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**Title:** What is the optimum expiratory trigger sensitivity level for patient-ventilator synchrony during NIV in COPD patients?

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**Body:** Aim: Air leaks around the mask during NIV generally cause delayed cycling into expiration, leading to patient-ventilator asynchrony. The aim of this study was to investigate the role of increasing expiratory trigger sensitivity (ETS) on patient-ventilator synchrony during NIV. Methods: Nine COPD patients were enrolled. NIV was performed as pressure support ventilation with an oro-nasal mask. Patient's respiratory efforts were detected with an esophageal baloon catheter and data were recorded from the RS232 port of the ventilator with a software for 10 minutes in each ETS level (25%, 50%, and 70%) consecutively and compared with each other. The number of nontriggering efforts (NTE) was defined as the difference between the respiratory rate of the patient and the ventilator.

Results: Compared to ETS 25%, ETS 50% and 70% reduced NTE (4±3 vs. 0.2±0.4 and 0.7±1 breaths/min respectively, $p<0.05$).

ETS 50% resulted in higher Vt/kg when compared to ETS 25% and 50% (8.5±5 vs 7.4±5 and 7.4±5 ml/kg respectively, $p<0.01$) Conclusion: Increasing ETS in COPD patients up to 50% seems optimum for improving synchrony under NIV.