

# Previous pulmonary disease linked to increased lung cancer risk in large study

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Links between a number of common respiratory diseases and an increased risk of developing lung cancer have been found in a large pooled analysis of seven studies involving more than 25,000 individuals.

"Associations between various [respiratory diseases](#) and [lung cancer](#) have been shown in earlier studies, but few of these studies considered multiple respiratory diseases simultaneously," said researcher Ann Olsson, PhD, of the International Agency for Research in Cancer in Lyon, France. "In our pooled analysis of seven case-control studies involving more than 12,500 cases and 14,900 controls, we found associations between lung cancer and [chronic bronchitis](#), emphysema, and pneumonia, with a greater increased lung cancer risk among subjects with all three of these conditions."

The findings were published in the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

Data on five previous respiratory diseases (chronic bronchitis, emphysema, tuberculosis, pneumonia, and asthma) were collected by self-report. Statistical analyses were adjusted for study center, age, employment in an occupation with an excess risk of lung cancer, level of education and detailed smoking habits.

Pneumonia and chronic bronchitis were the most frequently reported previous respiratory diseases. In analyses adjusting for other respiratory diseases and smoking, chronic bronchitis and emphysema were positively associated with lung cancer, with odds ratios among men of 1.33 (95% CI 1.20-1.48) for bronchitis and 1.50 (95% CI 1.21-1.87) for emphysema. A positive association was also found between pneumonia diagnosed two or fewer years prior and lung cancer (OR=3.31; CI 2.33-4.70 for men), Asthma had an inverse association with lung cancer risk, and no association was found between

tuberculosis and lung cancer.

Patients with co-occurring chronic bronchitis, emphysema and pneumonia had a higher risk of lung cancer than those with chronic bronchitis only. There was no association between chronic bronchitis and lung cancer among patients with co-occurring asthma or tuberculosis.

"The variations in the associations between lung cancer and different patterns of previous respiratory diseases that we observed in our study may indicate differences in the underlying etiological mechanisms," said Dr. Olsson. "Better understanding of these associations may help guide the type and frequency of clinical surveillance needed for patients with each of these diseases."

Provided by American Thoracic Society

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