that is, the percent of the red blood cell covered with glucose.

A normal value for hemoglobin A1c is 4% to 5.6%. This correlates to a blood sugar level below 125 mg per every 10 ml of blood. (ml/dl), about 1/3 of an ounce. Diabetes is diagnosed when blood sugar levels reach 126 mg, or hemoglobin A1c is 5.7% or higher.

Hemoglobin A1c levels of 5.7% to 7.0% correlate to an average daily blood sugar level of 126 mg/dl to 143 mg/dl. These values are consistent with mild diabetes, and blood sugar can be controlled with diet, exercise, and weight loss.

Hemoglobin A1c levels from 7.5% to 8.5% or an average daily blood sugar of 150 mg/dl are generally treated with oral diabetic medications to lower blood sugar levels below 143 mg/dl.

Hemoglobin A1c levels above 8.5% or an average daily blood sugar above 180 mg/dl are almost always treated with Insulin to control blood sugars at a safe and healthy level.

Hemoglobin A1c levels of above 9% or an average daily blood sugar above 200 mg/dl are indicative of uncontrolled diabetes and may require several types of insulin to establish safe blood sugar levels.

For diabetics the goal is to establish a hemoglobin A1c level at 7.5% or below. Hemoglobin A1c is an important test in diagnosing and treating diabetes. Individuals with a hemoglobin A1c of 5.6% or above should be tested twice a year, and individuals with an established diagnosis of diabetes should be tested every six to twelve weeks to ensure adequate blood sugar control.

I hope this information is helpful, and if you have any questions concerning diabetes please feel free to contact me at [joelchapman1955@yahoo.com](mailto:joelchapman1955@yahoo.com) or on my cell phone at 309-948-4652.

As always in the inspired words of St. John, "May you prosper and be well, even as your soul prospers through Jesus our Lord."

Easter Blessings,

Joel R. Chapman, RN  
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