primary studies - published RCT

Airway clearance physiotherapy improves ventilatory dynamics during exercise in patients with cystic fibrosis: a pilot study.

Code: PM29794108 **Year:** 2019 **Date:** 2019 **Author:** Vendrusculo FM

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 (VO2) was found between the tests. However, lower minute ventilation (VE) and ventilatory equivalents (VEVO2 and VEVCO2) 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), VEVO2 (L/min) at VT was 24.5 (1.75) vs 26.05 (2.5) (p=0.03) and VEVCO2 (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.

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See also

Arch Dis Child. 2019 Jan;104(1):37-42. doi: 10.1136/archdischild-2017-314365. Epub 2018 May 24.

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;