Effective December 18, 2014, the Clinical Laboratory will begin offering procalcitonin (PCT) testing as part of the hospital sepsis and antimicrobial stewardship initiatives. Previously, PCT was performed as a send out test. Bringing the test in-house provides faster (within 24 hours rather than 3 days) turnaround times. STAT testing will still not be available; therefore, it is recommended the test be used for antimicrobial stewardship rather than for rapid sepsis recognition.

**Sample Requirements:** Collect Plasma Separator Tube (light green top) Vacutainer, 4 mL

**Patient Preparation:** None

**Storage/Transport:** Deliver at room temperature to Laboratory for processing. If the sample cannot be delivered within 4 hours, centrifuge the sample and store separated plasma at 2°C to 8°C. For longer storage, aliquot and freeze plasma at -20°C or colder in a non-defrosting freezer.

**Stability:** Separated plasma: Room temperature for 4 hours, refrigerated for 48 hours, or frozen at -20°C for 6 months.

**Minimum Volume:** 0.3 mL plasma

**Unacceptable Conditions:** Clotted specimens, moderately hemolyzed samples, serum, or specimens not collected in appropriate anticoagulant (lithium heparin) will be rejected.

**Reference Interval:** < 0.15 ng/mL

Note: Procalcitonin levels should be used along with other clinical information for sepsis and antimicrobial stewardship. The reference intervals are not validated for neonates and patients with burn injury.

**Interpretive Information:** Procalcitonin levels > 2.0 ng/mL are highly suggestive of systemic bacterial infection/sepsis or severe localized bacterial infection, such as severe pneumonia, meningitis, or peritonitis. With successful antibiotic therapy, PCT levels should fall with a half-life of 24 to 35 hours. Levels between 0.15 and 2.0 ng/mL do not exclude an infection, because localized infections (without systemic signs) may be associated with low levels. Autoimmune diseases, chronic inflammatory processes, viral infections, and mild localized bacterial infections rarely lead to elevations of PCT of > 0.5 ng/mL.

In cases of noninfectious elevations, PCT levels should begin to fall after 24 to 48 hours. Severe trauma, major burns, multi-organ failure, or major surgery can cause PCT elevations in the absence of sepsis.

For questions or additional information please contact Laboratory Client Services at 916-734-7373 or email pathologyclientservices@ucdmc.ucdavis.edu.