Table 18: Clinical evidence profile: Comparison 7. Positive expiratory pressure (PEP) compared to High Frequency Chest Wall Oscillation (HFCWO)

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PEP	HFCWO	Relative (95% CI)	Absolute	Quality	Importance
Sputum volume (follow-up mean 1 weeks; measured with: ml ; Better indicated by higher values)												
1 (Grzincich 2008)	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	23	23	-	MD 1.8 higher (3 lower to 6.6 higher)	LOW	CRITICAL
Respiratory exacerbations: number of patients (follow-up mean 1 years; Better indicated by lower values)												
1 (McIlwaine 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious[2]	none	26/43 (60.5%)	40/48 (83.3%)	RR 0.73 (0.55 to 0.95)	225 fewer per 1000 (from 42 fewer to 375 fewer)	MODERATE	CRITICAL
Pulmonary exacerbations (patients requiring antibiotics) (follow-up mean 1 years ; Better indicated by lower values)												

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PEP	HFCWO	Relative (95% CI)	Absolute	Quality	Importance
1 (McIlwaine 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious[2]	none	26/42 (61.9%)	40/46 (87%)	RR 0.71 (0.55 to 0.93)	254 fewer per 1000 (from 61 fewer to 391 fewer)	MODERATE	CRITICAL
Lung function - FEV$_1$ (follow-up 1 weeks; measured with: % predicted; range of scores: 0-100; Better indicated by higher values)												
2 (Braggion 1995; Grzincich 2008)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	very serious[4]	none	39	39	-	MD 0.67 higher (8.04 lower to 9.38 higher)	VERY LOW	IMPORTANT
Lung Function - FEV$_1$ (follow-up 1-2 weeks; measured with: % predicted; range of scores: 0-100; Better indicated by higher values)												
1 (Darbee 2005)	randomised trials	serious[5]	no serious inconsistency	no serious indirectness	very serious[4]	none	15	15	-	MD 3 lower (20.54 lower to 14.54 higher)	VERY LOW	IMPORTANT
Lung function -– FEV$_1$ (follow-up 1 years; measured with: change from baseline in FEV$_1$ % predicted; range of scores: 0-100; Better indicated by higher values)												

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PEP	HFCWO	Relative (95% CI)	Absolute	Quality	Importance
1 (McIlwaine 2013)	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious[6]	none	42	46	-	MD 3.59 lower (9.29 lower to 2.11 higher)	MODERATE	IMPORTANT
Lung function - FVC (follow-up 1-2 weeks; measured with: % predicted; Better indicated by higher values)												
1 (Darbee 2005)	randomised trials	serious[5]	no serious inconsistency	no serious indirectness	very serious[7]	none	15	15	-	MD 3 lower (16.6 lower to 10.6 higher)	VERY LOW	IMPORTANT
Lung function - FVC (follow-up 1 weeks; measured with: % predicted; range of scores: 0-100; Better indicated by higher values)												
2 (Braggion 1995, Grzincich 2008)	randomised trials	serious[3]	no serious inconsistency	no serious indirectness	no serious imprecision	none	39	39	-	MD 0.66 higher (7.4 lower to 8.71 higher)	MODERATE	IMPORTANT
Lung function - FVC (follow-up 1 years; measured with: change from baseline in % predicted; range of scores: 0-100; Better indicated by higher values)												
1 (McIlwaine	randomised trials	no serious risk of bias	no serious inconsistency	no serious indirectness	serious[2]	none	42	46	-	MD 5 lower (10.3 lower	MODERATE	IMPORTANT

Quality assessment							No of patients		Effect			
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PEP	HFCWO	Relative (95% CI)	Absolute	Quality	Importance
2013)										to 0.3 higher)		

Abbreviations: CI: confidence interval; FEV₁: forced expiratory volume in 1 second; FVC: forced vital capacity; HFCWO: high frequency chest wall oscillation; MD: mean difference; PEP: positive expiratory pressure; RR: risk ratio

1 The quality of the evidence was downgraded by 1 as risk of bias could not be fully assessed from abstract paper which did not discuss method in detail.

2 The quality of the evidence was downgraded by 1 due to serious imprecision as 95% CI crossed 1 default MID.

3 Taking into account weighting in a meta-analysis and the likely contribution from each component, the quality of the evidence was downgraded by 1 as risk of bias could not be fully assessed from abstract paper which did not discuss method in detail.

4 The quality of the evidence was downgraded by 2 due to very serious imprecision as 95% CI crossed 2 clinical MIDs.

5 The quality of the evidence was downgraded by 1 due to selection bias.

6 The quality of the evidence was downgraded by 1 due to serious imprecision as 95% CI crossed 1 clinical MID

7 The quality of the evidence was downgraded by 2 due to very serious imprecision as 95% CI crossed 2 default MIDs