

<b>DATE:</b>	2022 March 21
<b>TO:</b>	Redwater Health Centre – Physicians, Nurses, Pharmacists, and Managers
<b>FROM:</b>	Alberta Precision Laboratories
<b>RE:</b>	New Coagulation Analyzer Implementation at <b>Redwater Health Centre</b>

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### Key Message

- New ACL ELITE PRO coagulation analyzer is going live March 22, 2022 at Redwater Health Centre.
- These new analyzers are being implemented in a staggered fashion across the entire Edmonton Zone over the span of a few weeks. As this platform is already in use everywhere else in Alberta, implementation also allows for provincial standardization of coagulation testing.

### Background

- The coagulation lab in Redwater already performs the following tests: PTT, INR, and D-Dimer. (D-Dimer is performed on a different instrument, however).
- The new coagulation analyzers will continue to perform all the same tests. However, the new coagulation analyzers, from Instrumentation Laboratories (aka Werfen), utilize a different clot detection method (optical) than the retiring Stago brand of analyzers (mechanical). Consequently, significant changes to how results are reported will occur.
- Additional changes will also be occurring as a result of provincial standardization.

### How this will impact you

#### 1) Interfering Substances:

- Thresholds for interfering substances will change (see Appendix Table 1). Comments will continue to be appended if results may be affected by interfering substances.
- Thrombin Time is particularly sensitive to interfering substances and the test will be cancelled if there is visible lipemia or hemolysis (this test is not performed at Redwater Health Centre).

#### 2) Reference Ranges:

- Regional Thrombin Time (performed externally) reference range changing: 10.3-16.6 seconds (previously 14.3-19.7s)
- No impact to other reference ranges.

#### 3) Heparin Monitoring:

- PTT Nomogram ranges will be updated in Epic.

#### 4) Turnaround Times:

- On-instrument analysis time may be prolonged in the setting of significantly abnormal INR, PTT and Fibrinogens (not performed at Redwater). This may lead to extended turnaround time for critical results.
- The *maximum* differences from our previous analyzers have been estimated as follows:
  - INR (when >5): +3 minutes.
  - PTT (when >120 s): +7 minutes



#### **5) Critical Results - Preliminary Reporting and Reflex Testing:**

- Provincial standardization initiatives coincide with the new analyzer implementation and necessitate changes to the process for laboratory handling of critical results.
- Previously, critical PTTs, INRs, and fibrinogens were *Preliminarily* reported while the laboratory confirmed their validity, and then were *Final Verified*.
- Going forward, only critical Fibrinogen assay results will be *Preliminarily* reported. The lab will then investigate for possible interferences and if none are found, the Fibrinogen result will be *Final Verified*. INR and PTT results will only be available at the *Final Verified* result stage.
- Under some circumstances, a critical INR or PTT result may cause reflex Fibrinogen testing to be suggested. Because fibrinogens **are not performed on-site**, a comment will be appended to the INR/PTT result indicating that testing may be of value, and to contact the lab if required.

#### **6) Critical Results – Contacting Collectors**

- The new critical handling process also acknowledges the risk of specimen collection issues causing expectedly grossly abnormal (critical) results.
- Laboratory technical staff may attempt to contact the specimen collector (nursing, allied health, lab phlebotomist, etc.) to inquire regarding the collection if the results were not previously critical.
- Comments may be appended to the results if the lab suspects or cannot determine if there was specimen interference/compromise.

#### **Action Required**

- Be aware of limitations and changes associated with incoming coagulation analyzers relevant to your practice.

#### **Effective**

- March 22, 2022

#### **Questions/Concerns**

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- Dr. E. Turley, Coagulation Lead - Edmonton, [elona.turley@albertaprecisionlabs.ca](mailto:elona.turley@albertaprecisionlabs.ca)

#### **Approved by**

- Dr. A. Szkotak, Hematopathology Chief, North Sector, [artur.szkotak@albertaprecisionlabs.ca](mailto:artur.szkotak@albertaprecisionlabs.ca)



**APPENDIX**

**Table 1:** Tests on the ACL ELITE PRO instruments are accurate up to (and including) the tabulated levels of the interfering substance

Test	Interfering Substance			
	Triglycerides (mmol/L)	Bilirubin (umol/L)	Free Hemoglobin (mg/L hemolysis)	Heparin (U/mL)
INR	8	250	5000	1.0
PTT	10	510	4000	N/A – sensitive to heparin