ALBERTA PRECISION LABORATORIES
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Laboratory Bulletin

DATE:	2021 August 23
TO:	All AHS Zones, Physicians / Nurses / Managers; APL Managers, Supervisors, and Medical/Scientific Staff
FROM:	Chemistry and Point of Care Testing (POCT), Alberta Precision Laboratories
RE:	**Change in Abbott i-STAT1 Conventional Troponin I Cut-off**

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Key Message

- **Effective August 23, 2021**, the Abbott i-STAT1 conventional cardiac troponin I (TnI) positivity cut-off value will be lowered from 0.10 µg/L to 0.04 µg/L. Results will only be reported in conventional units of µg/L.
- The **Abbott** i-STAT1 conventional TnI will have new reporting comments.

Background

- This change in cut-off value is literature-based, including a study in Alberta that showed a strong correlation between Abbott i-STAT1 conventional TnI values of equal to or greater than 0.04 µg/L and the TnI 99th percentile cut-off used for several of the TnI assays found in the province. An Abbott i-STAT1 conventional TnI positivity cut-off of 0.04 µg/L has been adopted at other institutions in Canada.
- Three sets of new reporting comments will accompany the results as follows:

Current Reporting	NEW Reporting
Troponin ≤0.10 µg/L In a clinical setting consistent with ACS, TnI > 0.10 ug/L is consistent with myocardial injury whereas peak TnI < or = 0.10 ug/L is consistent with myocardial ischemia without injury. TnI > 0.10 ug/L may be observed in several nonthrombotic cardiac and systemic diseases (most commonly - acute PE, acute pericarditis, acute or severe HF, myocarditis, sepsis and/or shock).	**Troponin I ≤0.04 µg/L** Troponin I value not consistent with acute myocardial infarction, providing the sample was collected more than 6h from onset of symptoms. Repeat troponin testing 6 to 8 hours after the initial sample is recommended for all patients to reliably exclude myocardial infarction. Please note that patients with ischemic ECG changes and/or high-risk clinical presentations should be further evaluated irrespective of troponin results.
	Troponin I 0.05 –0.10 µg/L (High) Troponin I value is inconclusive for acute myocardial infarction and may be due to myocardial injury. Repeat troponin testing 6 to 8 hours after the initial sample is recommended for all patients to reliably exclude 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.
Troponin >0.10 µg/L In a clinical setting consistent with ACS, TnI > 0.10 ug/L is consistent with myocardial injury whereas peak TnI < or = 0.10 ug/L is consistent with myocardial ischemia without injury. TnI > 0.10 ug/L may be observed in several nonthrombotic cardiac and systemic diseases (most commonly - acute PE, acute pericarditis, acute or severe HF, myocarditis, sepsis and/or shock).	**Troponin >0.10 µg/L (High)** Clear elevation of Troponin I consistent with acute myocardial injury or infarction in the appropriate clinical context. Repeat troponin testing 6 to 8 hours after the initial sample may be helpful to assess for ongoing myocardial injury. TnI >0.10 ug/L may be observed in several nonthrombotic cardiac and systemic diseases (most commonly - acute PE, acute pericarditis, acute or severe HF, myocarditis, sepsis and/or shock).
	All Results: Method Used: i-STAT conventional troponin I. WARNING: Different methods give potentially significantly different numerical values. Do not compare results from method to method

How this will impact you

- Myocardial injury or infarction should no longer be excluded in patients with an Abbott i-STAT1 conventional TnI result equal to or lower than 0.10 µg/L.
- Patients with an i-STAT1 conventional TnI value of 0.05-0.10 µg/L may have myocardial injury or early myocardial infarction in the appropriate clinical setting.
- Results above 0.1 µg/L in outpatients will be phoned to the ordering physician.

Action Required

- Be aware of these reporting changes and understand how they will impact clinical management. This change applies to results performed by POCT or laboratory with Abbott i-STAT1 conventional TnI.
- Patients with any Abbott i-STAT1 conventional TnI result equal to or lower than 0.10 µg/L may require further follow-up including repeat Abbott i-STAT1 conventional TnI testing at 6-8 hours.
- Ensure all instrument related configurations and software settings, and related program (procedure and reporting) documents have been updated.
    - If performing as POCT, refer to the Abbott i-STAT1 and i-STAT Alinity Meters | Insite

Effective

- **August 23, 2021**

Questions/Concerns

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