

Table 27: Clinical evidence profile: Comparison 4. Acetylcysteine versus placebo

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Acetylcysteine	Placebo	Relative (95% CI)	Absolute		
Lung function: change in FEV₁ (% predicted) (follow-up 4 weeks; range of scores: 0-100; Better indicated by higher values)												
1 (Skov 2015)	randomised trials	very serious ¹	no serious inconsistency	no serious indirectness	serious ²	none	10	9	-	MD 3.51 higher (0.65 lower to 7.67 higher)	VERY LOW	CRITICAL
Lung function: change in FEV₁ (% predicted) (follow-up 12 weeks; range of scores: 0-100; Better indicated by higher values)												
1 (Ratjen 1985)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious ³	none	10	11	-	MD 5 higher (10.84 lower to 20.84 higher)	LOW	CRITICAL
Lung function: change in FEV₁ (% predicted) (follow-up 24 weeks; range of scores: 0-100; Better indicated by higher values)												
1 (Conrad 2015)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious ²	none	36	34	-	MD 4.4 higher (0.83 to 7.97 higher)	MODERATE	CRITICAL
Inflammatory markers: change in sputum IL-8 (log10) (follow-up 24 weeks; Better indicated by lower values)												

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Acetylcysteine	Placebo	Relative (95% CI)	Absolute		
1 (Conrad 2015)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	not calculable ⁴	none	36	34	-	MD 0.19 higher (0.03 lower to 0.42 higher)	HIGH	IMPORTANT
Incidence of pulmonary exacerbations (follow-up 24 weeks)												
1 (Conrad 2015)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious ³	none	15/36 (41.7%)	17/34 (50%)	RR 0.83 (0.5 to 1.39)	85 fewer per 1000 (from 250 fewer to 195 more)	LOW	CRITICAL
Quality of life: QFQ-R respiratory (follow-up 24 weeks; range of scores: 0-100; Better indicated by higher values)												
1 (Conrad 2015)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	very serious ³	none	36	34	-	MD 0.34 lower (6.3 lower to 5.62 higher)	LOW	IMPORTANT

Abbreviations: CFQ-R: cystic fibrosis questionnaire revised; CI: confidence interval; FEV₁: forced expiratory volume in 1 second; IL-8: interleukin 8; MD: mean difference; RR: risk ratio

1 The quality of the evidence was downgraded by 1 as this is an open trial, and there was unclear randomization and allocation concealment.

2 The quality of the evidence was downgraded by 1 as the 95% CI crossed 1 clinical MID

3 The quality of the evidence was downgraded by 2 as the 95% CI crossed 2 clinical MIDs

4 Imprecision not calculable, as SD for the control group was not available in the study