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Title: Preliminary results of noninvasive ventilation during a pulmonary rehabilitation program in patients with COPD

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Body: Introduction Exercise training at higher intensities seems to result in a better training effect. However, in some patients with COPD this intensity is limited due to decreased ventilatory pump capacity. Noninvasive ventilation (NIV) relieves the work of breathing, so higher intensities are reached and could result in a better exercise tolerance. Objective Analysis of the effects of Bi-pap during an exercise training program in COPD on lung function and maximal exercise capacity. bold]Methods8 patients were randomized in a NIV (n=5) or control group (n=3). Patients trained with or without NIV for a period of 6 weeks. Lungfunction and exercise tests were taken before and after 6 weeks. NIV was set on I/E pressure of 8/4 and 1 or 2 leakage valves were added for patients comfort. Results Ventilation at maximal tolerated load (VE max) changed significantly in the experimental group and did not reach significance in the control group compare to baseline (p=0.043). In the same test setting there was no significant drop in heart rate.

Conclusions Noninvasive ventilation during exercise training may change ventilation at maximal tolerated load and heart rate after 6 weeks. This allows patients to train at a higher level and achieve better training results because of a better ventilatory adaption during exercise.