Date: October 19, 2012
To: All Zones: Physicians, Nurse Practitioners, Nursing Units, Nutrition and Food Services, Laboratories
From: AHS Laboratory Services
Re: Standardization of Glucose Reference Intervals and Critical Values

**PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE**

**Key Messages:**
Effective November 1, 2012, glucose reference intervals and critical values in Alberta will be standardized to reflect the Canadian Diabetes Association 2008 Clinical Practice Guidelines (http://www.diabetes.ca/for-professionals/resources/2008-cpg/).

On this date, 2 hour post cibum (PC) glucose will no longer be available. If a patient presents with a 2 hour PC test request, a random glucose will be substituted.

**Why this is important:**
Using the correct reference interval is required for effective diagnosis and treatment of patients. The reference interval information will be indicated on the report along with the patient sample value.

**Action Required:**
Please refer to the following reference intervals for fasting and random glucose results.

### Fasting Glucose

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 30 days</td>
<td>2.5 – 5.5 mmol/L</td>
</tr>
<tr>
<td>30 days to 150 years</td>
<td>3.3 – 6.0 mmol/L</td>
</tr>
</tbody>
</table>

### Random Glucose

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 30 days</td>
<td>2.5 – 11.0 mmol/L</td>
</tr>
<tr>
<td>30 days to 150 years</td>
<td>3.3 – 11.0 mmol/L</td>
</tr>
</tbody>
</table>

When a random glucose is greater than 11.0 mmol/L, the following comment will be appended:
- A random glucose concentration of greater than or equal to 11.1 mmol/L plus symptoms of disease meets one of the diagnostic criteria for Diabetes Mellitus. Canadian Diabetes Guidelines (2008)

### Glucose Critical Values

<table>
<thead>
<tr>
<th>Age</th>
<th>Critical Low</th>
<th>Critical High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 30 days</td>
<td>Less than 2.0 mmol/L</td>
<td>Greater than 24.9 mmol/L</td>
</tr>
<tr>
<td>30 days to 150 years</td>
<td>Less than 2.6 mmol/L</td>
<td></td>
</tr>
</tbody>
</table>
Inquiries and feedback may be directed to:
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This bulletin has been reviewed and approved by:
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