

Researchers find smoking may increase risk for lung disease

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A team of researchers at Brigham and Women's Hospital (BWH) have found that approximately one out of every twelve adult smokers have abnormal lung densities present on chest computed tomography (CT) images suggestive of interstitial lung disease which is associated with substantial reductions in lung volumes. In addition, despite being positively associated with smoking, these lung densities were inversely not associated with emphysema. This research is published online on March 10th in the *New England Journal of Medicine*.

It is increasingly acknowledged that interstitial [lung disease](#) may evolve prior to the development of symptoms. Although it is known that smoking can cause some forms of interstitial lung disease, the prevalence of these chest CT scan abnormalities and their effect on lung volumes had been unclear. "This manuscript highlights the degree of lung volume reduction associated to previously unrecognized interstitial lung abnormalities in smokers," said Hiroto Hatabu, MD, and Ivan Rosas, MD of the Divisions of Radiology and Pulmonary/Critical Care Medicine at BWH.

In this study, researchers characterized the presence of interstitial lung abnormalities in 2416 participants from the COPDGene study. The researchers found that interstitial lung abnormalities are associated with both reduced total lung capacity and less emphysema in smokers. The team also found that smokers with interstitial lung abnormalities are at an increased risk for a restrictive reduced lung oxygen volume.lung deficit.

“The fact that smoking can result in distinct, and to some degree, physiologically divergent pulmonary conditions highlights the need for a better understanding of the phenotypic, environmental, and genetic backgrounds that can predispose [smokers](#) to diverse pulmonary diseases,” said George Washko, MD, and Gary Hunninghake, MD, of the Division of Pulmonary/Critical Care Medicine at BWH.

Further research is needed to definitely characterize the link between interstitial lung abnormalities present on chest CT and idiopathic pulmonary fibrosis, the most common and severe form of interstitial lung disease.

Provided by Brigham and Women's Hospital

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