

Date: February 25, 2011
To: Physicians, Nursing, Laboratories – Former DTHR Sites
From: AHS Laboratory Services – Central Zone
Re: HbA1c Testing

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Key Messages:

- Please be advised that the Red Deer laboratory has confirmed three reports of falsely elevated HbA1c results in the time period from January 19 to February 8, 2011. If you have received an HbA1c result that is unexpectedly elevated, then repeat testing is recommended.
- These errors and other factors discussed below have prompted our laboratory to temporarily discontinue on-site testing for HbA1c. In the interim, testing will be referred to DynaLIFE in Edmonton (testing will be referred to Calgary Laboratory Services for Drumheller, Hanna and Three Hills). Test referral to either Edmonton or Calgary may result in a slight increase in the turnaround time (not more than 1 day) for HbA1c results.
- To best accommodate these and future changes, the laboratory in Red Deer will upgrade to a state-of-the-art analytical system for HbA1c. Utilizing the “gold standard” ion-exchange high performance liquid chromatography (HPLC), the new system will offer improved accuracy relevant to the target value and reduced analytical variability. In addition, the change from the previous immunoassay-based method to HPLC will allow for the detection of hemoglobin variants, a source of potential error in immunoassay based methods.
- It is hoped that this new HbA1c method will be implemented within the next few months.

Background:

- Significant advances in regards to HbA1c are requiring both laboratories and manufacturers to reevaluate requirements for the performance of HbA1c assays.
- It is now recommended that all assays are standardized against the new International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) reference system. As such, it is recommended in Canada that results are reported in derived National Glycohemoglobin Standardization Program (NGSP) units (either as a proportion or %), using the IFCC – NGSP master equation.
- In order to meet these recommendations, the College of American Pathologists (CAP) proficiency testing program uses accuracy grading based on target values set by the NGSP. Furthermore, CAP has continued to tighten the acceptable performance criteria limits (allowable deviation for the target value) and further reductions are expected. All laboratories in Alberta doing HbA1c testing are mandated by the College of Physicians and Surgeons of Alberta to participate in this CAP proficiency testing program.

For additional questions contact:

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This bulletin has been reviewed and approved by:

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