primary studies - published, non RCT

Effect of backpack carrying on forced vital capacity in cystic fibrosis: A randomized crossover-controlled trial.

Code: PM29742145 **Year:** 2018 **Date:** 2018 **Author:** Combret Y

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

Non randomized trial

Participants

9 children with CF (13.3+/-2.6 years; FEV1 66+/-22%) and 18 healthy children (13.8+/-1.8 years; FEV1 107+/-30%) were included.

Interventions

Three backpack positions were tested: no backpack (NB), a 12.5% body-weight backpack carried bilaterally (BB) or unilaterally (UB), at rest and during a 10 minute walk.

Outcome measures

Primary outcome was forced vital capacity (FVC). Secondary outcomes included comparison of cardio-respiratory variables within and between groups.

Main results

FVC was reduced with UB compared to NB (68.5+/-23.3% vs 72.1+/-24.3%, p = 0.024) in children with CF. FEV1, MIP and MEP decreased more with UB in children with CF than in healthy peers. Increases in VO2, VCO2 and minute ventilation with UB were greater in the CF group during walking.

Authors' conclusions

Unilateral backpack wearing affects FVC in children with CF and requires greater cardio-respiratory adjustments compared to healthy peers.

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See also

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Keywords

non pharmacological intervention - psyco-soc-edu-org; Behavioural interventions;