

# Collected Scientific Research Relating to the Use of Osteopathy with Emphysema/chronic obstructive pulmonary disease

## Important:

1) Osteopathy involves helping people's own self-healing abilities to work better, rather than focussing primarily on particular conditions.

2) Each person is different, and osteopathy treats them differently.

Therefore people respond to osteopathic treatment in different ways. Treatments that work for one person cannot be guaranteed to work for another person in the same way. The fact that there is scientific research supporting a treatment in a group of people does not mean that it will always work in the same way (which is probably true of all research).

A number of things make research into osteopathy challenging. These include the two aspects of osteopathy mentioned above, and also the lack of major commercial interests to provide funding in expectation of financial returns. At the same time, there is an emerging body of research demonstrating the usefulness of osteopathic treatment.

Please note: there is room for debate about the classifications used for these studies. Please let John Smartt know if you believe that any of these classifications are incorrect.

**Important: great care should be exercised when using osteopathy or other manual techniques for patients with emphysema. It appears as though the specific technique used can make a difference. Focussing on the diaphragm seems to help, whereas focussing on rib mechanics may actually make the problem worse, at least in the short-term.**

# These studies are from peer-reviewed journals

Number of studies: 4

## Clinically and statistically significant results

Number of studies: 2

### Randomised controlled trials

Number of studies: 2

Rocha T, Souza H, Brandão DC, Rattes C, Ribeiro L, Campos SL, Aliverti A, Andrade AD 2015 **The Manual Diaphragm Release Technique improves diaphragmatic mobility, inspiratory capacity and exercise capacity in people with chronic obstructive pulmonary disease: a randomised trial** Journal of Physiotherapy October Volume 61, Issue 4, Pages 182–189 [http://www.journalofphysiotherapy.com/article/S1836-9553\(15\)00100-9/fulltext](http://www.journalofphysiotherapy.com/article/S1836-9553(15)00100-9/fulltext)

"Design: Randomised, controlled trial with concealed allocation, intention-to-treat analysis, and blinding of participants and assessors. Participants: Twenty adults aged over 60 years with clinically stable chronic obstructive pulmonary disease. Intervention: The experimental group received six treatments with the Manual Diaphragm Release Technique on non-consecutive days within a 2-week period. The control group received sham treatments following the same regimen. Outcome measures: The primary outcome was diaphragmatic mobility, which was analysed using ultrasonography. The secondary outcomes were: the 6-minute walk test; maximal respiratory pressures; and abdominal and chest wall kinematics measured by optoelectronic plethysmography. Outcomes were measured before and after the first and sixth treatments. Results: The Manual Diaphragm Release Technique significantly improved diaphragmatic mobility over the course of treatments, with a between-group difference in cumulative improvement of 18 mm (95% CI 8 to 28). The technique also significantly improved the 6-minute walk distance over the treatment course, with a between-group difference in improvement of 22 m (95% CI 11 to 32). Maximal expiratory pressure and sniff nasal inspiratory pressure both showed significant acute benefits from the technique during the first and sixth treatments, but no cumulative benefit. Inspiratory capacity estimated by optoelectronic plethysmography showed significant cumulative benefit of 330 ml (95% CI 100 to 560). The effects on other outcomes were non-significant or small. Conclusion: The Manual Diaphragm Release Technique improves diaphragmatic mobility, exercise capacity and inspiratory capacity in people with chronic obstructive pulmonary disease. This technique could be considered in the management of people with chronic obstructive pulmonary disease."

Zanotti E, Berardinelli P, Bizzarri C, Civardi A, Manstretta A, Rossetti S, Fracchia C 2012 **Osteopathic manipulative treatment effectiveness in severe chronic obstructive pulmonary disease: A pilot study** Complementary Therapies in Medicine Vol 20 pages 16-22 <http://www.sciencedirect.com/science/article/pii/S0965229911001609>

"Patients underwent exercise training, OMT [osteopathic manipulative therapy], educational support and nutritional and psychological counselling."  
"This study suggests that OMT+PR [pulmonary rehabilitation] may improve exercise capacity and reduce RV [respiratory volume] in severely impaired COPD patients with respect to PR alone."

