

## The effect of combining manual therapy and exercise within a pulmonary rehabilitation program for chronic obstructive pulmonary disease – A pilot trial

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**Background:** The primary source of exercise limitation in people with chronic obstructive pulmonary disease (COPD) is dyspnea. Part of the cause for this has been attributed to changes in chest wall mechanics, with a decrease in chest wall mobility having the potential to decrease lung function. As manual therapy (MT) increases joint mobility, this pilot trial investigated the effect on lung function of administering MT, in conjunction with pulmonary rehabilitation (PR), to patients with COPD.

**Methods:** 33 participants with COPD, between 55 and 70 years (mean = 65.5 years  $\pm$  4), were randomly assigned to three groups. Group 1 received PR, Group 2 received soft tissue manual therapy (ST) and PR, and Group 3 received ST, spinal manipulative therapy (SM) and PR. Outcome measures were recorded at baseline, 8, 16 and 24 weeks.

**Results:** Clinically significant increases were reported in forced vital capacity (FVC) for Groups 2 (ST+PR) and 3 (ST+SM+PR) at 24 weeks (0.32 liters, SD: 0.16;  $p = 0.02$  and 0.53 liters, SD: 0.12;  $p = 0.02$  respectively) and in a six minute walking test (6MWT) for Group 3 (ST+SM+PR) at 16 weeks (51.7 meters, SD: 9.5;  $p = 0.01$ ).

**Conclusion:** The increases are most likely due to the synergistic effects resulting from combining interventions. While the underlying mechanisms responsible for these increases are not yet fully understood, the results support further investigation of MT as a means of improving PR outcomes in patients with COPD.

### Biography

Roger Engel completed his PhD in the field of manual therapy and COPD at Macquarie University in 2011. The above abstract represents part of that work. He currently holds an academic appointment in the Faculty of Science at Macquarie University, teaching in the field of manual therapy. His publications include papers and book chapters on respiratory disease, spinal anatomy and differential diagnosis.

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