# PROCALCITONIN ALGORITHM FOR GUIDANCE IN ANTIBIOTIC THERAPY DECISIONS IN RESPIRATORY TRACT INFECTIONS AND SEPSIS

## A. Algorithm for nonpneumonic upper and/or lower resp. tract infections (URI, bronchitis, etc) in primary care and emergency department (ED) settings.

| | | | | |
|---|---|---|---|---|
| **PCT result** | **≤0.10 ng/ml** | **<0.25 ng/ml** | **≥0.25 ng/ml** | **>0.50 ng/ml** |
| **Recommendation Regarding use of Abx:** | Strongly discouraged | Discouraged | Encouraged | Strongly encouraged |
| **Overruling The algorithm** | Consider use of antibiotics if patient is clinically unstable, has strong evidence of pneumonia, is at high risk (ie. COPD GOLD III-IV) or needs hospitalization; can repeat in 4-6 hrs. | | | |
| **Follow-up** | If no improvement, clinician to consider Starting antibiotics. | | Reevaluation as appropriate | |

## B. Algorithm for pneumonic infections in hospital and ED settings.

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|---|---|---|---|---|
| **PCT result** | **≤0.10 ng/ml** | **<0.25 ng/ml** | **≥0.25 ng/ml** | **>0.50 ng/ml** |
| **Recommendation Regarding use of Abx:** | Strongly discouraged | Discouraged | Encouraged | Strongly encouraged |
| **Overruling The algorithm** | Consider alternative diagnosis, or Abx if patient is clinically unstable, is at high risk for adverse outcome (eg. PSI classes IV-V, immunosuppression) or has strong evidence of a bacterial pathogen. | | | |
| **Follow-up** | Reassess patient's condition and recheck PCT level after 6 to 12 hours if admitted. Follow up as appropriate if patient not admitted | | | |

## C. Algorithm for sepsis in inpatient and intensive care unit settings.

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|---|---|---|---|---|
| PCT result | **<0.25 ng/ml** | **<0.50 ng/ml** | **≥0.50 ng/ml** | **>1.0 ng/ml** |
| Recommendation Regarding use of Abx **patients** | Strongly discouraged | Discouraged | Encouraged | Strongly encouraged |
| **Overruling the algorithm.** | **Empirical antibiotic therapy recommended in all patients with clinical suspicion of bacterial infection.** | | | |
| **Follow-up** | Repeat PCT in 6-12 hours if abx not begun and suspicion for bacterial infection is high. . | | Reassess patient's condition and recheck PCT level every 1-2 days to consider cessation of ABX. (see algorithm D) | |

## D. Algorithm for evaluation of cessation of ABX based on PCT level in septic patients.

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|---|---|---|---|---|
| **PCT result** | **<0.25 ng/ml or drop by >90%** | **<0.50 ng/ml or drop by >80%** | **≥0.50 ng/ml** | **>1.0 ng/ml** |
| **Recommendation Regarding use of Abx** | Cessation of Abx strongly encouraged | Cessation of Abx encouraged | Cessation of Abx discouraged | Cessation of Abx strongly discouraged |
| **Overruling the algorithm** | **Consider continuation of Abx if patient is clinically unstable.** | | | |
| **Follow-up** | Reevaluation as appropriate; recheck PCT every 1-2d | | Recheck PCT every 1-2 days A failure of PCT to fall is consistent with inadequate "source control" and/or inappropriate abx coverage. | |

***CESSATION OF THERAPY BASED ON PCT LEVELS REQUIRES ATTENDING PHYSICIAN AUTHORIZATION**

**Antimicrobial Stewardship Committee 9/2016**