# Condition worsened

Number  
of studies:  
2

## Randomised controlled trials

Number of studies: 2

Noll DR, Johnson JC, Baer RW, Snider EJ 2009 **The immediate effect of individual manipulation techniques on pulmonary function measures in persons with chronic obstructive pulmonary disease.** *Osteopathic medicine and primary care* Oct 8;3:9 <http://www.ncbi.nlm.nih.gov/pubmed>

### "BACKGROUND:

The use of manipulation has long been advocated in the treatment of chronic obstructive pulmonary disease (COPD), but few randomized controlled clinical trials have measured the effect of manipulation on pulmonary function. In addition, the effects of individual manipulative techniques on the pulmonary system are poorly understood. Therefore, the purpose of this study was to determine the immediate effects of four osteopathic techniques on pulmonary function measures in persons with COPD relative to a minimal-touch control protocol.

### METHODS:

Persons with COPD aged 50 and over were recruited for the study. Subjects received five, single-technique treatment sessions: minimal-touch control, thoracic lymphatic pump (TLP) with activation, TLP without activation, rib raising, and myofascial release. There was a 4-week washout period between sessions. Protocols were given in random order until all five techniques had been administered. Pulmonary function measures were obtained at baseline and 30-minutes posttreatment. For the actual pulmonary function measures and percent predicted values, Wilcoxon signed rank tests were used to test within-technique changes from baseline. For the percent change from baseline, Friedman tests were used to test for between-technique differences.

### RESULTS:

Twenty-five subjects were enrolled in the study. All four tested osteopathic techniques were associated with adverse posttreatment changes in pulmonary function measures; however, different techniques changed different measures. TLP with activation increased posttreatment residual volume compared to baseline, while TLP without activation did not. Side effects were mild, mostly posttreatment chest wall soreness. Surprisingly, the majority of subjects believed they could breathe better after receiving osteopathic manipulation.

### CONCLUSION:

In persons with COPD, TLP with activation, TLP without activation, rib raising, and myofascial release mildly worsened pulmonary function measures immediately posttreatment relative to baseline measurements. The activation component of the TLP technique appears to increase posttreatment residual volume. Despite adverse changes in pulmonary function measures, persons with COPD subjectively reported they benefited from osteopathic manipulation."

Noll DR, Degenhardt BF, Johnson JC, Burt SA 2008 **Immediate effects of osteopathic manipulative treatment in elderly patients with chronic obstructive pulmonary disease.** *J Am Osteopath Assoc* May;108(5):251-9 <http://www.ncbi.nlm.nih.gov/pubmed/18519835>

### "CONTEXT:

Osteopathic manipulative treatment (OMT) has long been advocated for patients with respiratory disorders, but little definitive evidence exists to support its use in this population.

### OBJECTIVE:

To investigate the immediate effect of OMT on pulmonary function parameters in elderly subjects with chronic obstructive pulmonary disease.

### METHODS:

Subjects aged 65 years or older with a forced expiratory volume in 1 second to forced vital capacity ratio of less than 70% were recruited and randomly assigned to receive either OMT or

sham therapy. The OMT protocol consisted of seven standardized osteopathic manipulative techniques, while the sham therapy protocol comprised light touch applied to the same anatomic regions and for the same duration (20 min). All subjects received baseline and posttreatment pulmonary function testing. A telephone survey was conducted 1 day after the intervention to collect subjective feedback and assess the success of blinding protocols.

**RESULTS:**

Of the 35 study participants, 18 were randomly assigned to the OMT group and 17 to the sham group. Compared with the sham group, the OMT group showed a statistically significant decrease in the forced expiratory flow at 25% and 50% of vital capacity and at the midexpiratory phase; the expiratory reserve volume; and airway resistance. The OMT group also had a statistically significant increase in the residual volume, total lung capacity, and the ratio of those values compared with the sham group. Most subjects (82%, OMT group; 65%, sham group) reported breathing better after receiving their treatment. Only 53% of subjects in the OMT group and 41% in the sham group correctly guessed their group assignment.

**CONCLUSION:**

Results suggest an overall worsening of air trapping during the 30 minutes immediately following one multitechnique OMT session relative to the sham group."