**Expert Committee recommendation**

The Expert Committee noted that antibiotics are not required in all patients presenting with COPD exacerbations. The Committee endorsed the inclusion on the EML of amoxicillin and amoxicillin + clavulanic acid as first-choice therapy and of cefalexin and doxycycline as second-choice therapy for use in suspected bacterial exacerbations of COPD.

**Background**

Exacerbations of chronic obstructive pulmonary disease (COPD) are an important health-care burden. Although treatment can involve bronchodilators and anti-inflammatory agents, including steroids, antimicrobials are frequently used on the basis that a bacterial infection is suspected of acting as a trigger to the episode. However, antibiotics are indicated in only a minority of patients presenting with exacerbated COPD (see guidelines summaries below).

**Summary of evidence**

The highest-quality review was a 2012 Cochrane review (16 randomized controlled trials (RCTs); 2068 participants) (1). There was no significant benefit in using antibiotics compared with not using antibiotics in outpatients when treatment was restricted to available antibiotics (risk ratio (RR) 0.80; 95% confidence interval (CI) 0.63–1.01) but there was evidence of benefit for inpatients (RR 0.77; 95% CI 0.65–0.91). In contrast, an older and lower-quality systematic review (9 RCTs; 1101 patients) found a small clinical benefit with antibiotic treatment but provided no further details of the population who benefited (2). Similarly, a systematic review from 2008 (10 RCTs; 959 participants) found higher treatment failure rates with placebo than with antibiotic treatment.
Guidelines

Rationale for antibiotic selection

Committee considerations
For common community-acquired infections, the main focus has been on empirical treatment choices that are broadly applicable in most countries. Generally, alternatives for use in case of allergy were not considered. The Expert Committee considered the various antibiotics proposed in the application under the guiding principle of parsimony and selected first- and second-choice antibiotics for this indication for inclusion on the EML. As a result, cefuroxime, clarithromycin and levofloxacin were excluded since other narrower-spectrum options were available. Recommended first- and second-choice antibiotics are reported above. First-choice antibiotics are those generally recommended on the basis of available evidence and are usually narrow-spectrum agents.

EML recommendations: Chronic obstructive pulmonary disease with acute exacerbation

<table>
<thead>
<tr>
<th>First choice</th>
<th>Second choice</th>
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<tbody>
<tr>
<td>amoxicillin</td>
<td>doxycycline</td>
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<tr>
<td>amoxicillin + clavulanic acid</td>
<td>cefalexin</td>
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