

Date: February 20, 2014

To: **South Zone Physicians, Nursing Units, Laboratories:** Bassano, Bow Island, Brooks, Oyen, Cardston, Coaldale, Crowsnest Pass, Fort Macleod, Magrath, Milk River, Picture Butte, Pincher Creek, Raymond, Taber

From: AHS Laboratory Services – Chemistry Network

Re: Beta-Hydroxybutyrate (BOH) - Expansion of Test Availability to Rural Sites

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**.

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.
- Order with priority “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:

- Dr. Allison Venner, Clinical Biochemist, Central Zone at: 403-406-5633 or email: Allison.venner@albertahealthservices.ca

This bulletin has been reviewed and approved by:

Dr. Barbara Popma, AHS Zone Clinical Department Head (Co-Lead), Laboratory Medicine, South Zone
Dr. M. O'Connor, AHS Zone Clinical Department Head (Co-Lead) Laboratory Medicine, South Zone