

Clinical Trial Overview

High-Frequency Chest Compression: Mechanically Ventilated Patients

A randomized controlled study comparing manual chest physiotherapy (mCPT) and high-frequency chest compression (HFCC) in 54 long-term acute care (LTAC) ventilator-dependent patients found that HFCC is safe and effective. More than twice as many patients receiving HFCC were weaned from mechanical ventilators than those receiving mCPT; results suggest a correlation between effective airway clearance and liberation from ventilator-dependence.

Title	Ndukwu, IM, Shapiro S, Nam AJ, Schumm PL. Comparison of high-frequency chest wall oscillation (HFCWO) and manual chest physiotherapy (mCPT) in long-term acute care hospital (LTAC) ventilator-dependent patients. <i>Chest</i> 1999; 116 (4) Suppl: 311S.
Design	Randomized controlled trial (RCT)
Method	<p>Fifty-four LTAC patients ventilator-dependent for a median 84 days were randomized to receive 4 daily 15 minute treatments with either mCPT or HFCC for 40 days.</p> <ul style="list-style-type: none"> • N =28 mCPT • N =26 HFCWO • Median time on ventilator = 84 days • Baseline and weekly chest x-rays (CXR) were obtained
Results	<p>Daily sputum wet weight (DSWW) for 21 days</p> <ul style="list-style-type: none"> • HFCC DSWW =193 gms • mCPT DSWW = 154 gms • P = 0.114 <p>Number of patients weaned from ventilator</p> <ul style="list-style-type: none"> • HFCC = 10/26 (38%) • MCPT = 4/28 (15%) • P = 0.063 <p>Observations</p> <ul style="list-style-type: none"> • No correlation between CXR and likelihood of ventilator liberation • No complications observed in either group

03/08