*primary studies - published, non RCT*

# The Short-Term Effect of Breathing Tasks Via an Incentive Spirometer on Lung Function Compared With Autogenic Drainage in Subjects With Cystic Fibrosis.

**Code:** PM26374905 **Year:** 2015 **Date:** 2015 **Author:** Sokol G

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

retrospective study.

### Participants

72 Subjects with CF

### Interventions

Subjects performed 30-45 min of either the resistive-breathing incentive spirometer (n = 40) or autogenic drainage (n = 32) technique on separate days. The spirometer encourages the patient to exhale as long as possible while maintaining a low lung volume. The autogenic drainage technique includes repetitive inspiratory and expiratory maneuvers at various tidal breathing magnitudes while exhalation is performed in a sighing manner.

### Outcome measures

Spirometry was performed before and 20-30 min after the therapy. FVC and FEV1, FEF25-75%

### Main results

Use of a resistive-breathing incentive spirometer improved FVC and FEV1 by 5-42% in 26 subjects. The forced expiratory flow during the middle half of the FVC maneuver (FEF25-75%) improved by >20% in 9 (22%) subjects. FVC improved the most in subjects with an FEV1 of 40-60% of predicted. Improvements negatively correlated with baseline percent-of-predicted FVC values provided improvements were above 10% (r(2) = 0.28). Values improved in a single subjects using the autogenic drainage technique.

### Authors' conclusions

These 2 techniques may allow lower thoracic pressures and assist in the prevention of central airway collapse. The resistive-breathing incentive spirometer is a self-administered simple method that may aid airway clearance and has the potential to improve lung function as measured by FVC, FEV1, and FEF25-75% in patients with CF.

http://dx.doi.org/10.4187/respcare.04008

### See also

Respir Care. 2015 Dec;60(12):1819-25. doi: 10.4187/respcare.04008. Epub 2015 Sep 15

### Keywords

Adolescent; Airway clearance technique; Child; Drainage; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; Postural Drainage; percussion; Chest physiotherapy; Autogenic Drainage;