

Date: 8/17/2010

To: Physicians, Physician Assistants, Reference Lab Accounts, Nursing Units

From: Randy Smith M.D. Pathologist , Dale Hamari <sup>AS</sup>C(ASCP) Chemistry Supervisor

Re: **Hemoglobin A1c –Return of testing and report to include estimate of Average Glucose (eAG).**

Upon completion of validation studies, Hemoglobin A1c testing will again be performed at the Marquette General Health System Lab. Testing will be performed using a Biorad Variant II Turbo instrument system using ion-exchange high performance liquid chromatography.

Based on American Diabetes Association (ADA) 2010 Standards of Medical Care recommendations<sup>1</sup>, an Average Glucose (eAG) level will be calculated and reported along with the Hemoglobin A1c. The eAG represents the estimated average plasma glucose level for the past 60 days. Clinicians should note that the formula used is based on 2010 ADA guidelines from the A1c-derived Average Glucose trial (ADAG) which differs from formulas/tables described in previous versions of the Standards of Medical Care in Diabetes.

The ADA also now recommends the use of Hemoglobin A1c for the **Diagnosis** of Diabetes using a threshold of “greater than or equal to 6.5 %”. Results of 5.7 – 6.4 % are considered “increased risk” for diabetes or pre-diabetic levels.

**Reference range** for healthy adult non-diabetics is **4.0-6.0 %**

ADA Recommended glycemic goal for non-pregnant adults with diabetes is **< 7%**.

For Diabetic Pediatric patients ADA glycemic goals are

- Toddler and Preschoolers (0 – 6yr) < 8.5% (but > 7.5 %)
- School age (6 – 12yr) <8.0%
- Adolescents and young adults (13 – 19yr) <7.5 %

Goals should be individualized based on :

- Duration of diabetes
  - Age/life expectancy
  - Co-morbid conditions
  - Known CVD or advanced microvascular complications
  - Hypoglycemic unawareness
  - Individual patient considerations
- More or less stringent glycemic goals may be appropriate for individual patients

Conditions that affect the life span of red cells such as hemolytic anemia (shortened life span –decreased Hemoglobin A1c) or Polycythemia (lengthened life span of RBC) may affect the HBA1c test.

**Specimen requirement:** EDTA Whole Blood. 1 purple top tube

If you have any questions or concerns please contact us in the lab at 906-225-3051.

1. Standards of Medical Care in Diabetes – 2010. Diabetes Care, Volume 33, Supplement 1, Jan. 2010