

primary studies - published RCT

## **Short-term effects of three chest physiotherapy regimens in patients hospitalized for pulmonary exacerbations of cystic fibrosis: a cross-over randomized study.**

**Code:** PM7675553

**Year:** 1995 **Date:** 2000

**Author:** Braggion C

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

a randomised crossover trial

### **Participants**

26 CF subjects

### **Interventions**

Two regimens of treatment were conducted: therapist-assisted treatment (active cycle of breathing, ACBT, with percussion, vibration), and independent treatment (ACBT alone, under the supervision of a physiotherapist). 48 hours between treatments

### **Outcome measures**

Subjects completed pulmonary function tests before and after either treatment. Indirect calorimetry and oximetry parameters were recorded at rest, during, and following treatment. Treatment groups were compared using ANOVA and two-sample crossover t-tests.

### **Main results**

When compared to resting values, physiotherapy treatment resulted in significant increases in VO<sub>2</sub>, VCO<sub>2</sub> and respiratory exchange ratio. No difference was evident between treatment regimens for the change in VO<sub>2</sub> between baseline and treatment. The increase in ventilation (baseline to treatment) was significantly greater for the therapist-assisted treatment. The therapist-assisted ACBT was associated with a significant carryover effect for forced expiratory flow at 50% of vital capacity (FEF<sub>50</sub>). Oxygen requirements for the two treatments were similar. However, the assisted regimen resulted in greater changes in minute ventilation during treatment and improved 48-hour post-treatment pulmonary function after only one treatment session.

### **Authors' conclusions**

These findings suggest that the inclusion of percussion and vibration within the ACBT may influence respiratory muscle activity during treatment and result in improved pulmonary function.

<http://dx.doi.org/10.1002/ppul.1950190104>

### **See also**

Pediatr Pulmonol. 1995 Jan;19(1):16-22.

### **Keywords**

Adolescent; Adult; Child; non pharmacological intervention - devices OR physiotherapy; Self-Management; Active Cycle of Breathing Technique -ACBT-; percussion; Airway clearance technique; Chest physiotherapy; Behavioural interventions;