

primary studies - published RCT

## Comparison of Flutter device and chest physical therapy in the treatment of cystic fibrosis pulmonary exacerbation.

**Code:** PM10497374

**Year:** 1999 **Date:** 2003

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

randomised crossover trial

### Participants

26 patients of mean (SD) age 27 (6) years and forced expiratory volume in 1 second (FEV1) 34 (12)% predicted

### Interventions

standard treatment (active cycle of breathing technique, ACBT) with ACBT + NIV

### Outcome measures

Respiratory muscle strength (P<sub>I</sub>max, P<sub>E</sub>max), spirometric parameters, and dyspnoea were measured before and after treatment. Pulse oximetry (SpO<sub>2</sub>) was recorded during treatment. Sputum production during treatment and 4 and 24 hours after treatment was evaluated.

### Main results

There was a significant reduction in P<sub>I</sub>max following standard treatment that was correlated with baseline P<sub>I</sub>max ( $r=0.73$ ,  $p$

### Authors' conclusions

Reduced inspiratory muscle strength and oxygen desaturation during chest physiotherapy are associated with inspiratory muscle weakness and severity of lung disease in adults with exacerbations of CF. Addition of NIV improves inspiratory muscle function, oxygen saturation and small airway function and reduces dyspnoea.

[3.0.CO;2-K" target=" blank">http://dx.doi.org/10.1002/\(SICI\)1099-0496\(199910\)28:4<255::AID-PPUL4>3.0.CO;2-K](http://dx.doi.org/10.1002/(SICI)1099-0496(199910)28:4<255::AID-PPUL4>3.0.CO;2-K)

### See also

Pediatr Pulmonol. 1999 Oct;28(4):255-60.

### Keywords

Adult; Aged; non pharmacological intervention - devices OR physiotherapy; pharmacological\_intervention; Ventilators; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; Active Cycle of Breathing Technique -ACBT-; Airway clearance technique; Chest physiotherapy;