

1 Appendix 1. Sample search strategy for Pubmed

1	"pulmonary disease, chronic obstructive"[MeSH Terms]
2	"COPD"[All Fields]
3	"Chronic obstructive pulmonary disease"[All Fields]
4	"COAD"[All Fields]
5	"Chronic obstructive airway disease"[All Fields]
6	"Chronic obstructive lung disease"[All Fields]
7	"Chronic"[All Fields] AND "Obstruction"[All Fields] AND ("Airflow"[All Fields] OR "Airway"[All Fields])
8	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7
9	"Sputum*"[All Fields]
10	"Purulent"[All Fields] OR "Purulence"[All Fields] OR "Color"[MeSH Terms] OR "Color"[All Fields] OR "Colors"[All Fields] OR "Colour"[All Fields] OR "Colours"[All Fields]
11	#9 AND #10
12	#8 AND #11

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4 **Appendix 2. Excluded studies**

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No.	Excluded studies	Reasons for exclusion
1	Is sputum color a good predictor of bacterial infection in patients with acute exacerbations of chronic bronchitis?. American thoracic society 99th international conference: A016.	No abstract or full text available
2	Relation of sputum colour to bacterial load in acute exacerbations of COPD. Respir Med 103(4): 601-606.	No outcome data available
3	Indicators of bacterial infection in patients with acute exacerbation of chronic bronchitis for application in clinical trials of antibacterial drugs. J Infect 55(3): 226-232.	Only microscopic purulence available
4	Does sputum colour hold the answer? The AERIS study. European Respiratory Journal 46.	No outcome data available
5	Bacterial infection in hospitalized patients of acute exacerbation of COPD and their relation to lung function: A prospective study. European Respiratory Journal 48.	No outcome data available
6	Correlation between sputum colour and isolation of an infecting organism in patients with acute exacerbations of chronic bronchitis (AECB). European Respiratory Journal 30(Suppl 51): 405s [P2392].	No abstract or full text available

7	Colour of sputum is a marker for bacterial colonization in chronic obstructive pulmonary disease. <i>Respir Res</i> 11: 58.	Not COPD patients
8	Relationship between bacterial colonization and the frequency, character, and severity of COPD exacerbations. <i>Thorax</i> 57(9): 759-764.	No outcome data available
9	Sputum bacteriology in acute exacerbation of COPD: Utility of sputum appearance and previous culture results in determining antibiotic therapy. <i>Thorax</i> 64: A116-A117.	No outcome data available
10	Sputum color and the detection of colonizing bacteria by quantitative PCR in stable COPD. <i>American Journal of Respiratory and Critical Care Medicine</i> 189.	No outcome data available
11	Yield of sputum microbiological examination in patients hospitalized for exacerbations of chronic obstructive pulmonary disease with purulent sputum." <i>Respiration</i> 74(1): 19-25.	Only purulent sputum samples included

