

*primary studies - published RCT*

## **Nasal high-flow therapy as an adjunct to exercise in patients with cystic fibrosis: A pilot feasibility trial.**

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

Pilot, open-label, randomized crossover trial

### **Participants**

23 participants with CF and severe lung disease.

### **Interventions**

Nasal high-flow therapy (NHFT). Participants completed two treadmill walking test (TWT) with and without NHFT at 24-48 h interval.

### **Outcome measures**

Primary outcome was trial feasibility, and exploratory outcomes were TWT distance (TWTd), SpO<sub>2</sub>, transcutaneous CO<sub>2</sub>, dyspnoea and comfort.

### **Main results**

Recruitment rate was 2.4 subjects/month with 1.3:1 screening-to-randomization ratio. No adverse events caused by NHFT were observed. Tolerability was good and data completion rate was 100%. Twenty subjects (91%) were included in the exploratory study. Mean difference in TWTd on NHFT was 19 m (95% CI [4.8 - 33.1]). S(p)O<sub>2</sub> was similar, but respiratory rate and mean tcCO<sub>2</sub> were lower on NHFT (mean difference = -3.9 breaths/min 95% CI [-5.9 - -1.9] and -0.22 kPa 95% CI [-0.4 - 0.04]). NHFT reduced exercise-induced dyspnoea and discomfort.

### **Authors' conclusions**

Trials using NHFT in patients with CF during exercise are feasible. NHFT appears to improve walking distance, control respiratory rate, CO<sub>2</sub>, dyspnoea and improve comfort. A larger trial with a longer intervention is feasible and warranted to confirm the impact of NHFT in training programmes for patients with CF.

<http://dx.doi.org/10.1016/j.jcf.2021.03.005>

### **See also**

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### **Keywords**

non pharmacological intervention - devices OR physiotherapy; Oxygen;