Alberta Health Services

Laboratory Bulletin

Date: **January 29, 2014**

To: **South Zone – East Rural Sites (Bassano, Bow Island, Brooks, and Oyen)**
Physicians, Nurses and Laboratory Staff

From: **AHS Laboratory Services – South Zone East**

Re: **Changes to Troponin T and D-dimer Testing and Reporting**

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Key Messages:

- The Roche Cardiac reader currently in use at all South Zone East Rural Sites will be replaced by the Roche **h232** meter **January 30, 2014.**
- The test menu on the new meter will include Troponin T, NT-proBNP and **semi-quantitative D-dimer.**
- The **qualitative** D-dimer method (Simplify) will no longer be available.
- D-dimer reporting will change from a qualitative Positive or Negative result to a numerical value with the reference range of less than 0.5 ug FEU/mL.
- Troponin T units of measurement will be changing from ug/L to ng/L and will now be reported in whole numbers.

Test Ordering:

- The following mnemonic codes should be used when ordering in Meditech:

Roche h232 Testing Performed	Meditech Mnemonic
Troponin T	TROPTSQ (NEW)
NT-proBNP	BNPNT
D-dimer	DDSQ (NEW)

Indications for ordering D-dimer:

- The **only** clinical indication for D-dimer testing is to act as a diagnostic aide to help exclude deep venous thrombosis (DVT) or pulmonary embolism (PE) when the D-dimer result is less than 0.5 ug FEU/mL in patients with a low clinical probability of having these conditions using the Well's Score.
- A D-dimer result less than 0.5 ug FEU/mL in patients likely to have DVT or pulmonary embolism using the Well's clinical criteria is **not useful** in excluding these conditions.
- A positive D-dimer (greater than 0.5 ug/mL) is **not diagnostic** of DVT or pulmonary embolism as many other conditions can cause a positive D-dimer.

Interpretation Guidelines and Ranges are as follows:

Interpretation Guideline				
Test	**Reference Range**	**Measuring Range**	**Meter Display**	**Interpretation**
Troponin T	0-49 ng/L	100-2000 ng/L	<50	**Low risk.** Myocardial infarction may be ruled out by repeating the test, with a fresh blood sample, 6-8 hours after onset of symptoms.
			50-100	**Borderline** elevation of Troponin. This result should be interpreted in conjunction with other risk factors for Acute Coronary Syndrome (ischemic discomfort, previous cardiac history, presence of coronary artery disease risk factors, clinical evaluation, ECG changes and cardiac imaging results). Non-ischemic myocardial damage from tachy or bradyarrhythmias, pulmonary embolism, cardiac contusion, drug toxicity, sepsis or renal failure are possible cause. A greater than 50% change with repeat evaluation in 3 to 6 hours is evidence of the rising or falling pattern suggestive of myocardial infarction.
			101-2000	Consistent with myocardial damage.
			>2000	Consistent with myocardial damage.
NT-proBNP	0-125 ng/L	60-9000 ng/L	<60	Heart failure is unlikely if NT-proBNP is <300 ng/L Heart Failure is likely if - NT-proBNP >450 ng/L for patients <50 years of age - NT-proBNP >900 ng/L for patients 50-75 years of age - NT-proBNP >1800 ng/L for patients >75 years of age
			60-9000	
			>9000	
D-dimer	<0.5 ug FEU/mL	0.1-4 ug FEU/mL	<0.1	If result is below reference range: With a normal d-dimer value (less than 0.5 ug FEU/mL) deep vein thrombosis (DVT) and pulmonary embolism (PE) may be ruled out with a high probability assuming the patient does not have a high clinical probability of DVT or PE using Well's Criteria.
			0.1-4	
			>4	

- Resulting changes will be made in the Meditech Laboratory Information System to align with the outlined reporting ranges and comments.

Inquiries and feedback may be directed to:

- Dr. Michael O'Connor at: 403-529-8867 or email: Michael.OConnor@albertahealthservices.ca

This bulletin has been reviewed and approved by:
Dr. M. O'Connor, Zone Clinical Department Head (Co-Lead) Laboratory Medicine, South Zone