

## **The consequences of smoking and gender: understanding the shifting landscape**

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Mortality and morbidity for smoking related pulmonary disease, including COPD and lung cancer, continue to increase predominantly because of increasing disease burden for women smokers. Current debate focuses on whether women are more susceptible to the effects of smoking, or whether this is simply a cohort effect. Several large, multiyear studies have now demonstrated that women smokers are much more likely to have bronchial hyperreactivity than men and that hyperreactivity correlates with faster decline in lung function for women, but not for men. Increased hyperreactivity is likely related to a combination of airway size, hormones, genetics and environmental exposures. Women smokers also tend to develop emphysema rather than chronic bronchitis, possibly related to their high use of filtered cigarettes. The major symptom of emphysema, shortness of breath, is often attributed to other diseases, deconditioning, or “the menopause” so that the correct diagnosis is often delayed until moderately severe disease is present. Smoking cessation has also proven to be more difficult for women. Success in smoking cessation for women is not correlated with nicotine addiction as it is for men, suggesting that “habit” is a stronger driver for smoking addiction for women. The shifting landscape for women and smoking related disease requires us to identify and address the biological and psychosocial factors contributing to this disease burden through a gender lens approach if we are to have the necessary impact on these diseases.