Laboratory Memorandum

Date: 2025-08-05
To: UBC Hospital Clinical Staff
From: Division of Clinical Chemistry, Vancouver General Hospital and UBC Hospital
Re: **New Chemistry Analyzer Implementation at UBC Hospital**

On August 19 2025 at 11:00 AM, the core clinical chemistry laboratory at UBC Hospital will transition testing from the current Siemens EXL platform to the new Siemens Atellica CI 1900 Chemistry and Immunoassay platform. The new instrument will replace aging equipment, improve efficiency and turnaround times for laboratory results, and facilitate the harmonization of reference ranges with Vancouver General Hospital (VGH).

Summary of changes:

- High Sensitivity Troponin I 99th percentiles and suggested rule in/rule out criteria will change to reflect the new assay configuration and detection method used for the Siemens Atellica CI 1900 assay. See appendix for details.
- Results from the new Atellica CI 1900 High Sensitivity Troponin I are comparable to the results from VGH but not directly comparable to results from the EXL High Sensitivity Troponin I assay run at other VCH regional sites.
- The performance of the majority of tests run in the core laboratory will not change (see Table 1 & Table 2)
- Adult reference intervals for tests transitioning to the new Atellica CI 1900 platform have been reviewed and adjusted to account for local population specific data. Please refer to test results for the updated reference intervals. All test results should be interpreted in relation to the associated test specific reference intervals.
- Pediatric reference intervals, where available, have been aligned with those used at BC Children's Hospital and are primarily based on the Canadian Pediatric Reference Intervals cohort (CALIPER).
- Test specific reporting of sample quality indicators that can affect test interpretation (hemolysis, icterus and lipemia) will be automated. These can be found in the "comments" tab of the specific lab result in CST Cerner.

Summary of lab tests migrating to the Atellica CI 1900 Platform on August 19 2025

Table 1: Tests with notable changes compared to the current method:

Test	Notes
Acetaminophen	NAC may interfere with this method when blood sampling occurs close to the time of NAC administration.
Creatinine, Plasma and Fluid	Analytical method will change to enzymatic measurement, which is much less susceptible to interferences than the current Jaffe method. Results are expected to be comparable to the current method.
High Sensitivity Troponin I	As described in the appendix.
Lipase, Plasma and Fluid	Results are proportionally ~30% lower than previous method

Table 2: Tests with no significant changes compared to the current method:

Albumin – plasma	Chloride – plasma	Lactate	Sodium – plasma
Albumin – fluid	Creatine Kinase	LDH, plasma	Sodium – urine
ALP	CRP (high sensitivity)	LDH, Fluid	Total protein – CSF
ALT	Ethanol	Lithium	Total CO2
AST	Glucose – plasma	Magnesium	TSH
Bilirubin, Direct	Glucose – fluid	Phosphate – plasma	Urea – plasma
Bilirubin, Total, plasma	Glucose – CSF	Potassium – plasma	Urea – fluid
Bilirubin, Total, Fluid	GGT	Potassium – urine	Uric acid – plasma
Calcium – plasma	HCG Quantitative	Salicylate	

What is not changing at this time:

- No changes to blood gas, urinalysis and osmolality

Please do not hesitate to contact the biochemist on call via the VGH switchboard should you have any questions.

Sincerely,
Dr. Catherine Cheng, Medical Biochemist, Clinical Chemistry Medical Discipline Lead
Dr. Kazem Nouri, Clinical Biochemist, VGH and UBC Hospital

