April 2010 **Medical Staff Newsletter**
Volume 15.3 **Deborah Thoni M.D. , Pathology Department Chairperson**

Laboratory Lines

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

QUANTIFERON®-TB NOW AVAILABLE AT FLORIDA HOSPITAL

QuantiFERON®-TB is an Interferon-gamma Release Assay (IGRA) performed on whole blood that detects immune response to tuberculosis infection and serves as a replacement for the tuberculin skin test (TST) or PPD. Like the TB skin test, a positive result only indicates a person has been infected with the bacteria, it does not indicate progression to TB disease. However unlike the skin test, QuantiFERON®-TB is not affected by prior vaccination with BCG or many of the environmental mycobacteria that can cause false positive skin test reactions. Collection and processing of the test requires special handling, thus the test is only offered Monday – Thursday from 0700 – 1400. A special collection kit can be obtained by calling the laboratory at each campus. The instructions printed on the bag must be followed exactly to avoid sample rejection or invalid results. At this time, the order can only be placed via a downtime request. Test results should be available within 5 days of collection. For further information call Julie Hess, Orlando Serology Manager at 407-303-5600, x1104965.

IMMUNOCAP® IGE ALLERGY TESTING TO BE PERFORMED AT FLORIDA HOSPITAL

ImmunoCAP® IgE specific allergen testing will soon be performed in the Florida Hospital Orlando Serology Department. The following allergen panels will be available for hospital patients and through Florida Pathology Laboratory (FPL). Since patient often present with a broad range of non-specific symptoms, these custom panels will facilitate the detection of the most prevalent allergens. Region-specific panels are also available to help identify inhalant allergens. Each IgE allergen test may also be ordered individually. Total IgE levels are not part of the custom panels and should be ordered separately.

- South Coast Panel
- Food Panel
- South Atlantic Panel
- Pediatric Mixed Panel
- Pediatric Progression "March" Panel
- Dust Panel
- Mold Panel
- Nut Panel
- Subtropical Florida Panel
- Seafood Panel

All other IgE specific allergens not included in these panels will continue to be available for order, but will be sent to our reference laboratory for testing. For further information call Julie Hess, Orlando Serology Manager at 407-303-5600 X1104965.

FLORIDA HOSPITAL APPROVED REFERENCE LABORATORIES

Florida Hospital approved reference laboratories meet the applicable federal and state regulations for clinical laboratories and are licensed by the STATE OF FLORIDA. In order for the Florida Hospital Laboratory or any other department at Florida Hospital to send a specimen to a reference laboratory, the reference laboratory must hold a current STATE OF FLORIDA AGENCY FOR HEALTH-CARE ADMINISTRATION (AHCA) CLINICAL LABORATORY LICENSE.

Chapter 483 of the Florida Statutes prohibit the Hospital and Medical Staff from sending specimens for examination to out-of-state clinical laboratories, including those operated by physicians, that do not have clinical laboratory licenses issued by the State of Florida (AHCA). Violation of this statute is a second degree misdemeanor punishable with up to 60 days imprisonment and/or a fine in an amount up to $500. The statute was reviewed by Florida Hospital Legal Department on January 27, 2010.
For further information call Susana Savino, Laboratory Administrative Director at 407-303-1854.

National Medical Laboratory Professionals Week
April 18 – April 24, 2009

HLA TYPING BY SEQUENCE-BASED METHODOLOGY

For several years, the Tissue Typing Laboratory has supported the stem cell transplant program under the direction of the Florida Hospital Center for Cellular Therapy. For a stem cell transplant to be successful, the HLA match between the donor and the recipient must be very close, meaning the donor and recipient must have the same alleles on each of the following HLA loci: A, B, Cw, DRB1, and DQB1.Besides having the same HLA antigens at each of the loci, the degree of match must be to the allele level. For example, if the donor and recipient were HLA typed and both found to have the HLA antigens A2 and A3, the actual alleles must be the same. HLA alleles are expressed as HLA-A*0201or HLA-A*0301. If the alleles differed, for example the recipient was HLA-A*0201 and the donor was HLA-A*0206, rejection, graft-versus-host disease, or failure to engraft could occur.

When the transplant program only performed related allogeneic stem cell transplants, the number of patients and donors being considered was easily handled by the Tissue Typing Laboratory using the sequence-specific primer (SSP) method for determining the HLA alleles for both the recipient and donor. However, SSP methods are very labor intensive and require large volumes of DNA to be recovered from the prospective recipient and/or donor. This requirement for large volumes of DNA and the labor involved has become an issue as the program has expanded, performing both related and unrelated allogeneic stem cell transplants.

In addition, the number of defined HLA alleles is growing. For the five HLA loci mentioned previously, there are presently over 2000 alleles that can be typed, with approximately 10-15 new HLA alleles being described each month. This means that an SSP allele typing kit is practically outdated by the time they are placed into service. More labor will be needed as SSP kits grow in the number of wells required to be used per tray to determine all possible alleles for a given HLA antigen.

To accommodate this growth and provide for more accurate HLA allele typing as the number of HLA alleles increase, the Tissue Typing Laboratory has begun performing HLA typing using sequence-based methods and an Applied Biosystems 3130xl genetic analyzer. The new test codes are: HLA-A,B,C typing High Resolution by SBT (SunQuest code HLASBT) or HLA-DR/DQ typing High Resolution by SBT (SunQuest code DRSBT). The molecular HLA typing with still require 7-10 days to perform, analyze, and resolve discrepancies or ambiguities before reporting the results. Blood samples must be collected in EDTA (purple-top tubes) and/or ACD (pale-yellow top tubes) anticoagulant. If you have questions, please call Tissue Typing Lab at 407-303-1681. Max Marschner, MT, SBB, CHS, MBA, Manager, Tissue Typing Lab.

BLOOD BANK ORDERS & PRODUCTS

Orders	Description
TAG	Patient is armbanded No testing, hold specimen in the Blood Bank Can be converted to a Type & Screen/Crossmatch order No blood products with this order 60 min. once Type & Screen/Crossmatch ordered
Type & Screen	Pre-Transfusion testing includes ABORH and Antibody Screen Can be converted to a Crossmatch order No blood products with this order 60 min. for Type & Screen testing < 5 min. for Crossmatch if Antibody Screen is negative
Crossmatch	Pre-Transfusion testing includes ABORH and Antibody Screen. Units are crossmatched as needed. 2 units automatically setup if patient has an antibody Products: 1-99 as ordered 60 min. for Crossmatch
Emergency Release	Patient must be armbanded No Pre-Transfusion testing performed Products: 2 units is usual order, but more can be ordered as needed 5-10 min. for 2 units uncrossmatched blood