



# TECHNICAL NOTICE

## SOUTH BEND MEDICAL FOUNDATION

April 2009

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### Hemoglobin A1c – New Methodology

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**Effective Date:** May 1, 2009

**Performing Department:** Automated Laboratory

**Method:**

Effective May 1, 2009, South Bend Medical Foundation will begin using turbidimetric inhibition immunoassay (TINIA) for hemoglobin A1c measurement on the Roche Cobas e601 analyzer. All hemoglobin variants that are glycosylated at the beta-chain N-terminus and that have antibody-recognizable regions identical to that of HbA1c are measured by this method. Liberated hemoglobin in the sample is measured bichromatically.

Percent hemoglobin A1c is reported based on standardization according to DCCT/NGSP\*.

\*DCCT/NGSP: Diabetes Control and Complications Trial/National Glycohemoglobin Standardization Program

**Use:** Monitoring glycemic status for patients with diabetes

**Clinical Significance:**

It is recommended to routinely perform hemoglobin A1c on all diabetic patients at the initial assessment and during follow-up care because A1c is thought to well reflect mean blood glucose values for the previous 2-3 months and is a strong predictor for diabetic complications.

SBMF performed correlation studies using samples that were defined by NGSP reference lab (SRL3).

Please note that A1c levels obtained by the new method may be slightly lower than by the previous method and the reference range has been adjusted. The change is more significant in patients with hemoglobin S and C traits. The following chart is provided to guide interpretation.

Hb Type	Averaged Diff (Cobas-Variant II)
AA (normal hemoglobin).....	-0.31 % A1c
AS (sickle cell trait) .....	-0.25 % A1c
AC (hemoglobin C trait) .....	-0.61 % A1c

The following examples demonstrate results of a sample tested by current and new methods.

Hb Type	Current (Variant II)	New (Cobas)
AA (normal hemoglobin).....	10.7 % A1c.....	9.9 % A1c
AS (sickle cell trait) .....	8.4 % A1c.....	7.7 % A1c
AC (hemoglobin C trait) .....	9.1 % A1c.....	7.9 % A1c

**Reference Range:** 4.6 to 5.9%

**Specimen Requirements and Collection:**

Preferred Specimen: • Whole blood in lavender top (EDTA) tube

Requested Volume: • 5.0 mL

Minimum Volume: • 1.0 mL

Processing: • Do not centrifuge • Do not remove plasma from cells

Stability: • 1 week refrigerated (2-8°C)

Storage/Transport: • Refrigerated

**Testing Schedule:** • Sunday through Saturday (daily)

**Order:** • Hemoglobin A1c .....Test #: **23409**..... CPT: • 83036

Please direct questions or comments regarding this notice to Robert J. Tomec, M.D., Deborah H. Sun, Ph.D., or Brett Colter of South Bend Medical Foundation, (574) 234-4176 or (800) 544-0925.

### SOUTH BEND MEDICAL FOUNDATION

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