UC HEALTH LABORATORY

Lab Update

UC Health

LABORATORY PHONE 585-LABS

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In this issue:

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.

Chemistry

Elimination of CK-MB Testing

On February 1, 2016, the UC Health Laboratories will discontinue CK-MB testing. Testing for Total CK will continue. Troponin has demonstrated equivalent or superior performance relative to CK-MB for every indication as a cardiac marker. By removing CK-MB from our test menu we are adhering to guidelines that suggest its removal in laboratories where Troponin is available.

After February 1, 2016 CKMB will only be available as a miscellaneous reference test and will require approval prior to being sent out. Any questions or concerns can be directed to Dr. Chris Crutchfield at 584-4071.

References:

Thygesen K, Alpert JS, Jaffe AS, Simoons ML, Chaitman BR, White HD. Joint ESC/ACCF/AHA/WHF Task Force for Universal Definition of Myocardial Infarction. Third Universal Definition of Myocardial infarction. J Am Coll Cardiol. 2012; 60(16):1581-98.

New NT ProBNP Reference Range

As of 12/28/2015, UCMC Laboratory has converted NT-proBNP testing to the Mitsubishi Pathfast immunoassay. This test, and the test that preceded it, are both substantially equivalent to the same predicate test. This is a test for NT-proBNP and the values are significantly different from BNP.

Patient Age	Reference Range (pg/mL)
<75 years	**15-125**
>= 75 years	**15-450**

The reference ranges indicated are for "rule out" of non-acute onset congestive heart failure. Using the age-specific reference ranges provides a negative predictive value >98% [1]. Utilization of NT-proBNP may assist in the evaluation of acute onset CHF. The PRIDE study[2,3] established alternative cutoffs to "rule in" acute onset CHF are:

>450 pg/mL under age 50
> 900 pg/mL ages 50-75
> 1,800 pg/mL over age 75

This study found use of these cutoffs resulted in an overall 92% sensitivity and overall 85% specificity. Incorporation of the test value with other clinical observations should further increase diagnostic accuracy.

References:

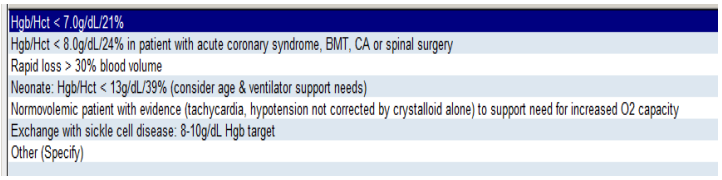
1.Gustafsson, F. et al. Diagnostic and Prognostic Performance of N-Terminal ProBNP in Primary Care Patients With Suspected Heart Failure. Journal of Cardiac Failure 11, S15–S20 (2005).
2.Januzzi Jr, J. L. et al. The N-terminal Pro-BNP Investigation of Dyspnea in the Emergency department (PRIDE) study. The American Journal of Cardiology 95, 948–954 (2005).
3.Baggish, A. L. et al. A clinical and biochemical critical pathway for the evaluation of patients with suspected acute congestive heart failure: The ProBNP Investigation of Dyspnea in the Emergency Department (PRIDE) algorithm. Crit Pathw Cardiol 3, 171–176 (2004).

Transfusion Medicine

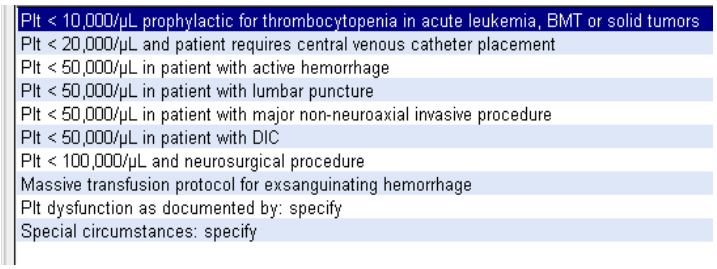
Transfusion ordering criteria to change February 1st, 2016

The Transfusion Committee with physicians representing medical and surgical specialties collaborated on the development of evidence based transfusion criteria. The Medical Executive Committee has approved the following changes to transfusion criteria. Transfusion indicators were changed to be in line with restrictive transfusion therapy. The approved indications for each transfused component are listed below. Epic order changes also include modifying the platelet and cryoprecipitate orders from number of units desired to number of doses. One dose of platelets is filled by one apheresis platelet or one pooled platelet equivalent to an apheresis platelet dose. One dose of cryoprecipitate is filled by 10 single units of cryoprecipitate pooled together, or by 2 pre-pooled 5 packs of cryoprecipitate.

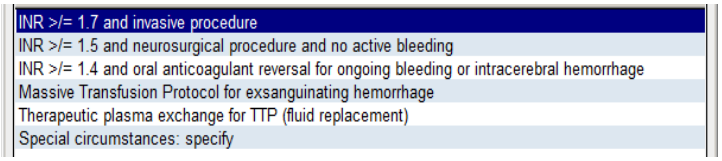
RBC – indications for transfusion:



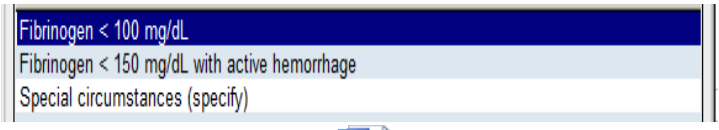
Platelets – indications for transfusion:



Plasma – indications for transfusion:



Cryo – indications for transfusion:



BBScreenShots.doc

Microbiology

Protected Aspirate Lavage Sample (PAL) or Blind BAL

The blind mini BAL catheter is a protected double catheter that enables blind sampling of the smaller airways when bronchoscopy may not be a preferred option. The protected catheter is blindly advanced into the airway where the inner catheter is then revealed to perform a small lavage and collection of fluid specimen. If this procedure is performed, testing should be ordered as a Bronch Wash culture and not as a BAL culture.

Respiratory Viral-Bacterial Panel

On January 9, 2016, the Microbiology and Molecular Diagnostics section of UC Health Laboratory will begin offering a new molecular respiratory panel (Respiratory Viral/Bacterial Panel, LAB4023). This will replace our current Respiratory Viral Panel (RVP), which tests for 14 different viral targets. The new panel tests for the same viral agents, plus Parainfluenza Virus 4, and it adds testing for *Bordetella* species (*pertussis*, *parapertussis/bronchiseptica*, and *holmesii*). Based on published data and our comparison testing during the validation period, both tests have approximately the same sensitivity and specificity. Head-to-head testing of specimens showed a 98% concordance. The new panel will be run on the same Nanosphere platform as our Verigene Rapid Molecular ID for positive blood cultures. This translates into markedly reduced turnaround time for this test. Specimens will no longer be batched; tests will be run upon receipt during normal working hours in Microbiology. Based on anticipated specimen volume, we estimate that turn-around-time will not exceed 12 hours in most instances. Acceptable specimens for testing will be nasopharyngeal swabs and bronchoalveolar lavage fluid. Bronchial washings cannot be tested on this platform.

Organism	RVP	MRP (New Test)
Adenovirus	B/E, C	Yes
HMPV	Yes	Yes
HRV	Yes	Yes
Flu A	A, H1, H3, H1N1	A, H1, H3
Flu B	Yes	Yes
PIV	1,2,3	1,2,3,4
RSV	A,B	A,B
Bordetella	No	pertussis, holmesii, parapetussis/ bronchiseptica