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**Title:** Gastro-oesophageal reflux is a significant predictor of COPD exacerbations

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**Body:** Background: Little is known on association between gastro-oesophageal reflux disease and medically treated exacerbations of COPD. Methods: 1279 individuals with COPD and data on self-reported gastro-oesophageal reflux disease were identified among participants in the 3rd wave of the Copenhagen City Heart Study. The information, including severity of COPD, was linked with a nationwide prescription registry. Medically treated exacerbations of COPD were defined as at least one short course treatment with oral corticosteroids and/or the combination of oral corticosteroids with antibiotics. Univariate and multivariate logistic regression analyses were applied to explore the association between gastro-oesophageal reflux disease, and medically treated exacerbations of COPD during a five year follow-up period. Findings: 162 (12.7%) of subjects with COPD had gastro-oesophageal reflux disease at baseline, and 192 (15.0%) had at least one medically treated exacerbation during follow-up. In univariate analysis, gastro-oesophageal reflux was significantly associated to having at least one medically treated exacerbation, OR=1.6 (95% CI, 1.03-2.4, p=0.03). In multivariate analyses, including age, gender, dysphagia, wheezing, gastric medication, breathlessness, GOLD stage (1-4), previous respiratory exacerbations, and chronic bronchitis as covariates, gastro-oesophageal reflux remained a significant predictor of COPD exacerbations, OR=1.7 (1.1-2.6, p=0.02). Interpretation: Gastro-oesophageal reflux disease is a strong predictor of medically treated exacerbations in individuals with COPD selected from the general population.