

Date: June 30, 2015

To: South Zone – Physicians, Nursing and Laboratory Staff

From: Laboratory, AHS - South Zone

Re: Implementation of Anti-Xa assay in Medicine Hat and Chinook Regional Hospital Laboratories

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Messages:

- Medicine Hat and Chinook Regional Hospital Laboratories are implementing the Anti-Xa assay July 14, 2015.

Why this is important:

- **Increased Precision:** The anti-Xa assay measures the amount of residual Factor Xa present in a patient's plasma. This measurement is inversely proportional to the amount of heparin present in the body, which allowing quantification of Low Molecular Weight Heparin (LMWH) and unfractionated heparin (UFH) levels
- Traditionally the PTT is used to monitoring heparin levels, but it is an indirect measure of anticoagulant effect. PTT measurement can be affected by many variables, including the levels of a number of clotting factors and inhibitors of coagulation, the number and integrity of platelets in the sample, and pre analytical variables such as tube type and mode of transport
- **More Flexible:** The anti-Xa assay can also used to detect the presence of direct Factor Xa inhibitors such as rivaroxaban and apixaban.

Action Required:

When to Order

Unfractionated Heparin* - The anti-Xa assay is used in place of the aPTT for monitoring the dose and infusion rate. The anti-Xa assay is performed 6 hours after the initial bolus of UFH, and the rate is adjusted accordingly. Once two therapeutic anti-Xa assays are measured, levels are measured every 24 hours.

*Before initiating UFH ensure that patient does not qualify for LMWH (preferred therapy)

Apixaban and rivaroxaban - The anti Xa assay is ordered once upon presentation of a bleeding patient to determine the presence of these medications. Prior to performance of an invasive procedure in patients on these drugs an anti Xa level could be used to determine if sufficient anticoagulation reversal had occurred to allow the procedure (AHS Practice Support Document Guideline for Direct Oral Anticoagulant Reagents)

Low Molecular Weight Heparin Therapy - Therapeutic dosing is typically based on patient weight, and routine monitoring is not required. In selected patient populations, intermittent assessment of anti-Xa/LMWH levels is helpful to ensure that the right anticoagulation target has been achieved. The timing of this assessment should be 24 - 48 hours after initiation of therapy (depending on once or twice daily dosing).

How to Order

In Meditech OE, order **LMWH2**

Sample Collection

Samples should be collected in a citrate anticoagulated vacutainer tube (blue top)

Samples from outside Medicine Hat or Chinook Regional Hospitals will be transported by courier for testing.

Interpreting Results

Rivaroxaban and Apixaban: LMWH levels of < 0.10 U/mL rules out the presence of the medications

UFH therapeutic range: 0.30 - 0.70 U/mL

Inquiries and feedback may be directed to:

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This bulletin has been reviewed and approved by:

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