

primary studies - published RCT

# Airway clearance physiotherapy and health-related quality of life in cystic fibrosis.

**Code:** PM36256673

**Year:** 2022 **Date:**

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## Study design (if review, criteria of inclusion for studies)

Randomised, controlled individual trials (N-of-1 RCTs).

## Participants

Six CF adults.

## Interventions

Airway clearance physiotherapy. As a secondary analysis of a prior study investigating the safety, efficacy, and participants' perceptions of a novel airway clearance technique, specific cough technique (SCT) compared to forced expiration technique (FET). Each trial included eight weeks of treatment, twice a week, using saline inhalation in horizontal positions, one with SCT and one with FET, in random order.

## Outcome measures

Efficacy was measured by sputum wet weight (g) after each session. Perceived usefulness and preference were self-reported at the end of the study. Lung function was assessed at baseline and at the end of study. HRQoL was measured using the Cystic Fibrosis Questionnaire-Revised (CFQ-R) at baseline (week 1) and at completion of the study (week 8).

## Main results

Patient-reported outcomes were completed by all subjects. Individual CFQ-R-Respiratory Symptoms Scores (CFQ-R-RSS) showed a positive change, meeting the minimal important difference (MID) of 4 points in five participants and a negative change in one individual. A strong correlation ( $r = 0.94$ ) (p

## Authors' conclusions

The airway clearance intervention was associated with clinically meaningful changes in patient-reported symptoms on the CFQ-R in the majority of the participants. This finding warrants further investigation regarding treatment, duration and frequency. A long-term study may reveal beneficial effects on other clinically meaningful endpoints, such as pulmonary exacerbations, high-resolution computed tomography scores and HRQoL.

<http://dx.doi.org/10.1371/journal.pone.0276310>

## See also

PLoS One. 2022 Oct 18;17(10):e0276310. doi: 10.1371/journal.pone.0276310. eCollection 2022.

## Keywords

Active Cycle of Breathing Technique -ACBT-; flutter; Drainage; Positive-Pressure Respiration- PEP- pep mask; Airway clearance technique; Chest physiotherapy; non pharmacological intervention - devices OR physiotherapy; oscillating devices;