



Lab Update



LABORATORY PHONE 585-LABS

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LabUpdate is a periodic publication of the Clinical Laboratory of UC Health. By way of this publication, lab users are provided: 1) updated operational information relevant to the practice of laboratory medicine within UC Health facilities, and 2) didactic material generally applicable to laboratory medicine.

Conversion of UC Health Laboratory Chemistry Analyzers

The UC Health Laboratory is upgrading chemistry analyzers in all of our laboratory locations at the UC Medical Center (core, ED, and Barrett locations), West Chester Hospital, and The Drake Center. Our current methodology will be changing from Ortho Vitros 5600 analyzers to Beckman Coulter AU and DXI analyzers. This is a significant enterprise wide shift caused by the need to replace ageing equipment together with the need to remain standardized as a prelude to implementing an automated specimen handling system within the lab.

With the conversion, a majority of the analytical reference ranges will be changing, and these are posted in the guide attached to the end of this memo. Documentation has also been placed on the Sharepoint site.

The conversion will occur in two phases:

- Phase 1: **1/6/15** Satellite laboratories at UCMC
- Phase 2: **1/12/15** UCMC Core Lab and WCH Lab

Please contact Customer Service at 585-LABS with any questions.

Salicylate Critical Value and Unit Change

The critical value and unit of measure for Salicylate is changing from mg/L to mg/dL.

Normal reference range: 10-30 mg/dL

Critical Value: >30mg/dL (Previously : >400 mg/L)

Change to Neonatal Bilirubin Assessment

Effective January 12, 2015, the methodology for neonatal bilirubin assessment is changing.

The current method provides a measurement of both conjugated and unconjugated bilirubin. In this approach the sum of the two is reported as total bilirubin for our adult patients and as “neonatal” bilirubin for our neonatal patients.

With the new methodology, conjugated (direct) and total bilirubin are measured by the analyzer. In this approach, the difference between the total and the conjugated is reported as the unconjugated (indirect) bilirubin. The use of the term “neonatal” bilirubin will be discontinued since it simply represents total bilirubin. The continued use of a neonatal specific reference range will distinguish the result as being relevant for this population.

Test Orders for Bilirubin

LAB50: Bilirubin, Total (Direct + Calculated Indirect)

LAB52: Bilirubin, Direct

LAB51: Neonatal Bilirubin will no longer be orderable.

Conversion of NT-pProBNP to BNP

Either BNP or NT-proBNP may be used to help detect, diagnose, and evaluate the severity of heart failure. Testing may be performed if a person has symptoms such as swelling in the legs (edema), difficulty breathing, shortness of breath, and fatigue. BNP testing can be used, along with other cardiac biomarker tests to detect heart stress and damage and/or along with lung function tests to distinguish between causes of shortness of breath. Heart failure (HF) can be confused with other conditions, and it may co-exist with them. BNP and NT-proBNP levels can help doctors differentiate between HF and other problems, such as lung disease. An accurate diagnosis is important because the treatments are often different and must be started as soon as possible.

When is it ordered?

A BNP or NT-proBNP test may be ordered under these circumstances:

- In a doctor's office, when a person has symptoms that could be due to heart failure.
- In the emergency room, when someone is in crisis and/or has symptoms that could be due to heart failure and doctors need to quickly determine if a person is suffering from heart failure or some other medical problem.
- To monitor the effects of therapy for heart failure

What does the test result mean?

Higher than-normal results suggest that a person has some degree of HF, and the level of BNP or NT-proBNP in the blood is related to its severity. Higher levels of BNP or NT-proBNP are often associated with a worse outlook for the person. Normal results indicate that the person's symptoms are likely due to something other than HF.

BNP and NT-proBNP levels decrease in most people who are taking drug therapies for HF, such as ACE inhibitors, beta blockers, and diuretics. Levels of both BNP and NT-proBNP tend to increase with age and/or kidney disease.

While both BNP and NT-proBNP will rise with left ventricle dysfunction and either can be measured, they **are not interchangeable and the results cannot be directly compared**. Although BNP is usually used to recognize HF, an increased level in people with acute coronary syndrome (ACS) indicates an increased risk of recurrent events. Thus, a doctor may use BNP to evaluate risk of a future cardiac event in someone with ACS.

Testing Changes for BNP

Effective January 12, 2015, UCMC Clinical Laboratory will no longer provide NT-proBNP assay and will only offer BNP test. BNP test is performed on the Beckman Coulter Dxi800 platform using the Alere (previously Biosite) reagent. The manufacturer cut-off for BNP (new test) is 100 ng/mL. The manufacturer cut-off for Nt-pro BNP (old test, no longer available) was 125 pg/mL: <75 years and 450 pg/mL: >75 years.

Troponin I Testing

Effective January 12, 2015: West Chester Hospital Laboratory is converting their Troponin I assay from Ortho Vitros 5600 to Beckman Coulter DXI.

WCH reference range changes are as follows:

Current (Ortho Vitros 5600)

<0.01 ng/mL: Negative

0.01-0.05 ng/mL: Borderline

>0.05 ng/mL: Significantly increased

New (Beckman Coulter DXI)

<0.04 ng/mL: Negative

0.04-0.20 ng/mL: Indeterminate, may be associated with myocardial injury.

≥0.20 ng/mL: Positive

For technical and contractual reasons, troponin testing at the UC Medical Center (both ED and Core Lab) will remain on the current methodology for an interim period. Updates about converting to the new method will be forthcoming in future Lab Updates.

Changes to Reference Ranges and Units

With the conversion to the Beckman Coulter platforms, several reference ranges and units of measure are changing. Please see document at end of Lab Update and posting on Sharepoint.