



THE PATH TO MANAGING AND MONITORING HYPERGLYCEMIA

Nearly 40 percent of diabetes patients in “good control” have significant glycemic variability, and routinely assessing patients’ glycemic variability is challenging. Hemoglobin A1c (HbA1c) glucose levels can vary widely among patients, and fasting and infrequent finger-stick glucose tests often miss glucose peaks at their durations. The GlycoMark® test from BioReference can reveal differences in glycemic variability, so you can safely provide personalized care and manage your patients’ diabetes therapy to reach glucose goals.

What is GlycoMark?

GlycoMark is a non-fasting blood test that measures 1,5 anhydroglucitol (1,5-AG), a specific indicator of hyperglycemic episodes and glycemic variability. The test provides an indication of whether a patient has had recent hyperglycemic episodes, and the results are related to the average daily maximum glucose level over a one-to-two week period.

What is Glycemic Variability?

Glycemic variability is characterized by variable hyperglycemia and hypoglycemia. Patients may have undetected glycemic variability because the glucose highs and lows offset each other, producing an average HbA1c level that suggests good control. Glycemic variability has been shown to be associated with higher rates of repeat cardiovascular events, retinopathy in type 2 diabetes, and an increased risk of microvascular complications.

Why GlycoMark?

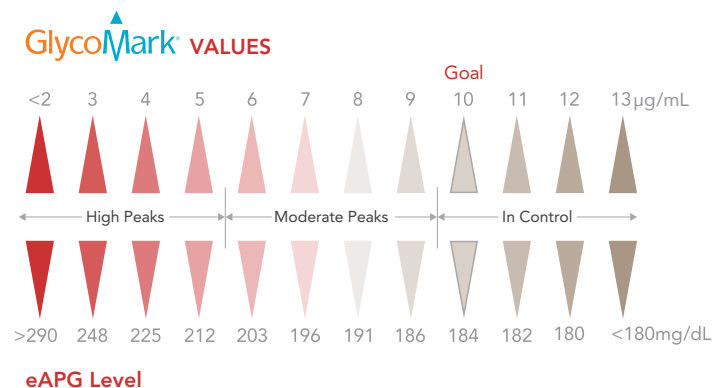
- Provides unique information not obtainable with other tests, enabling more informed diabetes treatment
- Identifies hyperglycemic excursions that may not be evident from HbA1c or glucose measurements

- Related to amount of time glucose exceeds the renal threshold (generally >180 mg/dL)
- Reveals recent deterioration in glucose control
- Shows improvements and effectiveness in therapy changes within two to four weeks (faster than HbA1c)
- Measures and positively reinforces adherence to dietary and lifestyle changes
- FDA-cleared for intermediate-term monitoring of glycemic control in people with diabetes

Interpretation of Results

Abnormal 1,5-AG levels (less than 10 mcg/mL) suggest significant glycemic variability within the last one-to-two weeks, which may have occurred in the fasting state, post-prandial state or both. An increasing in 1,5-AG level from the previous result reflects progression towards glycemic control. A decreasing 1,5-AG level from the previous result reflects change away from glycemic control.

GlycoMark values have an inverse relationship to blood glucose, so as blood glucose decreases, the GlycoMark value increases. The chart below compares GlycoMark values with the corresponding estimated average peak glucose (eAPG) level.



Providing Personalized Care

Different patterns of glucose control may indicate the need for different therapy approaches. In the sample below, Susan and John have identical HbA1c values. Susan has a lower GlycoMark value and higher post-meal glucose peaks, while John has a higher Glycomark level and high glucose levels overall.

Sample Results	Sample Treatment Considerations
<p>Susan</p> <p>Type 2 Diabetes HbA1c: 7.4%</p> <p>GlycoMark: 3.4</p> <p>Average Max Glucose: 237</p> <p>Results Interpretation: Likelihood that patient is having very frequent glycemic excursions over 200 mg/dL</p>	<ul style="list-style-type: none"> Assess for unusual recent issues that may be causing hyperglycemia (i.e., illness, vacation, stopped diabetes medication, steroid injection, etc.) Have patient self-test pre and post-meal blood glucose by fingerstick or continuous glucose monitoring system to assess meal patterns After identifying meal-related hyperglycemia, consider diet counseling and/or prandial medications Repeat monthly testing to check the effectiveness of treatment plan until GlycoMark value returns to normal (above 10 mcg/mL)
<p>John</p> <p>Type 2 Diabetes HbA1c: 7.4%</p> <p>GlycoMark: 15.1</p> <p>Average Max Glucose: 175</p> <p>Results Interpretation: Likelihood that patient is rarely having glycemic excursions over 200 mg/dL</p>	<ul style="list-style-type: none"> Although peak blood sugars appear well-controlled, assess why baseline blood sugars overall are high Consider increasing or adding medication to address baseline glucose control to achieve a target goal of A1C < 7% Institute a diet and exercise plan Re-test HbA1c and GlycoMark in 60-90 days to check that HbA1c < 7% and that GlycoMark value remains above 10 mcg/mL

*The information above is not intended to be used as medical advice. Physicians should use clinical judgment in the use of the GlycoMark test and in the treatment of the patient.

HIGHLIGHTS AND REFERENCES:

Test Code:	J114-0
Specimen Requirements:	1 SST tube
Storage Requirements:	Refrigerate
Turn-Around-Time:	1 Day
Specimen Stability:	7 days
CPT Code:	84378

Additional Resources:

GlycoMark: <http://www.glycomark.com/>

American Diabetes Association: <http://www.diabetes.org/>

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GlycoMark is a registered trademark of GlycoMark, Inc. The GlycoMark test is FDA-cleared for intermediate monitoring of glucose control in people with diabetes. Components of glycemic monitoring include hyperglycemia and hypoglycemia. The GlycoMark test does not reflect hypoglycemia and is not intended to diagnose any specific diabetes state or disease. Physicians should use clinical judgment when using the GlycoMark test. For full prescribing information, visit www.glycomark.com