

Date: 1/24/2008

To: Physicians, Physician Assistants, Reference Lab Accounts, Nursing Units

From: Randy Smith M.D.

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Re: New Method for Cardiac Troponin I and new Expected Ranges.

As of 1/28/2008, the laboratory at Marquette General Health Systems will be switching to a **new Troponin I** assay that features improved Specificity and low end sensitivity. There will be a new reference range of **0-.034 ng/ml** that represents the 99th percentile range for a normal healthy reference population. The current upper reference limit is 0.08 ng/ml.

The Joint European Society of Cardiology/American College of Cardiology and the National Academy of Clinical Biochemistry Standards of laboratory Practices recommends that the diagnosis of AMI includes the presence of clinical history suggestive of Acute Coronary Syndrome and a maximum concentration of cardiac troponin exceeding the 99th percentile of a normal reference population on at least one occasion during the first 24 hours after the clinical event. Serial sampling is recommended to detect the temporal rise and fall of cTnI levels characteristic of AMI.

AMI Cutoff

The new Troponin assay level of greater than 0.120 ng/ml is consistent with AMI in an appropriate clinical setting. A peak Troponin greater than 0.120 ng/ml is 95% sensitive and 93% specific for AMI in patients with symptoms of acute coronary syndrome.

Increased CtnI concentrations can be found in conditions other than AMI that can result in myocardial damage. Published studies have documented that these conditions include but are not limited to: sepsis, congestive heart failure, hypertension with left ventricular hypertrophy, hemodynamic compromise, myocarditis, mechanical injury including cardiac surgery, defibrillation and cardiac toxins such as anthracyclines. Factors such as these should be considered when interpreting results from any cTnI test method.

Results that are above the upper limit of the reference range (>0.034 ng/ml) will be flagged as elevated. Treatment protocols that rely in part on cardiac Troponin I levels should be reviewed to verify that protocols are adjusted to reflect the new ranges if necessary.

Specimen collection and test ordering

Heparin, EDTA plasma or serum are acceptable specimens. Separated plasma or serum stable at 2-8 deg.C for 7 days.

If you have any questions or comments call us in the lab at 906 225 3051