

primary studies - published RCT

## Open randomised prospective comparative multi-centre intervention study of patients with cystic fibrosis and early diagnosed diabetes mellitus.

Code: PM24620855

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Author: Ballmann M

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

Randomised, cross-over pilot study

### Participants

Children aged >9 years with CF.

### Interventions

Undertaking of airway clearance physiotherapy (ACT) prior to cardiopulmonary exercise testing (CPET)

### Outcome measures

Improvements in exercise capacity. Spirometry, plethysmography and CPET were performed on two separate occasions-one test with ACT prior to CPET and the other without.

### Main results

12 patients with CF were included in the study with a mean (SD) age of 12.83 (1.85) years. No significant difference in peak oxygen uptake (VO<sub>2</sub>) was found between the tests. However, lower minute ventilation (VE) and ventilatory equivalents (VEVO<sub>2</sub> and VEVC<sub>O2</sub>) at ventilatory threshold (VT) were noted when ACT was undertaken prior to CPET. The mean(SD) VE (L/min) at VT was 26.67 (5.49) vs 28.92 (6.3) (p=0.05), VEVO<sub>2</sub> (L/min) at VT was 24.5 (1.75) vs 26.05 (2.5) (p=0.03) and VEVC<sub>O2</sub> (L/min) at VT was 26.58 (2.41) vs 27.98 (2.11) (p=0.03).

### Authors' conclusions

ACT prior to exercise may lead to improved ventilatory dynamics during exercise in individuals with CF.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3975280/>

### See also

BMC Pediatr. 2014 Mar 11;14:70. doi: 10.1186/1471-2431-14-70.

### Keywords

Active Cycle of Breathing Technique -ACBT-; flutter; Drainage; Positive-Pressure Respiration- PEP- pep mask; Airway clearance technique; Chest physiotherapy; non pharmacological intervention - devices OR physiotherapy; oscillating devices;