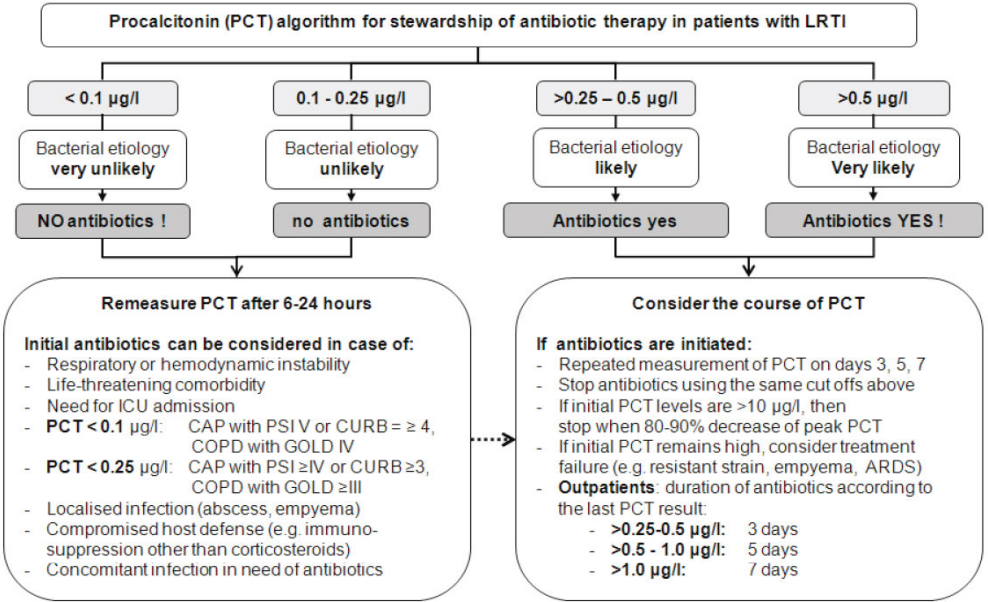
Procalcitonin (PCT) algorithm for stewardship of antibiotic therapy in patients with LRTI
< 0.1 µg/l
0.1 - 0.25 µg/l
>0.25 – 0.5 µg/l
>0.5 µg/l
Bacterial etiology very unlikely
Bacterial etiology unlikely
Bacterial etiology likely
Bacterial etiology Very likely
NO antibiotics !
no antibiotics
Antibiotics yes
Antibiotics YES !
Remeasure PCT after 6-24 hours
Initial antibiotics can be considered in case of:
- Respiratory or hemodynamic instability
- Life-threatening comorbidity
- Need for ICU admission
- PCT < 0.1 µg/l: CAP with PSI V or CURB = ≥ 4, COPD with GOLD IV
- PCT < 0.25 µg/l: CAP with PSI ≥IV or CURB ≥3, COPD with GOLD ≥III
- Localised infection (abscess, empyema)
- Compromised host defense (e.g. immuno-suppression other than corticosteroids)
- Concomitant infection in need of antibiotics
Consider the course of PCT
If antibiotics are initiated:
- Repeated measurement of PCT on days 3, 5, 7
- Stop antibiotics using the same cut offs above
- If initial PCT levels are >10 µg/l, then stop when 80-90% decrease of peak PCT
- If initial PCT remains high, consider treatment failure (e.g. resistant strain, empyema, ARDS)
- Outpatients: duration of antibiotics according to the last PCT result:
- >0.25-0.5 µg/l: 3 days
- >0.5 - 1.0 µg/l: 5 days
- >1.0 µg/l: 7 days