*primary studies - published RCT*

# Comparison of the flutter device to standard chest physiotherapy in hospitalized patients with cystic fibrosis: a pilot study.

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

Randomised controlled trial. Parallel design.

### Participants

22 participants on 33 admissions. Ages: 8-44 years, CCPT: Mean (range) 12 years (7-21 years); flutter: 16.1 years (8-44 years).

### Interventions

CCPT versus flutter.

### Outcome measures

Sputum volume, FVC, FEV1, FEF25-75, FEV/TLC, TLC, RV, RV/TLC, clinical score.

### Main results

The groups (CPT and Flutter) did not differ at baseline in demographics or Shwachman score, nor was length of hospitalization different. Significant improvements were noted from admission to discharge in CS and PFT results within each group. Mean percent change in CS and PFT results between CPT and Flutter groups showed no significant difference from hospital admission to discharge. Subsequent power analysis using the observed difference in percent change from admission to discharge for FEV1 indicated that to attain 80% power at alpha = 0.05, a sample of 219 subjects in each group would be necessary.

### Authors' conclusions

Comparative trials of airway clearance techniques with sufficient sample size are lacking. Although the Flutter appears to be a useful device for independent, cost-effective, and safe administration of CPT in this pilot study, a much larger clinical trial would be necessary to make definitive conclusions.

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### See also

Chest. 1998 Oct;114(4):993-7.

### Keywords

Adolescent; Adult; Airway clearance technique; Child; Drainage; flutter; Hospitalization; Hospital care; non pharmacological intervention - devices OR physiotherapy; pharmacological_intervention; Postural Drainage; Exacerbation; Respiratory Tract Infections; Respiratory Tract Diseases; Infection; Bacterial Infections; oscillating devices; Chest physiotherapy;