

# Smokers At Higher Risk Of Severe COVID-19 During Coronavirus Outbreak

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Growing evidence is suggesting that smokers with COVID-19 have a higher risk of severe disease and..

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A leading expert has warned that smokers are likely at increased risk of more severe COVID-19, compared to non-smokers, suggesting that now would be a particularly good time to try and quit or cut down.

“There’s not very much data at this point on COVID-19 in smokers, but we do know from reports from China, smokers seem to be over-represented in groups of people who have severe or critical COVID-19,” said J. Taylor Hays, M.D. Director of the Nicotine Dependence center at Mayo Clinic in Rochester, Minnesota and Professor of Medicine, Mayo Clinic College of Medicine.

Increasing evidence is suggesting that smokers are at higher risk of severe COVID-19 than those who don’t smoke. One study published in the *New England Journal of Medicine* in February looked at 1,099 patients in China with COVID-19, showing that of 173 patients who had severe symptoms, 16.9% of them were current smokers and 5.2% had previously smoked. Among the patients with less-severe symptoms, 11.8% were current smokers and 1.3% former smokers.

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More worryingly, the study showed that in a group of patients that either needed mechanical ventilation, admission to an intensive care unit, or ultimately died, 25.5% were current smokers, which was more than twice the rate of current smokers in a group of patients that did not have these severe adverse outcomes.

“These observations about more severe illness in smokers vs people who have never smoked seems to parallel what is seen in respiratory viruses such as respiratory syncytial virus and seasonal influenza, where smokers tend to do worse than non-smokers,” said Hays, also mentioning that no data is currently available on people who vape or use e-cigarettes. “We know that inhalation of combustible tobacco of any sort seems to be associated with more severe disease from respiratory viruses,” he added.

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Studying other coronavirus outbreaks provides further suggestions that smokers may fare worse with these types of viral infections than non-smokers. In a [study](#) of a small number of patients with Middle-East Respiratory Syndrome (MERS) in South Korea,

patients who smoked were less likely to survive than those who did not. There was also some evidence that smokers had higher levels of a protein called DPP4, a receptor which allows the MERS coronavirus to enter cells in the lung, which could make their lung cells more susceptible to attack from the virus. SARS-CoV2, the coronavirus responsible for the current outbreak, uses a different receptor to gain access to lung cells called ACE2. However, the news here isn't any better for smokers either.

"The ACE2 receptor is up-regulated in the respiratory cells of smokers. This might be a mechanism by which it is more likely to cause severe illness," said Hays.

There are also other, well-proven reasons for smokers to be concerned about their risk of severe or fatal COVID-19.

"There is a long history of smokers having more severe respiratory illness in general and this is for a few well-established reasons. They clear mucus less efficiently, the cilia which get infectious particles and secretions out of the lungs, work less efficiently. Smoking also causes inflammation in the airways, which is made worse with respiratory illnesses," said Hays.

So if you are reading this and you smoke or know someone who does, is it too late now to stop or cut down?

"People who quit for even a short time see an improvement in lung health quite quickly. For most smokers who don't already have serious lung injury, they will see immediate improvements in their health, and less opportunity for severe diseases including COVID-19," said Hays.

In 2015, the CDC reported that almost 7 out of 10 adult smokers wanted to try and quit, with over half of all of them trying to quit at least once in that year, but the large majority not succeeding. Is it likely that people will try to quit, and succeed, especially at such a stressful time for many?

"I understand people turn to things because it's a coping mechanism, especially at stressful times. I would say to them - try and flex other coping muscles, there is a real opportunity to break routines - even a short period of abstinence from smoking improves lung function," said Hays.

"People could look at this as an opportunity - a time of crisis is a time of opportunity. If you've been looking for an opportunity to quit, this is it," he added.



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I am a postdoctoral research scientist focusing on childhood cancers and new, targeted cancer therapies. As a survivor of childhood leukemia myself, I am a determined

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