

COPD heightens deadly lung cancer risk in smokers

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Smokers who have chronic obstructive pulmonary disorder (COPD) may face nearly twice the risk of getting small cell lung cancer (SCLC)—the deadliest form of lung cancer—than smokers who don't have COPD, according to a large worldwide study led by researchers at the Harvard T.H. Chan School of Public Health.

The study was published online September 24, 2015 in *EBioMedicine*.

The new study—the largest-ever epidemiologic study of SCLC—is the first to look at how much COPD, a progressive disease that makes it hard to breathe, increases [smokers'](#) risk of getting SCLC. Although it's long been known that smoking is a major risk factor for lung cancer, the new study estimates the risk more precisely than before.

"This work suggests that we need to tease out the mechanisms by which COPD may increase lung cancer risk in smokers, and to conduct clinical trials to determine whether treating COPD in former and current smokers lessens that risk," said David Christiani, Elkan Blout Professor of Environmental Genetics at Harvard Chan School and senior author of the study.

SCLC accounts for 15-18% of lung cancers worldwide. Although patients often respond well to initial treatment, they often relapse within a year. Those with limited SCLC live, on average, 14-20 months after diagnosis; those with extensive disease live only 9-11 months after being diagnosed. Given SCLC's high relapse and mortality rate, researchers

wanted to know more about possible ways to prevent it.

Researchers analyzed data from 24 case-control studies from the International Lung Cancer Consortium—conducted in North America, Europe, Asia and Oceania—that included 4,346 people with SCLC and 37,942 without the disease. The studies included information on participants' health, gender, age, race, education level, and family history of [lung cancer](#), as well as their smoking history, including how old they were when they started, how many years they smoked, how many cigarettes they smoked each day, and, for former smokers, how long it had been since they quit.

The results showed that:

- Among those who smoked a pack of cigarettes each day, the risk of getting SCLC rose sharply through 50 years of smoking, then less sharply after that. Compared with nonsmokers, smokers' odds of getting the disease ranged from more than four times higher for those who smoked a daily pack for less than 20 years in a row, to nearly 70 times higher for those who did so for 80 years or more.
- Smokers with COPD had a 1.86-fold higher risk of SCLC than smokers without COPD.
- Among smokers, having COPD accounted for 8% of SCLC cases.

More information: "Associated links among Smoking, Chronic Obstructive Pulmonary Disease, and Small Cell Lung Cancer: A Pooled Analysis in the International Lung Cancer Consortium," Ruyi Huang, Yongyue Wei, Rayjean J. Hung, Geoffrey Liu, Li Su, Ruyang Zhang, Xuchen Zong, Zuo-Feng Zhang, Hal Morgenstern, Irene Brüske, Joachim Heinrich, Yun-Chul Hong, Jin Hee Kim, Michele Cote, Angela Wenzlaff, Ann G. Schwartz, Isabelle Stucker, John Mclaughlin, Michael

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