

LOWER RESPIRATORY TRACT INFECTIONS

Acute Exacerbation of COPD

[NICE NG 114 COPD \(acute exacerbation\) December 2018](#)

Organisms

- Respiratory viruses (30%), bacterial (30-50%) – *Streptococcus pneumoniae*, *Haemophilus influenzae* (amoxicillin sensitive and resistant strains), *Moraxella catarrhalis*, and atypical pathogens such as *Mycoplasma pneumoniae* and *Chlamydia pneumoniae*.
- Check results of previous sputum cultures and send sputum sample if possible, before prescribing antibiotics.
- Viral infections may cause acute exacerbations, but if purulent sputum is being produced bacterial infection is possible.
- Antibiotics are most valuable in patients with purulent sputum **and** increased shortness of breath **and/or** increased sputum volume.
- NICE recommend as part of self-management that patients are given a course of antibiotics and oral corticosteroids to keep at home and commence if their sputum becomes purulent (see [Nottinghamshire guidance for prescribers on COPD Exacerbation Rescue Medication Pack](#))

Risk factors for antibiotic resistant organisms include:

- Severe COPD
- Co-morbid disease
- Frequent exacerbations and/or hospital admissions
- Multiple courses of antibiotics, or antibiotics within last 3 months.
- Previous resistant organisms in sputum culture.

Treatment

Medication	Dose	Duration of Treatment
Empirical treatment guided by most recent sputum culture and susceptibilities		
First line: Amoxicillin OR Doxycycline OR if penicillin allergy and where doxycycline is contraindicated: Clarithromycin	500mg TDS Stat 200mg first day then 100mg OD for four days 500mg BD	5 days 5 days in total 5 days
Second line: Use alternative first line (from a different class)		
If higher risk of treatment failure, treat according to sputum culture: (guided by microbiology sensitivities)		
Co-amoxiclav 625mg TDS plus Amoxicillin 500mg TDS for 5 days if reported sensitivity to Co-amoxiclav is "I"* Or Levofloxacin [^] 500mg OD for 5 days (increase frequency to BD if reported sensitivity to Levofloxacin is "I"*) Or Co-trimoxazole 960mg BD for 5 days		
* "I" = susceptible at increased medication exposures . This means there is a high likelihood of therapeutic success if antibiotic exposure is optimised by using higher doses or increasing dosing frequency.		
<ul style="list-style-type: none"> Microbiology interpreting Sensitivity Results [^] Note fluoroquinolones can cause long-lasting (up to months or years), disabling, and potentially irreversible side effects, sometimes affecting multiple systems, organ classes, and senses. Please refer here for further information on MHRA alerts.		