Adult Acute Exacerbation of Chronic Bronchitis (AECB) Outpatient Guideline

Adult Patient Presents with Signs/Symptoms of Chronic Bronchitis
Chronic bronchitis is a form of Chronic Obstructive Pulmonary Disease (COPD) and is defined by the presence of chronic cough for 3 months in each of 2 successive years in patients in which other causes of chronic cough have been excluded.

Present Symptoms
Evaluate the number of symptoms present:
- Increased cough (frequency or severity)
- Change in sputum volume or character
- Increased dyspnea from baseline

Mild
1 Symptom Present
- Antibiotics are NOT recommended
- Consider use of corticosteroids and/or adjustment of short-term β-agonist and short-term anti-cholinergic agents

Moderate to Severe
≥ 2 Symptoms Present
- Evaluate status of Chronic Obstructive Pulmonary Disease (COPD); refer to Sanford Adult Chronic Obstructive Pulmonary Disease (COPD) Practice Guideline
- In all patients with moderate to severe exacerbation, consider use of corticosteroids and/or adjustment of short-term β-agonist and short-term anti-cholinergic agents

Uncomplicated COPD
- Age < 65 years
- FEV₁ > 50% predicted
- < 3 exacerbations/year
- No cardiac disease

Complicated COPD
- One or more risk factors are present:
  - Age > 65 years
  - FEV₁ < 50% predicted
  - ≥ 3 exacerbations/year
  - Hospitalized AECB
  - Cardiac disease
  - Use of supplemental oxygen
  - Chronic systemic corticosteroid use

Antibiotic* Treatment
- Azithromycin (Zithromax) 500 mg PO once, then 250 mg daily for 4 days
  OR
- Cephalosporin (cefuroxime, cefpodoxime, or cefdinir)
  OR
- Doxycycline 100 mg PO two times a day
  OR
- TMP-sulfa (Bactrim, Septra) DS 1 tab PO two times a day

Evaluate Pseudomonas Risk
Patient at risk for Pseudomonas if any of the following are present:
- Hospitalization for ≥ 2 days in preceding 90 days
- ≥ 4 courses of antibiotics within the past year
- Moderate to severe COPD (FEV₁ < 50% predicted)
- Previous Pseudomonas infection or colonization
- Systemic glucocorticoid use

Risk For Pseudomonas Is Not Present
Antibiotic* options include:
- Levofoxacin (Levaquin) 500 mg PO daily
  OR
- Moxifloxacin (Avelox) 400 mg PO daily
  OR
- Amoxillicin-clavulanate (Augmentin) 875 mg PO two times a day

Risk For Pseudomonas Is Present
Antibiotic* options include:
- Levofoxacin (Levaquin) 750 mg PO daily
  OR
- Ciprofoxacin (Cipro) 750 mg PO two times a day
  PLUS
  Amoxillicin-clavulanate (Augmentin) 875 mg PO two times a day

* If patient has had antibiotics in preceding 3 months, use an alternate class.
The antibiotic doses listed may require adjustment for individual patient’s renal function.
The recommended duration of antibiotic treatment is 5-7 days for all antibiotics used.

This guideline is not intended to replace a provider’s judgment, but rather to support the decision-making process, which must be individualized for each patient’s circumstances. Please provide feedback to antibioticutilization@sanfordhealth.org.
Clinical Pearls

- The most frequent causes of AECB are respiratory infection and air pollution, but up to one-third of severe exacerbations do not have an identifiable etiology
- There are no lab or radiographic tests to confirm the diagnosis of AECB
- Inhaled bronchodilators (particularly β2-agonists with or without anti-cholinergics) and oral glucocorticoids (5-14 day course) are effective treatments
- Sputum cultures should not be routinely obtained unless the patient has failed initial antibiotic therapy or there are risk factors for Pseudomonas identified
- Mucolytics and methylxanthines are not beneficial in COPD exacerbations
- Systemic antibiotics are mainstay treatments for AECB in moderate to severe COPD
- Prevention and management of AECB is an important part of managing COPD. Please refer to Sanford Adult Chronic Obstructive Pulmonary Disease (COPD) Practice Guideline for further assistance.

References