

Clinical Trial Overview

High-Frequency Chest Compression: Pulmonary Function

In a long-term study comparing chest physiotherapy (CPT) to high frequency chest compression (HFCC) in cystic fibrosis (CF) patients, 94% showed positive improvements for percent predicted forced vital capacity (FVC) and forced expiratory volume in one minute (FEV₁) after two years of HFCC therapy. Most showed clinical improvement. The long - term FVC and FEV₁ gains shown in this study are unprecedented.

Title	Warwick WJ, Hansen LG. The long-term effect of high-frequency chest compression therapy on pulmonary complications of cystic fibrosis. <i>Pediatr Pulmonol</i> 1991; 11:265-271.
Design	Retrospective
Method	<p>FEV₁ scores recorded during 2 years of CPT were compared with scores during 2 years of subsequent HFCC in sixteen CF patients with mild to severe lung disease.</p> <ul style="list-style-type: none"> • CPT 1 - 4X daily for a mean of 23.2 months (range: 14-27 months) • 1 - 4X daily HFCC for a mean of 21.6 months (range:7-26 months) • 30-minutes daily minimum for 5 minutes at each of 6 frequencies • Individual patient therapy times ranged from 30-240 minutes daily • Concomitant coughing and huffing techniques used
Results	<p>Two-sided t-test analysis:</p> <ul style="list-style-type: none"> • Slopes more positive for FVC and FEV₁ during HFCC therapy compared with manual CPT • Significance level for both FVC and FEV₁: P < 0.001 • No treatment-related adverse events reported

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