



MEMORANDUM

TO: St. John Medical Center Medical Staff
St. John Medical Center Nursing Staff

FROM: Brent D. Hartsell, MD, Medical Director, SJMC Laboratory
Caitlin Schein, MD, Clinical Director of Chemistry and LCMS Departments, RML Central Laboratory
Kendra Thompson, MT(ASCP), Manager, SJMC Laboratory

DATE: November 21, 2018

SUBJECT: **Procalcitonin Testing**

Beginning November 26, 2018, the laboratory at St. John Medical Center will begin performing procalcitonin in-house.

Procalcitonin is a prohormone of calcitonin normally produced in the thyroid, which in healthy individuals is not secreted into the blood in significant amounts. However, in response to inflammatory stimuli, including bacterial infections, there is an induction of calcitonin production from a variety of cells throughout the body (within 2-6 hours), with the magnitude of the increase correlating with severity of bacterial infection. As procalcitonin concentrations exceed 0.5 ng/mL, a patient may be at increasing risk of developing severe sepsis or septic shock. Following appropriate treatment of infection, procalcitonin concentrations return to normal with a half-life of 24 hours.

The role of procalcitonin in clinical practice is evolving, and its use may vary between institutions. The greatest utility of procalcitonin has been as a diagnostic biomarker in patients with lower respiratory tract infections primarily to guide antibiotic usage. Since procalcitonin has good discriminatory value for distinguishing between viral and bacterial infections, it may also be used diagnostically in certain patient populations with suspected viral pneumonia.

However, a positive procalcitonin is not diagnostic of bacterial infection since a variety of major stressors may cause a rise in level, including severe trauma, cardiac arrest, major surgery, invasive fungal infections, in patients undergoing hemodialysis and peritoneal dialysis, severe liver cirrhosis and pancreatitis. Falsely low calcitonin levels may be observed early in the course of infection, with localized infections and in subacute infectious endocarditis.

The results of the procalcitonin assay should always be interpreted in the context of other clinical parameters and results of diagnostic studies. A procalcitonin result should not override clinical judgment regarding appropriate care.

Order Name: PROCALCITN

Specimen Type: Lithium heparin plasma or serum

Availability: Routine, Time Study or STAT (turnaround time 60 minutes)

Normal Reference Range: < 0.07 ng/ml

If you have any questions regarding this test, please contact Dr. Brent Hartsell at 918-744-3131 x15529 or email bhartsell@ascension.org or Kendra Thompson at 918-744-3131 x16254 or email Kendra.thompson@ascension.org.