

primary studies - published RCT

## **CPAP has no effect on clearance, sputum properties, or expectorated volume in cystic fibrosis.**

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**Author:** Aquino ES

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

RCT, crossover study

### **Participants**

15 CF subjects (mean age 19 years old)

### **Interventions**

Patients were randomized to interventions, 48 hours apart: directed coughs (control), CPAP at 10 cm H<sub>2</sub>O, HTS 7%, and both CPAP and HTS (CPAP+HTS).

### **Outcome measures**

Sputum expectoration volume and respiratory secretion properties. Expectorated volume was determined and in vitro sputum properties were analyzed for contact angle and cough clearability.

### **Main results**

There were no significant differences between any treatment in arterial blood pressure, heart rate, or pulse oximetry, between the 2 time points. HTS and CPAP+HTS improved cough clearability by 50% ( $P = .001$ ) and expectorated volume secretion by 530% ( $P = .001$ ). However, there were no differences between control and CPAP on sputum contact angle, cough clearability, or volume of expectorated secretion.

### **Authors' conclusions**

CPAP alone had no effect on mucus clearance, sputum properties, or expectorated volume, and did not potentiate the effect of HTS alone in CF subjects.

<http://dx.doi.org/10.4187/respcare.01705>

### **See also**

Respir Care. 2012 Nov;57(11):1914-9. doi: 10.4187/respcare.01705. Epub 2012 Mar 13.

### **Keywords**

Adult; Aged; Airway clearance technique; non pharmacological intervention - devices OR physiotherapy; Positive-Pressure Respiration-PEP- pep mask; Chest physiotherapy; hydration; Hypertonic Solutions; Inhalation OR nebulised; nebuliser; pharmacological\_intervention; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Respiratory System Agents;