

# RESPONSE OF DIAPHRAGMATIC EXCURSION TO INSPIRATORY MUSCLE TRAINER POST THORACOTOMY

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## ABSTRACT

**Purpose:** To determine the response of diaphragmatic excursion to inspiratory muscle trainer post thoracotomy.

**Subjects:** Thirty patients of both sexes (16 men and 14 women) with age ranged from 20 to 40 years old had done thoracotomy participated in this study. The practical work was recruited from cardiothoracic department, Kasr –EL-Aini hospital at faculty of medicine for individuals 3 days Post operatively.

**Materials and Methods:** Patients were assigned into two groups: group A(study group) included 15 patients (8 men and 7 women) who received inspiratory muscle training by using inspiratory muscle trainer for 20 minutes and routine chest physiotherapy( deep breathing, cough and early ambulation) twice daily, 3 days per week for one month. Group B (control group) included 15 patients (8 men and 7 women) who received the routine chest physiotherapy only (deep breathing, cough and early ambulation) twice daily, 3 days per week for one month. Ultrasonography was used to evaluate the changes in diaphragmatic excursion before and after training program.

**Results:** Statistical analysis revealed a significant increase in diaphragmatic excursion in the study group (59.52%) more than control group (18.66%) after using inspiratory muscle trainer post operatively in patients post thoracotomy.

**Conclusions:** Inspiartory muscle trainer increase diaphragmatic excursion in patients post thoracotomy through improving inspiratory muscle strength and improvement of mechanics of breathing.

**Clinical relevance:** Practical usage of inspiratory muscle trainer as a method of physical therapy rehabilitation to improve strength of inspiratory muscles and reduce post operative pulmonary complications post thoracotomy.