**Policy: Pre and Post Liver Transplant Lab Draw Protocol**  
  
**Statement: Statement: 1. Activation date:** 3/19/2015  
**2. Affected Department:** LiverTransplant Program  
**3. Vision Strategy:** Patient Care  
**4. Policy Statement:** The Emory Transplant Center will comply with all applicable federal, state and local laws, regulations and policies regarding the ordering or appropriate laboratory tests.   
**5. Basis**: This policy is necessary for the protection of patients, physicians and staff  
**6. Administrative Responsibility:** Section heads, physicians, practitioners, and staff are responsible for compliance with this policy.  
  
**Scope/Procedure:**

**7. Lab testing Protocol:**

**a.** All patients will have laboratory testing done with each visit as needed.

\***NOTE:** 2nd Group & Type (ABORH) will only be performed at Team Evaluation.   
**b.** Different appointment types will require specific laboratory testing as noted below.   
**c.** Physician may add or remove additional testing as appropriate for individual patient.   
  
**Pre-Liver Transplant Labs:**

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| **Initial Evaluation** | ABO Rh Alpha-1 Antitrypsin Phenotype AFP (alpha fetoprotein) AMA ASMA (anti-smooth muscle antibody) Ceruloplasmin CBC w/diff  Comprehensive Metabolic profile EBV (Epstein Barr Antibodies) Iron + TIBC  Ferritin GGT  Hemoglobin A1c Hepatitis A Antibody (IgG & IgM) Hepatitis B diagnostic profile Hepatitis C antibody Hepatitis C Quantitative HIV Antigen/Antibody HLA Class I Type by Low Resolution DNA HLA Class II Type by Low Resolution DNA Ig Heavy Chain Quantitation PT/PTT  RPR (rapid plasma regain) TSH Varicella Zoster Virus Antibody IgG Urine Toxicology Screen Urine for Ethanol Urine for Nicotine  **If Known Hepatitis B+ patient**: Hepatitis B surface antigen Hepatitis B antibody Hepatitis Be antigen Hepatitis Be antibody  Hepatitis B DNA  **One or more of the following tests ordered as necessary by patient history:** Ammonia ANCA Panel DIC Profile CA 19-9 CEA (Carcinoembryonic Antigen) Factor V Leiden by PCR (Activated Protein C Resistance) HCV Genotype if known Hepatitis C + HLA Class I Antibody Specificity HLA Class II Antibody Specificity Immunoglobulin G Subclass 4 Lipase Lipid Profile MOCHA Profile Protein Electrophoresis (SPEP) Prothrombin Gene Mutation by PCR PSA PTH if renal insufficiency Quantiferon Tb Gold T-SPOT Vitamin A level (Retinol) Vitamin D, 25-Hydroxy Vitamin E level Urine Creatinine Random Urine timed 24 hour creatinine clearance Urine Ethyl glucuronide Screen with Reflex Urine Protein Random Urine timed 24 hour protein Urine sodium Random Urine timed 24 hour sodium  **1st Day** -ABO Type and Screen  **2nd Day**-Group and Type for ABO  HFE gene testing for Caucasians without established genetic hemochromatosis and transferrin saturation > 45% and ferritin > 250 |
| **Follow – up & Team Evaluation** | **\**At Team Evaluation Only draw:*** Group & Type (ABORH)  -document: “Transplant Evaluation” HLA: ABC (class I) Molecular Typing DR/DRQ (class II) Molecular Typing Autologous Crossmatch Antibody Screen (PRA)  **Follow-up Appt:** *(CBC w/ diff* *Comprehensive Metabolic Profile* *PT/PTT– order only if the team evaluation does not immediately follow pt. consult visits with Hepatologists and Surgeons.* |
| **With follow up OR visit 6 months** | CA 19-9 (for PSC and malignancies only) |
| **Every 6 Months for patients with Hepatitis B** | Hepatitis B DNA Quantification |
| **Every 6 Months for all cirrhotic patients** | AFP |
| **Every 12 Months** | HIV  PSA |
| **Living Donor Evaluation** | CBC w/ diff & platelets Comprehensive Metabolic Profile  GGT  PT/PTT & INR  RPR CMV antibody  EBV antibody Factor V Leiden by PCR  Hepatitis A total & IgM antibody  Hep B diagnostic profile  Hep C antibody  Hep C qualitative (not quant) PCR Prothrombin Gene mutation by PCR VZV antibodies  Urine - HCG if female Alpha 1 antitrypsin level (AA1T) Alpha 1 antitrypsin phenotype (AA1T pheno) Anti Mitochondrial antibody (AMA) Anti smooth muscle antibody (ASMA) Anti nuclear antibody (ANA) Ferritin Iron  Total iron binding capacity (TIBC) Ceruloplasmin |
| **MELD Lab Orders** | Comprehensive Metabolic Panel PT/INR Additional Lab work as directed by changes in UNOS guidelines |

**Post-Liver Transplant Labs:**

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| **Standing Lab Orders (selected orders to be collected at each lab visit)** | CBC (includes platelet, no diff)  Differential, Automated  Comprehensive Metabolic Panel  Cholesterol Total  Gamma GT (GGT)  Lipid Profile  Magnesium level  Cyclosporine level  Prograf level  Sirolimus (Rapamune) level  Everolimus level |
| **Urine Tests** | Urinalysis  Urine Chloride  Urine Microalbumin/Creatinine Ratio  Urine Phosphorus  Urine Protein  Urine Potassium  Urine Sodium |
| **Miscellaneous Tests** | Bilirubin Total and Fractionated  Hemoglobin A1C  Lipid Profile  PTT  PT/INR  Phosphorus  Triglyceride level  Uric Acid  Vitamin D-25 Hydroxy |
| **Timed Orders** (Each visit, Each month, or Annually) | Urine Ethyl Glucuronide Screen with Reflex  BK Virus Quantitation by PCR  CMV Quantitation by PCR (weekly option)  HCV quantitative by PCR  Hepatitis B DNA Quant (3 month)  EBV DNA Quantitation by PCR  Ethanol, Random Urine  Rapid Drug Screen, Random Urine |

Approved by Liver Transplant Leadership team on 3/19/15

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| **Regulatory References:** |  |