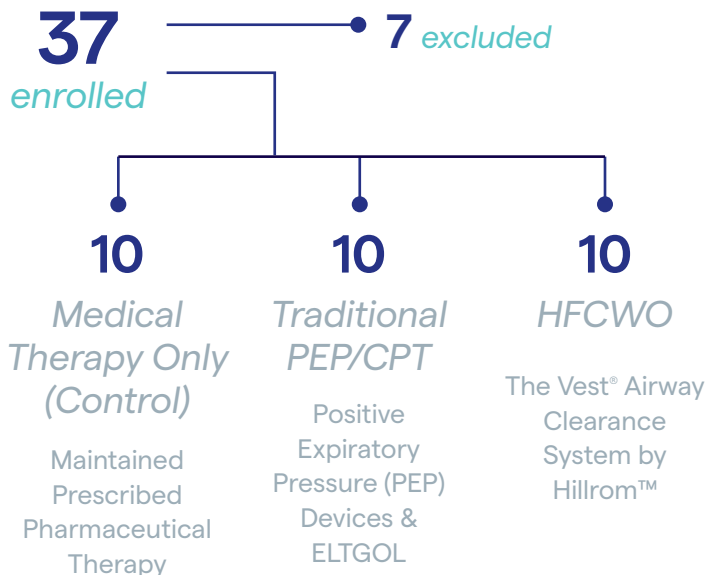




# EFFECTIVENESS OF TREATMENT WITH HFCWO

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. STUDY<sup>1</sup>

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.

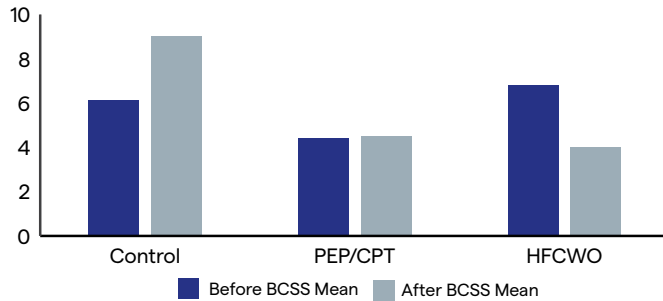
Fifteen-day randomized control trial (RCT) used computer randomization to divide patients into three groups:

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

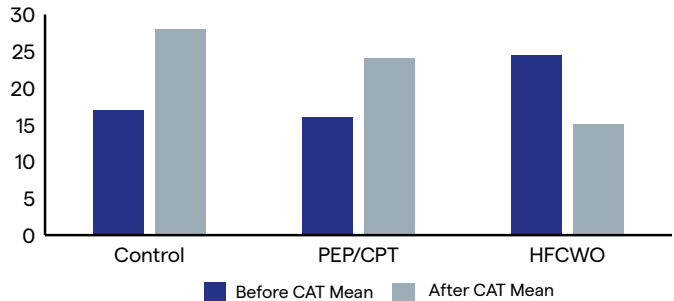
## PATIENTS SHOWED SIGNIFICANT IMPROVEMENT IN DYSPNEA AND QOL WITH HFCWO

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

### BREATHLESSNESS, COUGH & SPUTUM SCORE (BCSS)

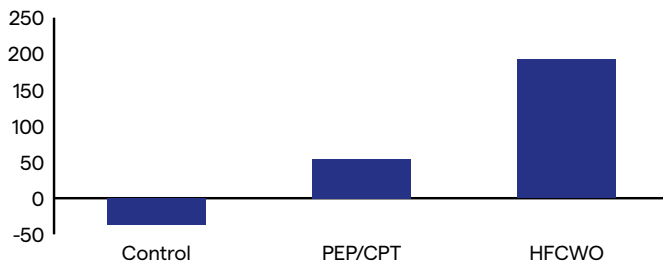


### COPD ASSESSMENT TEST (CAT)

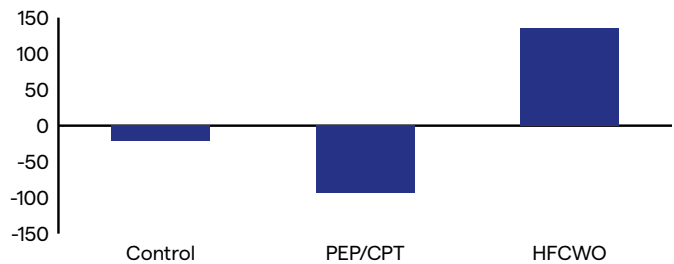


## BRONCHIECTASIS PATIENTS SHOWED SIGNIFICANT IMPROVEMENT IN RESPIRATORY FUNCTION WITH HFCWO VS PEP/CPT

### 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  $52.0 \pm 16.9$  ml to  $72.5 \pm 24.0$  ml ( $p \geq 0.011$ ).



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#### References

<sup>1</sup> 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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