Date: May 13, 2019
To: All Calgary Zone Physicians and Healthcare Providers
From: Dr. S.M. Hossein Sadzadeh, Clinical Section Chief, Clinical Biochemistry South Sector
Re: Availability of High Sensitivity Troponin I (hsTnI) at 6 Sites in Calgary Zone

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Message:
• **Effective May 14, 2019**, high sensitivity troponin I (hs-TnI) will replace the current conventional TnI assay at the following sites due to discontinuance of the conventional TnI on the bioMérieux MINI VIDAS®:

  1. Airdrie Community Health Centre
  2. Cochrane Community Health Centre
  3. Okotoks Health and Wellness Centre
  4. Sheldon M Chumir Health Centre,
  5. South Calgary Health Centre, and
  6. Banff Mineral Springs Hospital

• The use of hsTnI will result in changes in reporting interpretation (new reference interval, critical value and units), and updated Urgent Care and Rural Hospital Vidas hs-cTnI Chest Pain Pathway (https://insite.albertahealthservices.ca/Main/assets/tms/edc/tms-edc-biomerieux-hs-ctnI-pathway-2019.pdf) and reporting comments (Table 1)
  o New reference interval: 0 – 18 ng/L
  o New critical value: >= 100 ng/L
  o No change to orderable test name: Troponin
  o New result test name in NetCare: Troponin I (Vidas) High Sensitivity

• Calgary acute care hospitals continue to use hs-TnT and reporting will not change

Why this is important:
• Availability of hsTnI at these sites will better support clinicians in evidence-based interpretation of their troponin result and improve patient management
• Recognize that hs-TnI results are NOT interchangeable with conventional TnI, or with hsTnT

Background:
• While hs-TnI offers improved diagnostic performance relative to conventional troponin assays, hs-TnI results alone cannot exclude all acute coronary syndrome presentations and high-risk clinical presentations remain high-risk, even if hs-TnI concentrations are normal
• Abnormal elevations in hs-TnI do not necessarily represent acute myocardial injury or coronary ischemia; clinical judgment remains essential to ensure safe patient management

Action Required:
• All users of hs-TnI at the 6 affected sites in the Calgary Zone should familiarize themselves with the Urgent Care and Rural Hospital Vidas hs-cTnI Chest Pain Pathway and accompanying comments
• Be aware of differences between hs-TnI and hs-TnT for reference intervals and critical values, as result interpretation will change by test

Inquiries and feedback may be directed to:
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This bulletin has been reviewed and approved by:
Leland Baskin, MD, MS, FCAP, FAACC, Associate Medical Director, South Sector
albertapubliclabs.ca
Table 1: Updated bioMérieux MINI VIDAS® hsTnI Reporting

<table>
<thead>
<tr>
<th>Current Reporting</th>
<th>New Reporting</th>
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<tbody>
<tr>
<td><strong>Troponin I &lt;0.01 µg/L</strong></td>
<td><strong>Vidas Troponin I, High Sensitivity &lt; 6 ng/L</strong></td>
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<tr>
<td>Troponin I value not consistent with AMI, providing the sample was collected &gt; 6h from onset of symptoms</td>
<td>For patients with a non-ischemic ECG, a Troponin I, High Sensitivity of 5 ng/L or less on presentation AND at 2-hours is highly sensitive for excluding acute myocardial infarction. Please note that patients with ischemic ECG changes and/or high-risk clinical presentations should be considered for further evaluation irrespective of troponin results.</td>
</tr>
<tr>
<td><strong>Troponin I 0.01 – 0.10 µg/L</strong></td>
<td><strong>Vidas Troponin I, High Sensitivity 6 -18 ng/L</strong></td>
</tr>
<tr>
<td>Troponin I value is inconclusive for acute MI and may be due to myocardial injury. Repeat ordering may be warranted in some clinical situations</td>
<td>Troponin I, High Sensitivity is below the upper reference limit (19 ng/L) and results are not consistent with myocardial infarction or injury. However, patients with acute symptoms (less than 6-hours since onset) or concerning clinical presentations should undergo repeat troponin testing at 2-hours after the initial sample. A 2-hour change of 10 ng/L or more suggests an acute myocardial injury and may represent acute myocardial infarction in the appropriate clinical scenario. Please note that patients with ischemic ECG changes and/or high-risk clinical presentations should be considered for further evaluation irrespective of troponin results.</td>
</tr>
<tr>
<td><strong>N/A</strong></td>
<td><strong>Vidas Troponin I, High Sensitivity 19-99 ng/L</strong></td>
</tr>
<tr>
<td><strong>Troponin I &gt;0.10 µg/L</strong></td>
<td><strong>Vidas Troponin I, High Sensitivity &gt;=100 ng/L</strong></td>
</tr>
<tr>
<td>Troponin I value is consistent with acute myocardial damage.</td>
<td>Clear elevation of Troponin I, High Sensitivity consistent with acute myocardial injury or infarction in the appropriate clinical context. Repeat troponin testing at 2-hours after the initial sample may be helpful to assess for ongoing myocardial injury.</td>
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