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Title: Magnitude gain of peripheral muscle strength in COPD patients undergoing a resistance training with elastic tubing

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Body: It is known that exercise intolerance in chronic obstructive pulmonary disease (COPD) leads to decreased levels of muscle strength. Therefore, it becomes important to study new tools of resistance training, such as elastic tubing. **Aims:** To evaluate percentage of gain strength in COPD patients undergoing endurance training and verify gain difference between two instruments training: elastic tubing and conventional resistance training. **Methods:** We evaluated 48 stable COPD patients (FEV1% 54,32± 21,6, age 65.8 ± 8.5,) who performed training for 8 weeks. 20 subjects (FEV1% 47,52±18,6, age 65.7 ± 8.6) trained with elastic tubing and 28 (FEV1% 58,93± 22,9, age 65.8 ± 8.4) with conventional resistance training. Muscle strength was assessed by dynamometry. The conventional resistance training was performed at moderate intensity 60-80% of one maximum repetition and elastic tubing resistance group trained in sets of 2-7 repetitions individually determined by resistance to fatigue test. Both groups performed knee flexion and extension, shoulder flexion and abduction and elbow flexion. Comparisons between groups were conducted by Student t test for parametric data or Mann Whitney for nonparametric data. **Results:** We observed a mean of 13,12% muscular strength gain after training at all motions made in group elastic tubing and 10,16% in conventional resistance and no statistical difference (p> 0.05) in the analysis of delta strength between groups was found. Therefore, the percentage gain of the movements between elastic tubing and conventional resistance training is similar. **Conclusion:** The elastic tubing was an alternative instrument in the practice of resistance exercise in COPD patients.