Online Appendix

Supplementary Methods: Sensitivity Analysis

A total of 75 patients were randomised and underwent baseline assessment. One additional patient was randomised but then declined participation in the trial before baseline measures could be assessed. All patients were reviewed on a case-by-case basis prior to data unblinding and analysis, to identify patients for sensitivity analyses.

The following populations were defined for the primary efficacy analysis:

1) All randomised patients who had baseline assessment.

2) Intention to treat (ITT): all patients who received at least one treatment session.

3) All patients who received at least one treatment session and, in addition, had not been withdrawn from study treatment prior to week 4.

4) Per protocol: all patients who had both baseline and week 4 measurements and did not deviate from protocol.

Sensitivity analysis was done on predefined populations using analysis of covariance adjusted for baseline measurements ANCOVA, with multiple imputation method for missing data. Multiple imputation method used was based on multivariate normal regression using an iterative Markov chain Monte Carlo (MCMC) method to impute missing values. The imputation process was repeated to create 10 multiple imputed datasets. Missing week 4 Leicester Cough Questionnaire were imputed, as long as baseline data was available. Hence no values were imputed where data was missing for both baseline and week 4 in a period. For cough frequency, data were imputed when week 4 values were missing, in a secondary analysis using ANCOVA, with multiple imputation method.

Online supplement Table 1 and 2 summarise sensitivity analyses results of LCQ and ‘log’ cough frequency per hour.

Online Supplement Table 1: Sensitivity analyses for LCQ.

Population	Imputation method	N	Estimate	[95% CI]	p-value
Randomised patients*	ANCOVA, with Multiple imputation	75	1.6	0.14 to 2.95	0.032
All patients who received at least one study treatment (ITT)	ANCOVA, with Multiple imputation	71	1.5	0.20 to 2.76	0.024
All patients who received at least one study treatment and had not deviated the protocol	ANCOVA, with Multiple imputation	67	1.4	0.08 to 2.78	0.039
Per Protocol	ANCOVA, no imputation	63	1.5	0.21 to 2.85	0.024

ANCOVA: analysis of covariance analysis, N: sample size; CI: confidence intervals, LCQ: Leicester Cough Questionnaire (cough specific quality of life). ITT: intention to treat

*All randomised patients with baseline assessment (excludes 1 patient randomised who then declined participation and no baseline assessment).

Online supplement Table 2: Sensitivity analyses results of mean fold difference in cough frequency per hour.

Population	Imputation method	N	Estimate	[95% CI]	p-value
Randomised patients*	ANCOVA, with Multiple imputation	69	0.58	0.34 to 0.98	0.043
All patients who received at least one study treatment (ITT)	ANCOVA, with Multiple imputation	66	0.59	0.35 to 1.00	0.049
All patients who received at least one study treatment and had not deviated the protocol	ANCOVA, with Multiple imputation	63	0.57	0.36 to 0.90	0.019
Per Protocol	ANCOVA, no imputation	53	0.59	0.36 to 0.95	0.030

ANCOVA: analysis of covariance analysis, N: sample size; CI: confidence intervals. ITT: intention to treat

*All randomised patients with baseline assessment (excludes one patient who was randomised then decline participation).

Online supplement Table 3: Leicester Cough Questionnaire HRQoL scores.

	PSALTI Group	Control Group
Baseline	10.4 (3.6)	11.9 (3.5)
Four weeks	14.4 (3.3)	13.4 (3.7)
Three Months	14.8 (3.9)	13.6 (3.4)

Data presented as Mean (standard deviation). HRQoL: health related quality of life. PSALTI: physiotherapy and speech and language therapy.