**Inspiratory muscle training (IMT) in interstitial lung disease (ILD) - A pilot study**

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European Respiratory Journal 2016 48: PA1368; **DOI:** 10.1183/13993003.congress-2016.PA1368

## Abstract

**Introduction:** The 2013 ATS/ERS guidelines on Pulmonary Rehabilitation suggest that IMT confers significant improvements in various outcomes in chronic obstructive pulmonary disease (COPD). However, the effects of IMT in ILD are currently unknown.

**Objective:** To investigate the effect of incremental high-intensity (H)-IMT on exercise capacity, dyspnoea, inspiratory muscle function and health-related quality of life in ILD patients

**Methods:** A single-blind randomised controlled study recruited 17 patients with ILD from St George's Hospital chest clinic, London. 9 patients (intervention group); median (IQR) DLco predicted 44 [28, 45] % underwent H-IMT; exercised at 60% of sustained maximal inspiratory pressure (SMIP); 8 patients (control group) median (IQR) DLco 39.5 [24, 60] % underwent low intensity IMT (S-IMT); exercised at 15% of SMIP. This was a supervised, 8-week, biweekly, outpatient programme. Primary outcome was the six minute walk test (6MWT); secondary outcomes included: quality of life (SGRQ-I), dyspnoea: (Borg and Dyspnoea-12), maximal inspiratory pressure (MIP) and sniff nasal inspiratory pressure (Sniff-P).

**Results:** 14 patients completed the study. Patients under H-IMT exhibited significantly higher MIP compared to S-IMT patients (p=0.043). There were no significant between-group differences in the other parameters. H-IMT improved significantly on 6MWT, MIP, Sniff-P, and SGRQ-I. S-IMT, improved significantly on 6MWT, Borg and D-12.

**Conclusion:** Results suggest that H-IMT represents a promising exercise training modality, which improves inspiratory muscle function in ILD patients. Larger studies are required to investigate the effect of IMT on exercise capacity, QoL and dyspnoea.