DIAGNOSTIC SERVICES OF MANITOBA
SERVICES DE DIAGNOSTIC DU MANITOBA

Winnipeg Regional Health Authority
Caring for Health
Office régional de la santé de Winnipeg
À l'écoute de notre santé

High-Sensitivity Troponin T (hsTnT)

A new assay for high-sensitivity troponin will be implemented in Winnipeg and Brandon on **December 12, 2011**.

The new assay is a modification of the 4th generation cTnT assay. The detection antibody was genetically reengineered, with a region in the monoclonal mouse FAB fragment being replaced with a human region. This reduces the susceptibility to interferences by heterophilic antibodies. Sensitivity and precision are greatly improved.

The universal revised definition of Acute Myocardial Infarction (AMI) requires a rise and/or fall of troponin to be demonstrated in patients with the symptoms of acute coronary syndrome (ACS), with at least one value above the 99th percentile of the upper reference level measured with a coefficient of variation (CV) of <10%. The hsTnT assay is the first to meet this required level of sensitivity and precision.

The 99th percentile is **14 ng/L**. This is also the level at which <10% variation is reached.

4th generation TNT			hsTNT			significant Δ change	
0.01	mcg/L	=	14	ng/L		7	ng/L
0.03	mcg/L		40	ng/L		50% at 99th %ile	

Results down to 3 ng/L will be reported. All levels of >14 ng/L are significant. However, a rising level is required in order to diagnose an acute NSTEMI. An elevated troponin may be due to renal insufficiency, chronic cardiac conditions, pericarditis, pulmonary embolism and a number of other conditions. For more detailed information on how to interpret troponin measurements, please refer to the MB Guideline:
http://www.dsmanitoba.ca/professionals/files/MBTroponinGuideline.pdf

Critical values for TnT are currently called for all patients except those currently in critical care areas, but including all Emergency patients discharged prior to test reporting. The critical value for the 4th generation TnT assay was >0.03 mcg/L, the critical value for the hsTnT assay will be >40 ng/L. **IF you order a hs TnT test outside of a hospital setting it is imperative that you include your off hours contact information on the requisition so that the laboratory can contact you in the event of a critical result.**

If you think your patient may be experiencing acute coronary syndrome, please send the patient to the nearest hospital emergency room.

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