

**Date:** February 25, 2014

**To:** North Zone- Former Northern Lights Region (Fort McMurray, High Level, Fort Vermilion, and La Crete)  
Physicians, Nursing Units, and Laboratory Staff

**From:** AHS Laboratory Services and DynaLIFE<sub>Dx</sub>

**Re:** Beta-Hydroxybutyrate (BOH) - Expansion of Test Availability and Changes to Order Priority

---

## PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

---

### Key Messages:

- Beta-Hydroxybutyrate (BOH) is the most sensitive marker for ketoacidosis based on the predominance of BOH over the other ketone bodies (acetoacetate and acetone) during periods of excessive fatty acid metabolism, e.g., as occurs in diabetic ketoacidosis. BOH also responds relatively quickly in response to appropriate treatment. Therefore BOH is the most sensitive marker for the diagnosis and monitoring of diabetic ketoacidosis.
- BOH does not measure acetoacetate or acetone.
- Testing for acetone is not appropriate in investigation of diabetic ketoacidosis and is ONLY required if acetone ingestion is suspected.
- Although testing for BOH was initially required within 30 minutes of specimen collection, recent studies have proven stability of BOH in samples collected in Lithium Heparin (whole blood) and EDTA (whole blood) for up to **48 hours at refrigerator temperature**.
- This increased stability eliminated the need for all testing to be ordered with “STAT” priority.

### Why this is important:

#### Effective March 5, 2014

- BOH testing can now be collected at all sites listed above; the sample will be sent to your usual referral centre, if required.
- Northern Lights Regional Health Centre (Fort McMurray) and Northwest Health Centre (High Level) will continue to perform BOH testing.
- Order as “Routine” unless otherwise clinically indicated.
- The sample must be received by the testing lab within 48 hours of specimen collection (storage/transport at refrigerator temperature).

### Inquiries and feedback may be directed to:

- Trefor Higgins, Director Clinical Chemistry, DynaLIFE<sub>Dx</sub> at: 780-451-3702 ext. 8134 or email: [trefor.higgins@dynamifedx.com](mailto:trefor.higgins@dynamifedx.com)

### This bulletin has been reviewed and approved by:

Dr. Carolyn O’Hara, Deputy Zone Clinical Department Head, Diagnostic Health - Laboratory & Pathology, North Zone  
Dr. Lai, Medical Director, DynaLIFE<sub>Dx</sub>