

Date: April 5, 2012
To: Oilfields General Hospital Emergency Department
From: Carol Boechler, Director Integration and Standards, AHS Laboratory Services
Re: Elevated Potassium Results on the i-STAT Analyzer

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Key Messages:

When testing is done with the i-STAT using whole blood, it is not possible to rule-out in-vitro hemolysis as the cause of or a contributor to an increased potassium result.

Hemolysis (destruction of red blood cells) increases the concentration of potassium in the blood in proportion to the degree of hemolysis.

In-vitro hemolysis is caused by improper specimen collection or handling and results in a false increase in the concentration of potassium in the blood specimen.

In the laboratory, chemistry testing is done with serum / plasma. This allows the laboratory to visually examine the specimen for hemolysis.

Reference and Critical Range for Potassium is listed below:

Analyte	Reference Range	Critical Range
Potassium (K)	3.6 - 5.0 mmol/L	< 2.5 OR > 6.5 mmol/L

Action Required:

If an elevated potassium result is obtained on the i-STAT analyzer (i.e. > 5.0 mmol/L) and does not correspond with the patient's clinical condition, contact the on-call laboratory staff to repeat testing in the laboratory with serum / plasma.

Inquiries and feedback may be directed to:

Carol Boechler at carol.boechler@albertahealthservices.ca or by phone at 403-601-1774.

This bulletin has been reviewed and approved by:
Dr. Leland Baskin, Medical / Scientific Director - Calgary Zone.