

Title: **Hey doc, do I have diabetes? The hemoglobin A1C test**

Author: **Justin G. R. Laube, MS4**

Date: **August 11, 2009**

Key words: **Diabetes Mellitus, Hemoglobin A1c,**

Abstract:

**An international expert committee recently released the new guidelines for the diagnosis of diabetes, which are now based on hemoglobin A1C. Diabetes can be diagnosed in the non-pregnant patient when A1C is greater than or equal to 6.5% and confirmed with a repeat level. Basics defining hemoglobin A1C, how to interpret test results and diabetes risk factors are presented.**

This document was created by a medical student enrolled in the Primary Care Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the advice and recommendations of your personal health care provider. The information provided may no longer be up to date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.

# Hey doc, do I have diabetes?

## Hemoglobin A1C test

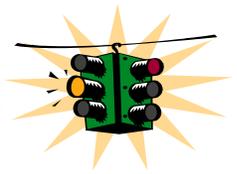
### What is the hemoglobin A1C (HbA1C) test?

It is a test that gives your doctor an idea of how high your blood sugars have been over the past three to four months. In your blood there are red blood cells, they carry many little molecules, called **hemoglobin**, which carry oxygen (air) to the rest of your body. Sugar likes to stick to hemoglobin, and we can measure the percentage of hemoglobin that is stuck to sugar. **That percentage is your HbA1C.**

### So if my sugars are usually high, what will that do to my hemoglobin A1c?

The higher your sugars are over the month, the higher the HbA1c. If your sugars are low over the month, you'll have a lower hemoglobin A1c.

## Your HbA1C Result?



### 4.0 to 5.99 – Normal

→ You have normal blood sugar levels (averaging less than 110). But you can still have a risk of getting diabetes in the future (see below). Talk to your doctor about staying active and eating a healthy diet to keep you in the normal range.

### 6.0 to 6.49 – High Risk

→ You don't have diabetes yet, but you are at high risk. Your average blood sugars are between 110 and 125. Talk to your doctor about what you can do reduce your risk of developing diabetes.

### 6.5 & Above – Diabetes

→ Your doctor will want to first recheck to make sure it is above 6.5%. Your average blood sugars are greater than 125. You currently have high enough sugars to have diabetes. You will need to speak to your doctor about how to get better control

**Risk factors for developing diabetes:** Elevated cholesterol (triglycerides), high blood pressure, high BMI (weight to height ratio), and family history of diabetes.