Ensure diagnosis of COPD was made with post bronchodilator spirometry testing to meet the Canadian Thoracic Society criteria to establish a diagnosis of COPD: Post bronchodilator FEV₁/FVC ratio < 0.7 (or compared to the lower limit of normal)
Chronic oral steroid use

Use of home oxygen

Acute Exacerbations of COPD (AECOPD)

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Long-Acting Beta Agonists / Inhaled Corticosteroid (LABA/ICS) Combinations

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Other Medicines

Theophylline has weak bronchodilator and anti-inflammatory effects; modest potential benefits need to be weighed against the risk of side effects and potential drug interactions.

PDE4 inhibitor: Daxas (roflumilast) may inhibit COPD-related inflammation (a role in COPD management has not been clarified in current Canadian COPD guidelines). It is recommended that patients with recurrent exacerbations should be referred to a respirologist.


Acute Exacerbations of COPD (AECOPD)

Inhaled bronchodilators to treat dyspnea in AECOPD; consider salbutamol and ipratropium bromide initially (24-48hrs), then resume maintenance bronchodilator therapy.

No role for the initiation of theophylline during AECOPD; possible drug interactions with antibiotics.

oral/parenteral steroids for 7-14 days in most moderate to severe patients with COPD; limited data on benefits in patients with mild COPD (FEV1 > 60% of predicted); dosages of 25 to 50 mg prednisone per day are recommended.

Antibiotic therapy is recommended only for those patients with AECOPD due to an infectious cause, i.e., purulent exacerbations; (as characterized by increased dyspnea, increased sputum and purulent sputum); refer to chart below (adapted from 2008 Canadian Thoracic Society Recommendations for Management of COPD):

Antibiotic treatment recommendations for purulent acute exacerbations of chronic obstructive pulmonary disease (COPD)

<table>
<thead>
<tr>
<th>Group</th>
<th>Basic clinical state</th>
<th>Symptoms and risk factors</th>
<th>Probable pathogens</th>
<th>First choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple exacerbation</td>
<td>COPD without risk factors</td>
<td>Increased sputum purulence and dyspnea</td>
<td>Haemophilus influenzae, Haemophilus species, Moraxella catarrhais, Streptococcus pneumoniae</td>
<td>Amoxicillin, second- or third-generation cephalosporins, doxycycline, extended-spectrum macrolides, trimethoprim/sulfamethoxazole (in alphabetical order)</td>
</tr>
<tr>
<td>Complicated exacerbation</td>
<td>COPD with risk factors</td>
<td>As in simple plus at least one of: • FEV1 &lt; 50% predicted • ≥ 4 exacerbations per year • Ischemic heart disease • Use of home oxygen • Chronic oral steroid use</td>
<td>As in simple plus: • Klebsiella species and other Gram-negatives • Increased probability of beta-lactam resistance • Pseudomonas species</td>
<td>Fluoroquinolone (gimifloxacin, levofloxacin, moxifloxacin), beta-lactam/beta-lactamase inhibitor (amoxicillin/clavulanic acid) (in order of preference) (antibiotics for simple exacerbation if combined with prednisone)</td>
</tr>
</tbody>
</table>

Repeat prescriptions of the same antibiotic class should be avoided within a three-month interval. FEV1: Forced expiratory volume in 1 s

Adapted from: Can Respir J 2008;15(Suppl A):7A.