

primary studies - published RCT

# The effectiveness of a mobile high-frequency chest wall oscillation (HFCWO) device for airway clearance.

Code: PM32320537

Year: 2020 Date: 2020

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

Randomized, open-label, crossover pilot study.

## Participants

Patients with cystic fibrosis (CF).

## Interventions

High-frequency chest wall oscillation (HFCWO). A standard nonmobile HFCWO device (sHFCWO) was used as a comparator

## Outcome measures

Sputum was collected during and after each therapy session, while spirometry tests, Brody score assessment and functional respiratory imaging were performed before and after treatments.

## Main results

Wet weight of sputum collected during and after treatment was similar for mHFCWO and sHFCWO ( $6.53 \pm 0.855$  vs  $5.80 \pm 0.582$ ;  $P = 0.777$ ). Interestingly, the mHFCWO treatment led to a significant decrease in specific airway volume ( $9.55 \pm 0.996$  vs  $8.74 \pm 0.970$  mL/L;  $P = 0.001$ ).

## Authors' conclusions

The newly developed mobile device provides airway clearance for CF patients comparable to a nonmobile sHFCWO device, yielding a change in airway geometry and patency by the shift of mucus from the more peripheral regions to the central airways.

<http://dx.doi.org/10.1002/ppul.24784>

## See also

Pediatr Pulmonol. 2020 Aug;55(8):1984-1992. doi: 10.1002/ppul.24784. Epub 2020 Apr 22.

## Keywords

Adult; Aged; Airway clearance technique; Child; High Frequency Chest Wall Oscillation -HFCWO-; non pharmacological intervention - devices OR physiotherapy; VEST Airway Clearance System; oscillating devices; Chest physiotherapy; Bacterial Infections; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Exacerbation;