

Glycosylated hemoglobin (HbA1c)

Glycosylated hemoglobin is formed through a non-enzymatic glycation pathway by hemoglobin's exposure to plasma glucose. This reaction is irreversible and is directly proportional to blood sugar level.

Why the HbA1c Test is Performed?

Glycosylated hemoglobin test is ordered in diabetic patients in order to check the effectiveness of the treatment.

How the Test is Performed and How to Prepare for the Test?

For the test a blood sample is needed without any special preparation.

What Abnormal Results Mean?

Normal range in diabetic patients is <7% and in non-diabetic patients it is <5%.

HbA1C level is in correlation with average plasma glucose.

4% HbA1c = 65 mg/dL average plasma glucose

5% HbA1c = 100 mg/dL average plasma glucose

6% HbA1c = 135 mg/dL average plasma glucose

7% HbA1c = 170 mg/dL average plasma glucose

8% HbA1c = 205 mg/dL average plasma glucose

9% HbA1c = 240 mg/dL average plasma glucose

10% HbA1c = 275 mg/dL average plasma glucose

11% HbA1c = 310 mg/dL average plasma glucose

12% HbA1c = 345 mg/dL average plasma glucose

Abnormal results mean that patient have had high blood sugar levels over a period of weeks to months (nearly 4-6 month).

In general, the higher the glycosylated hemoglobin, the higher the risk that patient will develop problems such as:

- Myocardial infarction
- Diabetic nephropathy
- Diabetic foot
- Diabetic neuropathy
- Diabetic retinopathy
- Peripheral vascular disease
- Stroke

Alternative Names

Glycohemoglobin, Glycated hemoglobin

Useful Information

Patient with bleeding and hemolytic anemia may have false negative results.