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## Inspiratory Muscle Training Improves Lung Function and Exercise Capacity in Adults with Cystic Fibrosis

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### Setting the scene:

This study is designed to investigate the effects of high-intensity inspiratory muscle training (IMT) on inspiratory muscle function (IMF), diaphragm thickness, lung function, physical work capacity (PWC), and psychosocial status in patients with cystic fibrosis (CF).

### What did they do?

Twenty-nine adult patients with CF were randomly assigned to three groups. Two groups were required to complete 8-week program of IMT in which the training intensity was set at either 80% of maximal effort (group 1; 9 patients) or 20% of maximal effort (group 2; 10 patients). A third group of patients did not participate in any form of training and acted as a control group (group 3; 10 patients) Both training groups performed IMT three times weekly under direct supervision Inspiratory manoeuvres were repeated under a regimen of six consecutive levels, at each of which six inspiratory efforts were made. At each level, the duration of the rest period between each inspiratory efforts was progressively reduced from 60 to 45, 30, 15, 10, and 5 s The training equipment consisted of an electronic manometer connected by serial interface to a laptop computer, which had been programmed with a specifically designed computer software package. Pre and post training program patients were assessed by lung Function Test, diaphragmatic ultrasonography, Exercise Testing, psychosocial assessment, Body composition, physical activity status and statistical analysis for the IMT readings.

### Takeaway message:

An 8-week program of high-intensity IMT resulted in significant benefits for CF patients, which included increased IMF and thickness of the diaphragm (during contraction), improved lung volumes, increased PWC, and improved psychosocial status.