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## The effect of segmental expansion exercise in patients with COPD

**Dr. Shiril Nagarkar**

### Abstract

**Aim & Objective:** To study the effect of segmental expansion exercise in patients with copd.

**Method:** 30 subjects diagnosed with at least one episode of fall due to loss of balance and proprioception 30 subjects participated in study. Baseline data were collected on the basis of personal history and information, past medical history, medication used. pre and post is expansion where assessed and proprioceptive neuromuscular facilitation techniques was applied to the patient for once a day for seven days the techniques are vertebral pressure high manual pressure to thoracic vertebrae in the region T2 to T5, vertical pressure low-Manual pressure to thoracic vertebrae in region T7-T10 was Given, Anterior stretch lifting posterior basal area -in which patient was in supine position with hands on the lower ribs lifted upwards, Co- Contraction of abdomen in which pressure Laterally over lower ribs and pelvis alternate right and sides, Intercostal Stretch-Stretch on expiratory phase maintained.

**Result:** mean Difference of 0.17,-0.15 and -0.23 at axilla, nipple and xiphisternum level proved to be significant

**Conclusion:** It has been concluded that pnf stretching technique is significantly prove to be effective in chest expansion and forced expiratory volume in COPD patients.

**Keywords:** COPD, vertebral pressure

### Introduction

C O P D is the major cause of morbidity and mortality worldwide, Global initiative for c o p d Defined by air flow limitation that is not fully reversible the airflow limitation is usually progressive and associated with an abnormal inflammatory response of lung to non-noxious articles or gases.

C O P D is now considered as a systemic disease, affecting number of organs including the peripheral muscle system which are activated to decrease oxygen delivery, inflammatory mediator reflect, postural deformity can occur in response to Hyperinflation and increase work of breathing, postural changes include elevated, protracted or abducted scapula with kyphotic spinal deformity. hyperinflation of chess pieces the pectoralis major in a certain position, increases resistance of chest world pay expansion for the increasing positive work of breathing and positive demand places on respiratory muscle full stop in c o p d there is environment of mucus secreting gland and an increase number of global excel in larger Airways contribute to a non-secretion of airways mucus lead to gas typing and hyperinflation which on turn decrease pulmonary and wall complaints full stop in New Zealand and Australia it is IV and V leading cause of death respectively full stop up to 15% of adult population over the age of 5 years in New Zealand are affected with c o p d full stop vi in Australia it was estimated that the economic burden decreases due to decrease manpower affected with c o p d full stop the clinical profile of soap is chronic cough and mucus hyposecretion and exertional breathlessness reflected by the reduce excess xyz tolerance full stop recommendation for management of CKD patient has included musculoskeletal technique to increase flexibility of muscle such as passive stretching, contraction of agonist against resistance, self-stretching, was immobilization of joints full stop the process after that active stimula selected full stop the facility stimuli are vertebral pressure to the upper thoracic spine, vertebral pressure to the lower thoracic spine, anterior stretch lift of posterior basal area, abdominal ko contraction, intercoastal stretch.

**Material and Methodology****Study Design:** Experimental Study**Study Set Up:** Ravi Nair Physiotherapy College, Sawangi Meghe, Wardha**Sample Size:** 30**Study Duration:** 6 Months**Inclusion Criteria**

1. Both Males & Females
2. Patients Diagnosed with COPD
3. Age between 30-70

**Exclusion Criteria**

1. Obese Patients
2. Patients with tuberculosis
3. Patients related to any Cardiovascular Condition
4. Pulmonary Hypertension

**Outcome Measure**

1. Chest Expansion
2. Forced Expiratory Volume

**Material**

1. Inch Tape
2. Peak Flow Meter

**Procedure**

30 patients of C O P D was Selected as per inclusion and exclusion criteria. The purpose and the nature of study was explained to the patient. A written signed consent was obtained from all patients. pre and post is expansion were assessed and proprioceptive neuromuscular facilitation techniques was applied to the patient for once a day for seven days the techniques are vertebral pressure high manual pressure to thoracic vertebrae in the region T2 to T5, vertical pressure low-Manual pressure to thoracic vertebrae in region T7-T10 was Given, Anterior stretch lifting posterior basal area -in which patient was in supine position with hands on the lower ribs lifted upwards, Co- Contraction of abdomen in which pressure Laterally over lower ribs and pelvis alternate right and sides, Intercostal Stretch - Stretch on expiratory phase maintained.

**Statistical Analysis**

	Paired Difference				95%Confidence Interval Of Difference	T Vlaue	Df	P-Value
	Mean	Std. Deviation	Std. Error Mean					
Axilla	-0.15	0.10	-0.01		-0.12	8.32	29	0.000 $SP < 0.05$
Nipple	-0.16	0.01	-0.18		-0.14	13.01	22	0.000 $S.P < 0.05$
Xipisternum	-0.25	0.32	-0.01		-0.34	7.89	32	0.000 $S.P < 0.05$

**Results**

shows that there were 30 patients male and female in a ratio 22:10 and most patients affected with COPD was in age group between 51 to 60 years table 2 shows that proprioceptive neuromuscular facilitation techniques for thoracic mobilisation statistically analysed with help of student's paired t-test it shows the main difference of - 0.73 - 0.73 and minus 0.26 at axilla nipple and GP sternum level respectively and prove to be significant to improve the thoracic mobility table 3 shows the main difference of pre and post treatment on four expiratory volume analysed by student paired t-test showed main difference of - 3.56 capacity neuromuscular facilitation techniques significantly effective in improving the forced expiratory volume in COPD patients

**Discussion**

Cooper safety neuromuscular facilitation is a type of flexibility therapy. pnf uses for perceptible input to improve muscle flexibility and strength pnf is built on a series of exercises the stage step for painful muscle in the body in the study out of 30 patients male and female were randomly taken their weight in females and 20 males it shows that males are mostly affected with COPD in the age group between 51 to 60 years in this study for expired volume and chest expansion and considered as outcome is a tour let the effect of present in your school facilities and see OPD patient spirometry appears to be a better method of assessing lung function then using the peak flow metre suggested that peak flow metre overestimate PF at low flow rate when compared to spirometry that is also supported only a few people have been written looking special especially at stitching and lung function wheat and Mac use the technique that involve gentle movement and structures to the shoulder neck and upper Thorax to the decrease

stiffness and increase chest popularity they found a significant improvement in forced vital capacity and chest expansion following treatment put a tall where more specific in the intervention assessing lung function changes will propose obtain humus club facilities in stage 2 papers major in their 5 subjects in explain till group is C O P D of various types they found significant change to vital capacity

**Conclusion**

It has been concluded that pnf stretching technique is significantly prove to be effective in chest expansion and forced expiratory volume in COPD patients.

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