

Date: January 18, 2013

To: North Zone (Former Aspen Region)
Physicians, Nurses and Laboratory Directors and Managers

From: AHS Laboratory Services

Re: Quantitative D-Dimer Testing at Boyle Healthcare Centre, Elk Point Healthcare Centre and Swan Hills Healthcare Centre

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Messages:

- Effective January 21, 2013, D-Dimer testing will be available at Boyle Healthcare Centre, Elk Point Healthcare Centre and Swan Hills Healthcare Centre laboratories.
- This test is primarily used for excluding the diagnosis of Deep Vein Thrombosis (DVT) and Acute Pulmonary Embolism (PE) in conjunction with standardized clinical assessment based on the Wells score for these conditions (see attached).
- The reference range is less than or equal to 0.50 mg/L Fibrinogen Equivalent Units (FEU).

Why this is important:

- A normal D-Dimer result (less than or equal to 0.50 mg/L FEU) has a negative predictive value of approximately 95% for the exclusion of PE or DVT when there is low or moderate pretest probability based on the Wells score.
- The degree of D-Dimer increase does not definitively correlate with the clinical severity of associated disease states.
- D-Dimer should be ordered mostly on patients in the Emergency Department.

Action Required:

- D-Dimer testing should not be requested in unselected patients with no pre-test clinical assessment. Increased D-Dimer levels are common in hospitalized inpatients, cancer patients, post-operative patients, sepsis/inflammation, myocardial infarction, pregnancy, and patients on oral contraceptives.

Inquiries and feedback may be directed to:

- Dr. Mireille Kattar, Regional Pathologist at: 780-407-3373.

This bulletin has been reviewed and approved by:

Dr. James Wesenberg, Provincial Medical / Scientific Director, AHS Laboratory Services

**Pre-test (D-Dimer) Clinical Assessment for
Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE)**

Deep Vein Thrombosis (DVT)	Score
Active cancer (Palliative, ongoing or within last six month)	1
Paralysis, paresis or recent immobilization of the lower extremity (3 or more days)	1
Recently bedridden for 3 or more days or surgery within 12 weeks	1
Localized tenderness along deep veins	1
Leg Swollen	1
Calf swelling greater than 3 cm on affected side (measured 10 cm below tibial tuberosity)	1
Pitting edema in symptomatic leg only (non-varicose)	1
Previously documented DVT	1
Alternative diagnosis as likely or greater	-2
DVT Risk Score	

**DVT LOW RISK SCORE <2
DVT HIGH RISK SCORE ≥2**

Pulmonary Embolism (PE)	Score
Signs or symptoms of DVT (objectively measured leg swelling, pain with palpation)	3
HR greater than 100 beats/minute	1.5
Immobilization (for 3 or more days) or recent surgery within 4 weeks	1.5
Previous DVT or PE	1.5
Hemoptysis	1
Malignancy (palliative, ongoing treatment or within last 6 months)	1
PE as or more likely than alternate diagnosis	3
PE Risk Score	

**PE RISK SCORE: LOW <2.0;
PE RISK SCORE: MODERATE 2.0 – 6.0;
PE RISK SCORE: HIGH >6.0**