



Date: April 6, 2020
To: All Calgary Zone Physicians and Healthcare Providers; and APL Chemistry Managers and Supervisors, MLT II/III, LIC, Accessioning, Clinical Biochemists
From: Clinical Biochemistry, South Sector, Alberta Precision Laboratories (APL)
Re: Availability of high sensitivity troponin I (hs-TnI) at High River Hospital and Canmore General Hospital

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Key Message:

- Effective **April 1, 2020**, high sensitivity troponin I (hs-TnI) will replace the current conventional TnI assay at High River Hospital and Canmore General Hospital due to the discontinuation of the conventional TnI on the Beckman Coulter Access®.
- The use of hs-TnI will result in changes in report interpretation (new reference interval, critical value and units), an updated *Rural Hospital Chest Pain Pathway Access hs-cTnI* (<https://insite.albertahealthservices.ca/Main/assets/tms/edc/tms-edc-access-hs-ctnl-pathway.pdf>), and reporting comments (Table 1).
 - New Reference interval: 0-17 ng/L
 - New Critical Value: 50 ng/L
 - New orderable test name: Troponin OR TNIA
 - New result test name in NetCare: Troponin I Access High Sensitivity
- Calgary acute care hospitals continue to use high sensitivity troponin T (hs-TnT) and reporting will not change.
- Calgary Urgent Care Centers, as well as Okotoks Health and Wellness Centre and Banff Mineral Springs Hospital, will continue to use hs-TnI (Vidas).

Why this is Important:

- Availability of hs-TnI at these sites will better support clinicians in evidence-based interpretation of troponin results and improve patient management.
- **hs-TnI (Access) results are NOT interchangeable with conventional TnI, hs-TnI (Vidas), or with hs-TnT.**

Action Required:

- Be aware of the *Rural Hospital Access hs-TnI Chest Pain Pathways* and accompanying comments, and the differences between hs-TnI (Access), hs-TnI (Vidas) and hs-TnT for reference intervals and critical values, as result interpretation will change with the ordered test.

Inquiries and feedback may be directed to:

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This bulletin has been reviewed and approved by:

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Table 1: Updated Beckman Coulter Access hs-TnI Reporting

Current Reporting	New Reporting
<p>Troponin I 0.01-0.06 µg/L Troponin I value not consistent with AMI, providing the sample was collected > 6h from onset of symptoms</p>	<p>Troponin I Access High Sensitivity < 5 ng/L For patients with a non-ischemic ECG, a Troponin I, High Sensitivity of 5 ng/L or less on presentation AND a 2-hour change of less than 5 ng/L is highly sensitive for excluding acute myocardial infarction (MI). Repeat troponin testing at 2-hours after the initial sample is recommended for all patients to reliably exclude MI. Please note that patients with ischemic ECG changes and/or high-risk clinical presentations should be considered for further evaluation irrespective of troponin results.</p>
<p>Troponin I 0.07 – 0.49 µg/L Troponin I value is inconclusive for acute MI and may be due to myocardial injury. Repeat ordering may be warranted in some clinical situations.</p>	<p>Troponin I Access High Sensitivity 5 -17 ng/L Troponin I, High Sensitivity is below the upper reference limit (18 ng/L) and results are not consistent with myocardial infarction (MI) or injury. Repeat troponin testing at 2-hours after the initial sample is recommended for all patients to reliably exclude MI. A 2-hour change of 20 ng/L or more suggests an acute myocardial injury and may represent acute MI 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.</p>
<p>N/A</p>	<p>Troponin I Access High Sensitivity 18-49 ng/L Troponin I, High Sensitivity has a non-specific/non-diagnostic elevation. Interpretation is highly dependent on clinical presentation and patient history. New elevations are concerning; however, many patients have chronic elevations in troponin and measured concentrations near the patient's baseline are reassuring. Repeat troponin testing at 2-hours after the initial sample is recommended for all patients to reliably exclude myocardial infarction (MI). A 2-hour change of 20 ng/L or more suggests an acute myocardial injury and may represent acute MI 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</p>
<p>Troponin I ≥0.50 µg/L Troponin I value is consistent with acute myocardial damage.</p>	<p>Troponin I Access High Sensitivity ≥=50 ng/L 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.</p>