Antibiotics should only be started or continued in patients with signs and symptoms of a bacterial infection that include:

1) Increased dyspnea, increased purulence of sputum, and increased volume of sputum
2) Ventilator support (invasive or non-invasive) for AECOPD

Patients with a PCT <0.1 ng/mL are unlikely to benefit from antibiotic administration

- **Mild exacerbation (no respiratory failure, FEV<sub>1</sub> >50% predicted, < 3 exacerbations/year)**
  - 1<sup>st</sup> line: Doxycycline 100 mg PO BID OR Cefuroxime 500 mg PO BID
  - 2<sup>nd</sup> line: Azithromycin 500 mg PO daily*

- **Moderate exacerbation (non-life-threatening respiratory failure, FEV<sub>1</sub> 36-50%, ≥ 3 exacerbations/year, ≥65 years of age)**
  - 1<sup>st</sup> line: Amoxicillin-clavulanate 875-125 mg PO BID OR Doxycycline 100 mg PO BID
  - 2<sup>nd</sup> line: Azithromycin 500 mg PO daily*

- **Severe exacerbation (life-threatening respiratory failure, baseline FEV<sub>1</sub> ≤35%) OR Requires ventilator support:**
  - No risk factors for *Pseudomonas aeruginosa*:
    - Ceftiraxone 1 gram IV every 24 hours (>80 kg: Ceftiraxone 2 grams IV every 24 hours)
    - Severe beta-lactam allergy: Levofloxacin 750 mg PO or IV every 24 hours**
  - Risk factors for *Pseudomonas aeruginosa* (see Table 1):
    - 1<sup>st</sup> line: Ceftepime 1 gram IV every 6 hours
    - 2<sup>nd</sup> line: Piperacillin-tazobactam 4.5 grams IV every 8 hours
    - Severe beta-lactam allergy: Aztreonam 2 grams IV every 8 hours + levofloxacin 750 mg po or IV every 24 hours**
+ Respiratory status adapted from the 2018 GOLD guidelines. See Table 1. For patients with re-admission within 30 days or recurrent AECOPD, consider expert consultation with a pulmonologist.

* Consider ECG prior to initiating, especially if other QTc-prolonging medications are present. Alternate therapy may need to be considered in patients at high risk of cardiovascular events.

** As of July 2016, the FDA no longer recommends fluoroquinolones for the treatment of acute exacerbations of bronchitis. This therapy should be reserved for severe beta-lactam allergy where no other treatment options are available. Current labeling includes a black box warning for CNS effects, tendonitis or tendon rupture, and peripheral neuropathy that may be irreversible. Consider ECG prior to initiating, especially in patients with other QTc-prolonging medications.

This is an abbreviated summary. For full version see: [https://www.nebraskamed.com/for-providers/asp/plans](https://www.nebraskamed.com/for-providers/asp/plans)

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