

Laboratory Lines

News from Florida Hospital Clinical Laboratories and Florida Pathology Lab (FPL)

IMPORTANT UPDATE FOR FIBRIN/FIBRINOGEN DEGRADATION PRODUCTS (FSP) REPORTING

Normal range results for FSP changed on February 16, 2009 from < 5 ug/ml to **0 to 4 ug/ml**.

Most of the positive patient results also changed in their reporting format. On February 16, 2009 positive results began being reported as a range rather than a single number. This new reporting system is in keeping with the nomenclature of a semi-quantitative method.

For additional information or questions, please contact Margaret Bartlett, Manager-Hematology, Orlando at 407-303-5600 x1103592.

MICROBIOLOGY

The Microbiology Department has added a new orderable test, "Additional Antibiotics" which is to be ordered when a physician requests additional antibiotics to be tested for an organism that has already been recovered from a culture. The following information must be provided when ordering:

1. The original culture date and time
2. The original culture source
3. The original culture organism
4. The additional antibiotics requested

The results of the additional antibiotic susceptibilities will be reported on the original culture report.

NEW BLOOD CULTURE SYSTEM

A new blood culture system will also be phased in starting April 20 with completion expected in mid May. We will continue with the current BD BACTEC™ system for blood cultures for AFB and fungus; however, all standard blood cultures will be tested on the Biomerieux BacT/ALERT® 3D system. The BacT/ALERT® 3D blood culture system has 15 years of proven performance and patented colorimetric technology

We will continue using 3 types of blood culture media: aerobic, anaerobic, and pediatric. The BacT/ALERT SA and BacT/ALERT SN standard aerobic and anaerobic media provide recovery for a wide range of gram negative and gram positive organisms. The BacT/ALERT pediatric FAN media is specifically formulated for optimal growth of pathogens more common to pediatric patients.

For further information or questions, please contact Sandra Hernandez, Microbiology manager at ext. 407-303-5600, ext. 1104343.

EBV QUANTITATION BY REALTIME PCR

The Molecular Diagnostics Lab (MDL) began performing EBV quantitation by RealTime PCR on April 6th. Also on this date, the following changes went into effect for the BK, CMV and EBV qualitative and quantitative tests:

1. Limit of detection changed from 500 copies/mL to 100 copies/mL
2. CSF samples are now accepted for testing.

Please contact George Corpus, MDL Manager, at 407-303-5600 x1104140 for more information.

VITAMIN D TESTING

The Chemistry Department announces the acquisition of the Diasorin Liaison instrument for 25-OH Vitamin D testing. This test will be run in-house beginning May 2009. This method is identical to the assay currently being performed by our reference laboratory ARUP. More information to come in the next issue!

Center for Diagnostic Pathology One Year Anniversary:
April 25, 2009

ANTICOAGULATION MONITORING TESTS AVAILABLE THROUGH THE HEMOSTASIS AND THROMBOSIS LABORATORY

Monitoring Heparin Therapy

Under certain circumstances (e.g. extremes of body weight, renal failure), it is useful to determine the actual concentration unfractionated heparin or low molecular weight heparin in the patient's plasma. Both of these use an anti-Xa method. The Florida Hospital Center for Hemostasis and Thrombosis offers specific assays to determine the levels of these heparins

Low Molecular Weight Heparin (LMWH) anti – Xa assay: Lovenox® enoxaparin sodium

Determination of the level of Low Molecular Weight Heparin in plasma is carried out by an anti-Xa method using an appropriate LMWH calibrator.

The test is performed by adding a known quantity of purified Factor Xa to the patient's plasma in the presence of excess Antithrombin. The added FXa is inactivated by the Antithrombin in proportion to the amount of heparin in the patient's sample. Residual FXa is measured with a specific chromogenic substrate. Therapeutic Ranges:
Treatment (twice daily dosing, peak): 0.4-1.1 IU/mL
Treatment (once daily dosing, peak): 1.0-2.0 IU/mL

The above therapeutic Anti-Xa ranges for Low Molecular Weight Heparin are Adult Ranges only, stated as guidelines for blood drawn 4 hours after subcutaneous injection of Lovenox® (enoxaparin sodium). Physicians are responsible for making treatment decisions based on the patient's age, weight, and clinical presentation.

Unfractionated Heparin (UFH) anti – Xa assay: Sodium heparin

Determination of the level of Unfractionated Heparin in plasma is carried out by an anti-Xa method using an appropriate UFH calibrator. Results expressed as IU/mL

Note neither of these anti-Xa assays can be used to monitor Arixtra® fondaparinux in plasma. Currently this assay is sent out to our reference laboratory.

When ordering these assays please specify which heparin is being used by writing heparin assay low molecular weight LMW or heparin assay unfractionated as this is more specific than writing anti – Xa assay. This will ensure that the correct test is ordered by the lab and performed.

Testing is performed daily during normal operating hours of Mon – Fri 0600 to 1700 and Sat and Sun 0800 to 1600.

Monitoring Coumadin Therapy

Patients with a Lupus Anticoagulant often exhibit variable prolongation of phospholipid-dependent clotting tests. In some cases, the Lupus Anticoagulant can interfere with the Prothrombin Time used to monitor coumadin therapy. This can significantly complicate the control of oral anticoagulant therapy in such patients.

The Hemostasis and Thrombosis Laboratory offers the chromogenic assay of Factor X to determine whether a patient with a Lupus Anticoagulant is therapeutically anticoagulated. The chromogenic assay is not dependent on phospholipid and is therefore unaffected by the presence of the Lupus Anticoagulant.

Chromogenic Factor X assay:

The method is based on a two-stage principle. In stage 1, Factor X is activated in the presence of calcium ions to factor Xa (FXa) by Russell's Viper Venom (RVV). In stage 2, the FXa generated hydrolyses the chromogenic substrate S-2765, thus liberating the chromophoric group p-nitroanaline (pNA). The color is read photometrically at 405 nm. The amount of FXa generated, and hence the intensity of the color formed, is proportional to the plasma Factor X concentration.

Therapeutic range:

15-30% for patients on Coumadin

60-120% for patients not on Coumadin

Because Factor X levels take several days to fall, the Chromogenic FX assay can only be used to monitor patients after the initiation phase of coumadin treatment is complete.

When ordering please specify chromogenic factor X assay, as this will help to ensure that the correct test is ordered by the laboratory and performed.

Testing is performed Monday, Wednesday and Friday during normal operating hours Mon – Fri 0600 to 1700.

If you have any questions please call Ed Reyes, Hemostasis and Thrombosis Laboratory Manager at 407-303-2449 or John Francis PhD, Director of Hemostasis and Thrombosis Laboratory at 407-303-2444.

**National Medical Laboratory Professionals Week
April 19 – April 25, 2009**