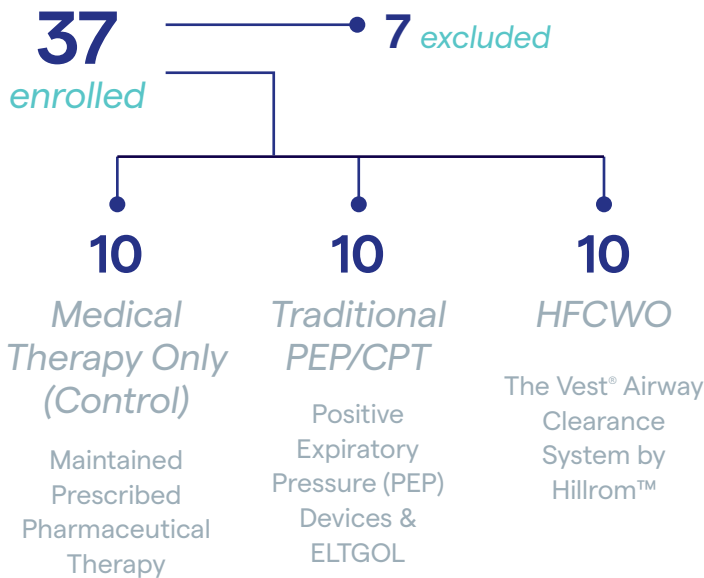




EFFECTIVENESS OF TREATMENT WITH HFCWO

in patients with Bronchiectasis



OVERVIEW

High Frequency Chest Wall Oscillation (HFCWO) provides an improvement both in pulmonary function and quality of life in patients with chronic hyper-secretive bronchiectasis. Since those patients need daily airway clearance, HFCWO should be included among the principal options in chest physiotherapy.

NICOLINI, ET AL. STUDY¹

The aim of the study was to find the more efficacious treatment in patients with bronchiectasis.

The intent of the study was to measure:

- Breathlessness & quality of life (QOL)
- Respiratory lung function
- Sputum production
- Sputum cellularity

It incorporated traditional techniques of chest physiotherapy (CPT) vs. HFCWO in patients with bronchiectasis.

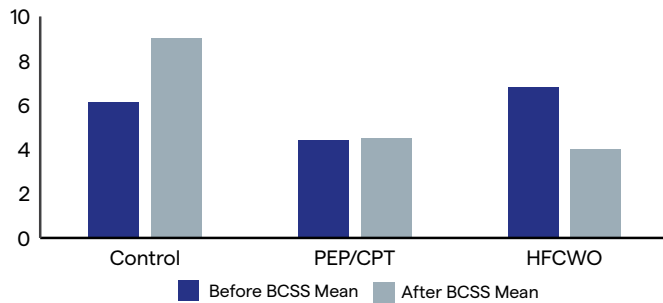
Fifteen-day randomized control trial (RCT) used computer randomization to divide patients into three groups:

- Medical therapy only, as prescribed
- CPT/PEP – 45 mins/session, twice daily
- HFCWO – 30 mins/session, twice daily

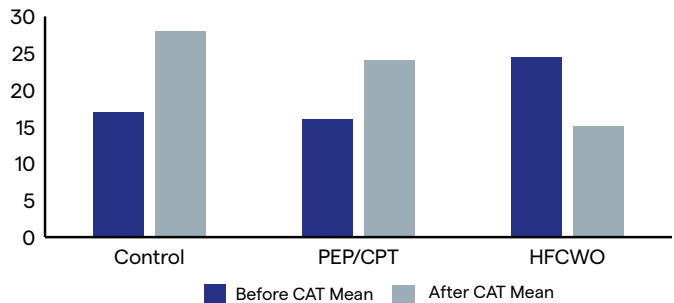
PATIENTS SHOWED SIGNIFICANT IMPROVEMENT IN DYSPNEA AND QOL WITH HFCWO

HFCWO showed a significant improvement in BCSS ($p \leq 0.001$) and CAT ($p \leq 0.001$).

BREATHLESSNESS, COUGH & SPUTUM SCORE (BCSS)

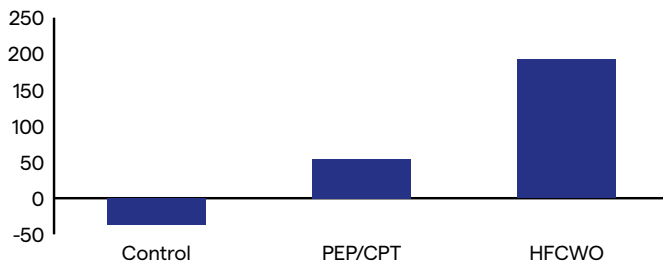


COPD ASSESSMENT TEST (CAT)

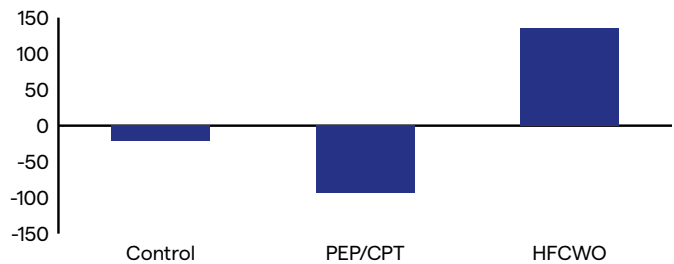


BRONCHIECTASIS PATIENTS SHOWED SIGNIFICANT IMPROVEMENT IN RESPIRATORY FUNCTION WITH HFCWO VS PEP/CPT

FVC (ML) DIFFERENCE BEFORE & AFTER TREATMENT



FEV1 (ML) DIFFERENCE BEFORE & AFTER TREATMENT



IMPROVEMENT OBSERVED IN MARKERS OF INFLAMMATION

- HFCWO group showed a significant reduction of blood inflammatory parameter C-Reactive Protein, compared to the PEP/CPT group ($p \leq 0.019$).
- HFCWO showed a significant reduction of neutrophils percentage in sputum ($p \leq 0.002$).
- HFCWO also produced a significant difference in sputum volume at the end of treatment from 52.0 ± 16.9 ml to 72.5 ± 24.0 ml ($p \geq 0.011$).



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References

¹ Nicolini A, Cardini F, Landucci N, et al. Effectiveness of treatment with high-frequency chest wall oscillation in patients in patients with bronchiectasis. BMC Pulm Med 2013; Apr 4;13:21. doi: 10.1186/1471-2466-13-21.

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