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| DATE: | 2022 February 7 |
| TO: | Area 1 Physicians and Healthcare Providers |
| FROM: | Alberta Precision Laboratories (APL) and <i>DynaLIFE</i> Medical Labs |
| RE: | La Crete Lab and Rainbow Lake POCT Abbott i-STAT1 Troponin Testing – Update to Cutoff and Critical Value |

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Key Message

- Effective **February 15, 2022**, a critical value will be assigned to the Abbott i-STAT1 conventional cardiac troponin I (TnI) at greater than 0.10 µg/L.
- Effective **Feb 15, 2022**, the Abbott i-STAT1 conventional cardiac troponin I (TnI) positivity cut-off value will be lowered from greater than or equal to 0.15 µg/L to greater than 0.04 µg/L. Results will only be reported in conventional units of µg/L.
- The Abbott i-STAT1 TnI will have new reporting comments.

Background

- The 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 greater than 0.04 µg/L and those above the 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 greater than 0.04 µg/L has been adopted at other institutions in Canada.
- **Three sets of new reporting comments will accompany the results as follows:**

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 (Critical)

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 µg/L may be observed in several non-thrombotic 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 lower than 0.15 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 between 0.05 and 0.10 µg/L will be flagged as high.
- Results above 0.10 µg/L will be flagged as critical and 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 lower than 0.15 µg/L may require further follow-up including repeat Abbott i-STAT1 conventional TnI testing at 6-8 hours.
- Ensure all 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

- **February 15, 2022**

Questions/Concerns

- DynaLIFE Clinical Chemists, DynaLIFE Medical Labs, 780-451-3702 ext. 3572 or clinical.chemists@dynamife.ca

Approved by

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