UPSTATE
UNIVERSITY HOSPITAL

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MEMORANDUM

TO: All Physicians

FROM: Katalin Banki, M.D., Director of Core Laboratory

Stephen Gwilt, MS,MT(ASCP)SH,SC, Supervisor Core Laboratory

DATE: July 24, 2017

RE: **Changes to Hemoglobin A1c, C-reactive Protein, and Lactate**

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1. **New Method to Measure Hemoglobin A1c**:
Old Method: HPLC
New Method: Immunoassay (Turbidimetric Inhibition Immunoassay) EPIC Code: **LAB90**

What is staying the same:

- Test results, reference values, and therapeutic goals, as both methods are traceable to DCCT/NGSP standards.
- HbA1c is lower in hemolytic anemias and increased in polycythemia and post-splenectomy.
- Can be used in Hemoglobin S, C, E, D traits.

What is changing:

- Performed: Everyday
- Acceptable Samples: EDTA-Lavender top tubes
- >10% HbF interfere with the assay

2. **Two Tests to Measure C-reactive Protein**:
   - C-reactive protein in inflammatory conditions (CRP), Test Code – **CRP1**
   - Cardiac C-reactive protein, high-sensitivity in cardiac risk assessment (hs-CRP) LAB150
     - Serum/plasma samples are tested at different dilutions in the two tests, in order to reach an ideal precision and fast turn-around-time.
     - The test principle is the same (particle enhanced immunoturbidimetric method).

- CRP <5 mg/L
- hs-CRP <3 mg/L (<1.0 Low Risk; 1.0-3.0 Average Risk; >3.0 High Risk)

3. **Lactate: New Reagent with Increased Sensitivity**:
   - Lactate levels will be estimated 15-20% higher with our new reagent, when lactate is >5 mmol/L.
   - There will be only a modest increase (<5%) in the measured value, when lactate is <5 mmol/L.
   - Consequently, the normal range of 0.5-2.2 mmol/L, and the critical value of 3.9 mmol/L are not changing.