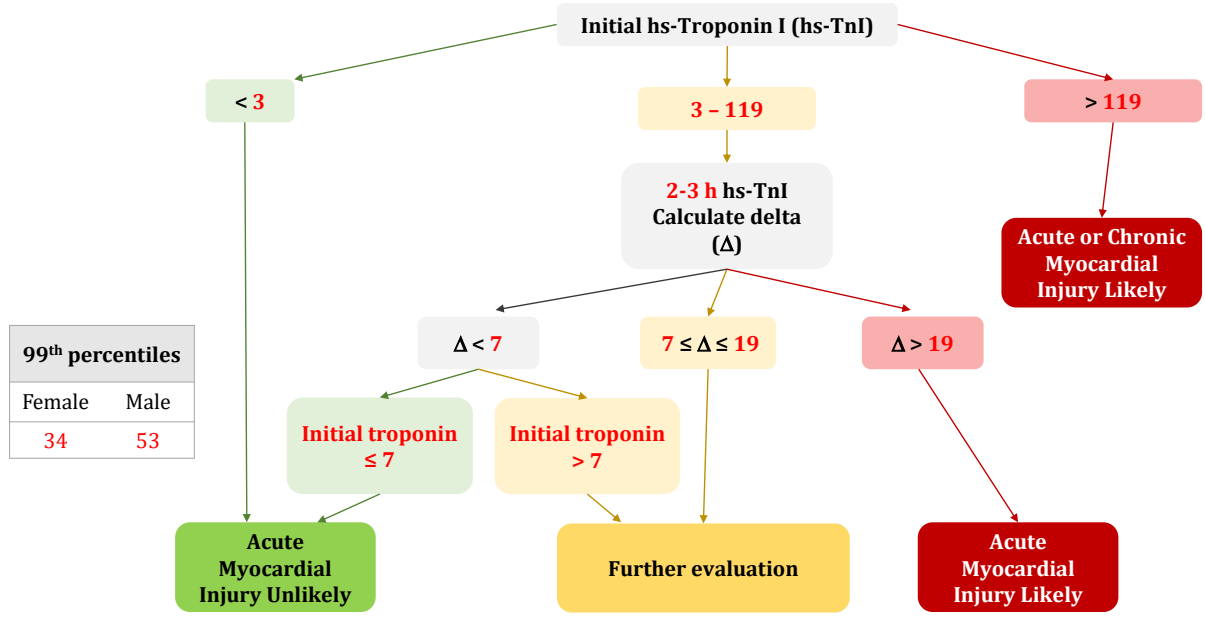
On behalf of the Division of Clinical Chemistry, Department of Pathology and Laboratory Medicine, Vancouver General Hospital and UBC Hospital.

Non urgent enquiries only: *VGHChemistry@vch.ca*

Appendix - Changes expected with the transition from EXL High Sensitivity Troponin I to Atellica CI 1900 High Sensitivity Troponin I:

- With the transition to the Siemens Atellica CI 1900 platform, the assay architecture of the high sensitivity troponin I test will change, resulting in different 99th percentiles and interpretive guidance.
- The new 99th percentiles will be: **Adult Females: 34 ng/L**, **Adult Males: 53 ng/L (similar to VGH)**. Pediatric cutoffs and interpretive guidance have not been established.
- The interpretive comments and delta cutoffs appended to results are based on the **HIGH-US** study[1] which specifically examined the performance of the Atellica High Sensitivity Troponin I assay rule in/out algorithm in a United States Emergency Department (ED) population.
- The interpretive guidance for the use of Atellica high sensitivity Troponin I in the context of suspected Acute Coronary Syndrome is presented in Figure 1. In this algorithm, subsequent troponins ordered ***2 to 3*** hours after an initial troponin can be used to interpret the delta. Troponin results and deltas should always be interpreted in the context of the patient presentation.
    - Although the published study includes early presenters, it is still recommended to perform troponin testing at both time points (0 and 2-3 hour) if the patient presents < 3 hours from symptom onset.
- Troponin measurement may be subject to various interferences, including **macro-troponin**. If a result is not consistent with the clinical picture, please do not hesitate to contact the laboratory to arrange for investigations as needed.

Figure 1: Atellica High Sensitivity Troponin I Algorithm (HIGH-US)



[1]Nowak, RM, et. al. Ann Emerg Med. 2020 Jul 1;76(1):1-3