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Laboratory Bulletin

DATE:	2022 July 11
TO:	Healthcare Providers at Devon General Hospital, East Edmonton Health Centre, Fort Saskatchewan Community Hospital, Leduc Community Hospital, Northeast Community Health Centre, Redwater Health Centre, Strathcona Community Hospital, and Westview Health Centre
FROM:	Clinical Biochemistry, Edmonton Zone
RE:	**Re-implementation of iSTAT1 Troponin I as Backup Method at Edmonton Suburban and Rural Sites**

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Key Message

- The Abbott iSTAT conventional troponin I (TnI) assay will be re-implemented as a backup method for troponin testing at surburban and rural labs in the Edmonton Zone
- In the event of a delay in TnI testing due to downtime of main laboratory analyzer for TnI, samples will be tested using iSTAT TnI assay onsite.
- Reporting units are different for iSTAT TnI and main laboratory TnI method. The iSTAT TnI results will be reported in µg/L. Results from main laboratory analyzers at these sites are reported in ng/L.

Site	Main laboratory TnI assay	Reporting units	Reference interval	iSTAT TnI reporting units	iSTAT reference interval
Devon General Hospital	Siemens Stratus conventional TnI	**ng/L**	<150	**µg/L**	≤ 0.04
East Edmonton Health Centre					
Fort Saskatchewan Community Hospital					
Redwater Health Centre					
Leduc Community Hospital	Beckman high sensitivity TnI (hs-TnI)	**ng/L**	<20		
Northeast Community Health Centre					
Strathcona Community Hospital					
Westview Health Centre					

Background

- On August 9, 2021, iSTAT TnI was removed as a backup method as results are reported in different units, and results cannot be compared between different TnI methods
- Analyzer downtimes have increased in the last year, resulting in delays in testing. After consultation with Emergency Department and Cardiology physicians, iSTAT TnI is being re-implemented as a backup method for TnI to support patient care and reduce delays in test results.
- Different TnI methods may give potentially significantly different numerical values. Results cannot be compared between different methods.

How this will impact you

- Delays in TnI testing during analyzer downtimes will be reduced.
- When the Abbott iSTAT TnI method is being used, reporting will be as outlined below:

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Abbott iSTAT TnI Reporting
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 I >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

Action Required

- During analyzer downtimes the laboratory will communicate with the site ED that troponin will be analyzed using the Abbott iSTAT, and that units and reporting is different compared to the main laboratory analyzer.
- Be aware of these reporting changes and understand how they will impact clinical management.
- Patients with any Abbott i-STAT conventional TnI result equal to or lower than 0.10 µg/L may require further follow-up including repeat Abbott i-STAT conventional TnI testing at 6-8 hours.

Effective **July 19, 2022**

Questions/Concerns

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Approved by

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