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**Title:** Passive smoking and COPD – More dangerous than believed

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**Body:** Background: Passive smoking has been identified as a risk factor for cardiac diseases, asthma, lung cancer and with detrimental effects on lung function, but the relationship between passive smoking and COPD is not fully established. Aim: To study environmental tobacco smoke (ETS) as a risk factor for COPD in never-smokers. Methods: Data from three cross-sectional studies from the Swedish OLIN database were pooled. Only never-smokers were included in the analyses, and 2118 never-smokers had completed structured interviews and lung function tests of acceptable quality. COPD was defined according to the GOLD criteria. Risk analysis was performed by using multiple logistic regression analysis. Results: Exposure to ETS at home was associated with COPD (OR 1.5, 95% CI 1.0-2.2). ETS at current or past workplace was also associated with COPD. The relationship was more pronounced in subjects who reported exposure to ETS at both past and current workplace (OR 2.4, 95% CI 1.5-4.0). Current exposure to ETS at home in combination with ETS at both current and previous workplace was strongly related to COPD (OR 3.6, 95% CI 1.6-8.5). There was a strong relationship between increasing amount of exposure to ETS in various settings and the prevalence of COPD, especially among women. Interestingly, of the 14 women aged ≤65 years who had reported current exposure to ETS at home and at both previous and current workplace, 7 had COPD. Conclusion: ETS was found to be an independent risk factor for COPD. This relationship was stronger in women and the association was stronger with increasing degree of exposure.