

European Respiratory Society Annual Congress 2013

Abstract Number: 1270
Publication Number: P1323

Abstract Group: 9.2. Physiotherapists

Keyword 1: Physiotherapy care **Keyword 2:** Respiratory muscle **Keyword 3:** No keyword

Title: Diaphragm manual technique increases lung function and thoracic movement

Mrs. Marie Carmen 1713 Valenza cvalenza@ugr.es¹, Mr. Francisco J. 1869 Gonzalez-Alvarez valenza22@hotmail.com¹, Ms. Irene 1870 Torres-Sanchez irene91@correo.ugr.es¹, Ms. Irene 1871 Cabrera-Martos ire_fisio@hotmail.com¹ and Prof. Gerald 1872 Valenza-Demet gvalenza@ugr.es¹.¹
Physical Therapy Department, University of Granada, Granada, Spain .

Body: Physical therapists have traditionally included various forms of manual therapy among the therapeutic approaches to respiratory pathologies. The aim of this study was to evaluate the effect of diaphragmatic stretching on pulmonary function, thoracic movement, and respiratory pressures in healthy adults. A sample of eighty healthy adults was included in this randomized clinical trial using a between-group design. Participants were randomized into two groups and received either a diaphragmatic stretching technique or placebo treatment. Participants' pulmonary function was measured at baseline, immediately after the intervention, and at 5 and 20 min post-treatment.

Primary outcomes at baseline and post-technique

Measures	Stretching group Adjusted mean difference between groups (95% CI)	P-value	Control group Adjusted mean difference between groups (95% CI)	P-value
pulmonary function				
FVC (ml)	-3.02 [-5.12 to -0.92]	0.006*	0.92 [-0.76 to 2.61]	0.270
FEV1 (ml)	-1.09 [-4.9 to 2.7]	0.573	-0.33 [-1.91 to 1.24]	0.668
MIP (cm H ₂ O)	-13.14 [-16.7 to -9.56]	p<0.001*	0.85 [-0.84 to 2.54]	0.310
MEP (cm H ₂ O)	-11.39 [-15.37 to -7.4]	p<0.001*	-1.14 [-3.73 to 1.44]	0.370
Chest wall expansion				
Axillary level (cm)	-0.38 [-1.19 to 0.43]	0.352	-0.037 [-0.6 to 0.53]	0.895
Xiphoid level (cm)	-2.62 [-3.71 to -1.53]	p<0.001*	0.5 [-0.29 to 1.29]	0.207

Abdominal level (cm)	0.116 [-1.49 to 1.72]	0.834	-1.18 [-2.83 to -0.57]	0.220
----------------------	-----------------------	-------	------------------------	-------

Data are expressed as the mean \pm SD. FVC = Forced vital capacity; FEV1 = forced expiratory volume in 1 second; MIP = maximal inspiratory pressure; MEP = maximal expiratory pressure.

The data analysis revealed that all measures significantly changed from pretest to posttest ($p < 0.05$) in participants in the stretching group.