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Title: The impact of PEEP, CPAP and BiPAP in post-exercise recovery from dyspnea in COPD patients

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Body: Dyspnea is the chief complaint of COPD patients limiting their ability to perform activities of daily living reducing quality of life. To relieve dyspnea, patients may try short acting bronchodilators, pursed lip breathing or physically stop activity.In this study we evaluated different types of positive airway pressure (PAP) therapies to help COPD patients recover from dyspnea following activity. The aim of this study was to determine if PAP therapies would reduce the patient's recovery time from a Borg of 7 to their baseline Borg following a standardized exercise regimen. 10 COPD patients classified as Gold Stage 2, 3 or 4 with an FEV1 less than 55% were evaluated. These patients were subjected to a baseline test where they recovered without any device to the baseline Borg. During 2 successive visits,during the recovery phase, patients were asked to try 6 different types of PAP therapy. This included 2 levels of PEEP, CPAP or BiPAP therapy. Borg scores were measured every minute during exercise & every 30 seconds during recovery phase. Time to recover was measured with other physiological parameters. Results indicate that all forms of PAP therapy tested aided the patients to recover fast. Among the 3 tested therapies, BiPAP provided the shortest recovery time improving the time to recover to baseline by 40%+- 9%. CPAP was 2nd best at 27%+-16%. PEEP provided 26%+-13% improvement. These findings indicate that PAP therapy helps COPD patients recover from shortness of breath following activity. The impact of these therapies on other physiological endpoints (Heart Rate, Respiratory Rate & $SpO_{2)}$ are being analyzed. These are being further tested to confirm the findings.