primary studies - published, non RCT

Physiological effects of vibration in subjects with cystic fibrosis.

Code: PM16455834 **Year:** 2006 **Date:** 2006 **Author:** McCarren B

Participants

18 young adult subjects with cystic fibrosis

Interventions

FKT techniques: vibration, Acapella, Flutter, positive expiratory pressure and percussion

Outcome measures

compare the expiratory flow rates and frequencies of airflow oscillation of vibration to those of Acapella(R), Flutter(R), positive expiratory pressure and percussion. Respiratory flow rates were measured during interventions, the order of which was randomised. The oscillation of the airflow of the interventions was determined by frequency spectral analysis

Main results

the mean peak expiratory flow rate of vibration was greater than Flutter(R), percussion, Acapella(R) and positive expiratory pressure. The mean+/-sd of the oscillation of the airflow of vibration (8.4+/-0.4 Hz) was lower than Acapella(R) (13.5+/-1.7 Hz) and Flutter(R) (11.3+/-1.5 Hz) but similar to percussion (7.3+/-0.3 Hz).

Authors' conclusions

Theoretically, the higher peak expiratory flow rate of vibration compared to the other physiotherapy interventions may promote secretion clearance. In addition, the frequency of oscillation of vibration was within the range demonstrated to increase mucus transport. This study has provided some evidence for the physiological rationale for the use of vibration to aid secretion clearance.

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See also

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Keywords

Adult; Airway clearance technique; Chest Wall Oscillation; non pharmacological intervention - devices OR physiotherapy; Percussion; pharmacological_intervention; Vibration; Airway clearance drugs -expectorants- mucolytic- mucociliary-; Acapella; flutter; oscillating devices; Chest physiotherapy;