

primary studies - published RCT

## **Physiologic evidence for high-frequency chest wall oscillation and positive expiratory pressure breathing in hospitalized subjects with cystic fibrosis.**

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

RCT

### **Participants**

Participants were admitted to hospital for acute exacerbation. All participants performed HFCWO 1 - 3 times daily as outpatients before admission, but none had performed PEP. 15 participants, 8 males, 7 females. Aged at least 7 years, mean (SD) age 17.5 (4.2) years.

### **Interventions**

Treatment lasted 30 minutes. PEP versus HFCWO. Both treatments were alternated within 48 hours of hospital admission and then reversed prior to discharge.

### **Outcome measures**

RFTs and SaO<sub>2</sub> measured before and after every intervention. Each intervention was only done twice i.e. day 1 or 2 following admission then day -1 or -2 prior to discharge.

### **Main results**

At admission and discharge, PEP breathing increased SpO<sub>2</sub> during treatment, whereas HFCWO decreased SpO<sub>2</sub> during treatment. Ventilation distribution, gas mixing, and lung function improved after HFCWO or PEP breathing.

### **Authors' conclusions**

High-frequency chest wall oscillation and PEP breathing are similarly efficacious in improving ventilation distribution, gas mixing, and pulmonary function in hospitalized people with CF. Because SpO<sub>2</sub> decreases during HFCWO, people who have moderate to severe CF and who use HFCWO should have SpO<sub>2</sub> monitored during an acute exacerbation.

<http://www.mrw.interscience.wiley.com/cochrane/clcentral/articles/068/CN-00691068/frame.html>

### **See also**

Physical Therapy YR: 2005 VL: 85 DE: RCT NO: 12

### **Keywords**

non pharmacological intervention - devices OR physiotherapy; Airway clearance technique; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; Positive-Pressure Respiration- PEP- pep mask; High Frequency Chest Wall Oscillation -HFCWO-; VEST Airway Clearance System; oscillating devices; Chest physiotherapy;