**Procalcitonin (PCT)-Based Algorithm to Guide Antibiotic Duration**

**Cardiology Service Patients**

1. Cardiology service patients started on antibiotics (abx) for suspected respiratory tract infection (RTI)

2. Obtain PCT at day ≥4 of abx

3. **<0.25**
   - Abx discouraged
   - If symptoms of RTI still present, consider workup for nonbacterial causes (e.g. viral [RVP], pulmonary edema, PE, atelectasis)

4. **0.25-0.5**
   - Define abx duration based on evidence of clinical response
   - Are signs and symptoms of RTI resolved or mostly improved

5. **>0.5**
   - Abx encouraged
   - If signs and symptoms of RTI progress on current abx, consider treatment failure & evaluate for resistant bacteria
   - If not convinced of RTI, consider causes of falsely elevated PCT and reevaluate necessity of abx

- Consider short duration of abx
  - 5-7 days for CAP or early HAP
  - 8 days for late HAP or VAP

- Abx encouraged
  - Continue to monitor for disease resolution
  - Consider repeating PCT in 2-3 days

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1. Signs and symptoms of RTI include new infiltrate on chest radiograph, fever >100.4°F, leukocytosis, purulent sputum, decline in oxygenation, cough, and dyspnea

2. Can consider abx discontinuation before day 4 if patient demonstrates clinical response (see footnote 3 for definition)

3. Clinical response defined as resolution of leukocytosis, defervescence of fever, return to baseline oxygen saturation, decreased sputum production, and improvement in cough and dyspnea

4. Causes of a falsely elevated PCT include trauma/burns, pancreatitis, malignancies, recent major surgery, cardiogenic shock, severe SIRS, ARDS, or fungal infection

**Recommended Reading**


As always, sound clinical judgement should be applied in conjunction with the information provided by these guidelines. In some instances, expert opinion should be solicited. If needed, a CAUSE representative is available to assist with decisions regarding antibiotic therapy (806-6494).