

## Respiratory physiotherapy can increase lower esophageal sphincter pressure in GERD patients

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Inspiratory muscle training (IMT) has been shown to increase diaphragm thickness. We evaluated the effect of IMT on mid-respiratory pressure (MRP) in patients with gastroesophageal reflux disease (GERD) and hypotensive lower esophageal sphincter (LES), and compared the results with a sham group. Twenty consecutive patients (progressive loading group) and 9 controls (sham group) were included. All patients had end expiratory pressure (EEP) between five and 10 mmHg, underwent esophageal manometry and pulmonary function tests before and after 8 weeks of training, and used a threshold IMT twice daily. The threshold IMT was set at 30% of the maximal inspiratory pressure for the progressive loading group; while, the threshold for sham-treated patients was set at 7 cm H<sub>2</sub>O for the whole period. There was an increase in MRP in 15 (75%) patients in the progressive loading group, with an average gain of 46.6% ( $p < 0.01$ ), and in six (66%) patients in the sham group with a mean increase of 26.2% ( $p < 0.01$ ). However, there was no significant difference between the groups ( $p = 0.507$ ). The EEP also increased compared with measurements before training ( $p < 0.01$ ), but it did not differ between groups ( $p = 0.727$ ). IMT increased LES pressure in patients with GERD, in both the treatment and sham groups, after an eight-week program. Although there was no statistically significant difference between groups, suggesting the pressure increase in LES occurs regardless of the resistance load of the threshold IMT. These findings need to be confirmed in further studies with a larger sample.

### Biography

Renata Carvalho de Miranda Chaves has completed his Ph.D. at the age of 31 years from University of São Paulo School of Medicine. She is a teacher at training program of gastrointestinal endoscopy at Instituto de Medicina Integral Fernando Figueira, a premier medical organization in the Northeast of Brazil.

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