

Smokers Face Greater Risk From COVID-19

— Health experts say now is the time to quit

by Salynn Boyles, Contributing Writer
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It is a familiar public health message that has taken on new urgency in the time of the COVID-19 coronavirus pandemic: If you smoke, you need to quit.

The sooner, the better.

Tobacco users face an elevated risk for a long list of chronic diseases and malignancies, and there is growing evidence that smoking, and possibly vaping, also increase the risk for life-threatening complications and death from COVID-19.

A [study of patients in Wuhan, China](#), suggested that active smokers with COVID-19 were 2.4 times more likely to experience severe outcomes -- intensive care unit admission, need for mechanical ventilation, or death -- than non-smokers with the disease.

And newly published research in the *European Respiratory Journal* offers new clues as to why that might be, finding that current smokers and patients with chronic obstructive pulmonary disease (COPD) show increased lung expression of the transmembrane angiotensin converting enzyme II (ACE2) receptor.

Earlier research suggested that ACE2, which is found on the surface of lung cells, acts as a doorway or entry point for infection with the COVID-19 coronavirus.

In the study, current smokers had significantly higher levels of ACE2 expression in their airways compared to never smokers (2.77 ± 0.91 log₂ counts per million reads vs 2.00 ± 1.23 and 1.78 ± 0.39 , respectively; $P=0.024$), reported Janice Leung, MD, of University of British Columbia in Canada, and colleagues.

Similarly, patients with COPD had higher ACE2 expression compared with non-COPD patients (2.52 ± 0.66 vs 1.70 ± 0.51 ; $P=0.00076$).

"Active cigarette smoking and COPD upregulate ACE2 expression in lower airways, which in part may explain the increased risk of severe COVID-19 in these populations," the researchers wrote, adding that the findings "highlight the importance of smoking cessation for these individuals and increased surveillance of these risk subgroups for prevention and rapid diagnosis of this potentially deadly disease."

Smokers Who Quit Experience Immediate Benefits

Last week, the CDC [identified smoking as a potential risk factor](#) for coronavirus-related severe disease or death, based on findings from more than 122,000 U.S. cases and case studies from China and Italy.

And the World Health Organization (WHO) also recently weighed in, noting in a report that "tobacco users are probably less likely to become infected if they quit because the absence of smoking helps reduce the touching of fingers to the mouth."

The [report from WHO's Tobacco Free Initiative](#) also suggested that tobacco cessation could have an "almost immediate positive impact" on lung and cardiovascular function in patients with comorbid conditions like COPD and heart disease, which have been linked to poor coronavirus outcomes.

"We know that smoking leads to inflammation of the airways, and that inflammation is chronic," said American Lung Association Chief Medical Officer Albert Rizzo, MD.

"Inflammation is associated with decreases in lung immune defenses, such as fighting off viral and bacterial infections."

Rizzo told *MedPage Today* that smokers with COVID-19 face a double-dose of inflammation associated with tobacco use and infection with the COVID-19 coronavirus.

He added that within weeks or even days of smoking cessation, improvements in tobacco-related lung inflammation can be seen.

"Likewise, within minutes to hours, chemicals in the bloodstream, such as nicotine and carbon monoxide, decline and coughing, sputum production and wheezing can all improve over the course of days to weeks," he said.

Helping Patients Kick the Habit

Rizzo acknowledged that convincing patients who smoke that now is the time to quit may be a tough sell in the time of COVID-19 and social distancing, as millions face job losses, new financial stresses, and extreme boredom.

"I generally tell my patients that if they are under a lot of stress it may not be the best time to quit, but this is different," he said. "The evidence suggests smoking increases the risk for poor outcomes with this virus, so now is the perfect time to quit."

He added that a potential upside of social distancing is that people are not following their normal routines, so daily smoking triggers may be reduced.

Identifying those triggers, joining online support communities like the American Lung Association's quit site [Freedom From Smoking](#), and combining smoking cessation medications with counseling and social support can maximize the chances of success, he said.

To aid smokers wishing to quit and clinicians advising them during the COVID-19 pandemic, Cochrane Library reviewers recently published [a summary of available support](#), including telephone, internet, and text messaging programs, which will be regularly updated.

"The evidence suggests people who smoke should use a combination of 'stop smoking medicines' and behavioral support to give them the best chance of success," Cochrane review author Jamie Hartmann-Boyce, DPhil, of the University of Oxford in England, said in a press statement. "Options may be limited at this time, but there are ways to boost chances of quitting smoking that don't involve face-to-face contact or prescriptions."

The CDC's [National Quitline Data Warehouse](#), provides updated information on smoking quitlines in all U.S. states, and individual quitlines can be accessed by calling 1-800-QUIT-NOW (1-800-784-8669).

Non-English language quitline services can be accessed via 1-855-DÉJELO-YA (1-855-335-3569) for service in Spanish, 1-800-838-8917 for service in Mandarin or Cantonese, 1-800-556-5564 for service in Korean, and 1-800-778-8440 for service in Vietnamese.

The American Society of Clinical Oncology website [Cancer.Net](#) also provides resources to help smokers quit, and the federal government website [smokefree.gov](#) offers tips for smokers who want to quit and those who have recently quit.

The campaign [Every Try Counts](#) addresses the needs of smokers who have tried to quit in the past, but failed.

National Institute on Drug Abuse director Nora Volkow, MD, said this group of smokers may be the most receptive to the message that now is the time to try quitting again.

"These people are highly motivated, but they have not been successful in past attempts," she told *MedPage Today*. "The recognition that they are more vulnerable to this potentially life-threatening pulmonary disease could offer the motivation they need to succeed."

Volkow and Rizzo agreed that making medications and other support available to help smokers quit needs to be part of the public health response to COVID-19.

"Smokers are at greater risk, so we need to do all we can to help them quit," Volkow said.

Disclosures

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Primary Source

European Respiratory Journal

Source Reference: [Leung JM, et al "ACE-2 expression in the small airway epithelia of smokers and COPD patients: Implications for COVID-19" *Eur Respir J* 2020; DOI: 10.1183/13993003.00688-2020.](#)

Secondary Source

Cochrane Review

Source Reference: [Hartmann-Boyce J, et al "Coronavirus \(COVID-19\): Effective options for quitting smoking during the pandemic" *Cochrane Review* 2020.](#)

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