Department of Pathology & Laboratory Medicine

UNIVERSITY of ROCHESTER MEDICAL CENTER

MEDICINE of THE HIGHEST ORDER

TO: Clients of URMC Labs

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RE: Procalcitonin – a Marker for Bacterial Sepsis

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Elevated procalcitonin is a marker for differentiating bacterial sepsis from sepsis due to other causes. While testing for procalcitonin alone cannot differentiate those patients who will benefit from antibiotics versus those who will not, it may in combination with other findings assist in making that determination. A few brief comments and particulars of procalcitonin testing are given below.

- In healthy people, the concentration of serum procalcitonin is <0.1 ng/ml. In response to bacterial sepsis, the concentration of serum procalcitonin increases to ≥0.5 ng/ml (and may increase to >100 ng/ml). The concentration of serum procalcitonin does not significantly increase in response to viral infections or other inflammatory stimuli. Following resolution of bacterial sepsis, the concentration of serum procalcitonin returns to normal (the half-life of serum procalcitonin is 24 hours).
- Testing for serum procalcitonin will be performed on the bioMerieux Vidas platform; the assay is an automated immunoassay sandwich method with fluorescence detection. The assay is linear over the range of 0.05 – 200 ng/ml.
- Quantitative test results will be reported per the package insert:
    - <0.1 ng/ml Normal
    - 0.10-0.49 ng/ml Low Risk for Bacterial Sepsis
    - ≥0.50 ng/ml High Risk for Bacterial Sepsis

  Note that other references and institutions may use slightly different interpretive criteria, and, if necessary, we may modify our criteria over time.
- Per the FDA-cleared package insert, the test "is intended for use in conjunction with other laboratory findings and clinical assessments to aid in the risk assessment of critically ill patients on their first day of ICU admission for progression to severe sepsis and septic shock".
- The assay will be performed 7 days per week on all shifts; routine turn-around-time will be ≤4 hours.
- Testing for procalcitonin is not recommended for burn patients and for patients <3 days of age.
- Serum is the recommended specimen; plasma is not acceptable (specimens collected in EDTA or citrate anticoagulants are not acceptable).
- The test can be ordered in eRecord……type in "Procalcitonin".
- In eRecord, test results can be viewed in Results Review and will appear under "General Lab – Chemistry – General Chemistry" (result should appear next to serum lactate).