

# SMOKING AND E-CIGARETTE USE INCREASES RISK OF CORONAVIRUS (COVID-19)

## SMOKING AND VAPING INCREASE SEVERITY OF COVID-19

Individuals with a history of smoking are over 9 times more likely to develop severe illness when infected with COVID-19 than those with no smoking history [27.3% vs. 3.0%,  $\chi^2 = 9.291$ ,  $P = 0.018$ ] (Liu et al. 2020).

Menthol and other flavorings have been shown to cause more severe lung inflammation (Lin et al. 2019; Gerloff et al. 2017), a major risk factor for viral infection.

Smoking and e-cigarette use are associated with a significantly higher risk of the development of chronic obstructive pulmonary disease [COPD] (Osei et al. 2020). COPD is an important risk factor for the severity of illness of individuals with COVID-19 (Guan et al. 2020).



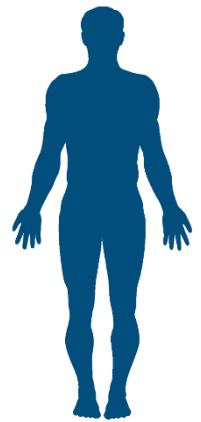
## SMOKING AND VAPING DECREASE THE BODY'S DEFENSES

Tobacco use may increase the expression of angiotensin-converting enzyme 2 [ACE2], the binding receptor and point of entry for COVID-19 (Cai 2020).

Ciliary dysfunction is associated with e-cigarette use (Carson et al. 2017), facilitating viral entry through lungs.

Impairment of neutrophil function has been observed in e-cigarette users, including an increase in neutrophil extracellular trap formation, which is injurious to the lungs (Reidel et al. 2018; Law et al. 2017; Clapp et al. 2017).

E-cigarette flavorings have been shown to decrease cellular immunity in the respiratory tract (Murakami et al. 2007; Clapp et al. 2019; Chao et al. 2008; Kim et al. 2010; Jung et al. 2010; Kim et al. 2011).



## SMOKING AND VAPING INCREASE SPREAD OF COVID-19

Smokers are more likely to have a cough during the asymptomatic phase of illness COVID-19, thus unknowingly spreading the disease. They are additionally more likely to misrecognize illness-induced cough to be "smoker's cough".

Smoking and vaping involves hand to mouth contact, which increases transmission risks of COVID-19 (CDC 2020).



## HOW TO QUIT SMOKING AND VAPING TO PROTECT YOURSELF FROM COVID-19

It is very important for people who smoke and vape to make every effort to quit. There is support to help you.

- Using nicotine patch plus gum to quadruple your chances of success and/or one of the other approved smoking cessation medications (bupropion or varenicline).
- Pair these medicines with expert coaching and support from the quitline (1-800-784-8669) and SmokefreeTXT (text the word "QUIT" (7848) to IQUIT (47848) for free help).

With these steps, you will have the best chance of quitting smoking and vaping. Quitting smoking and vaping can help protect you and your family from COVID-19. Please share this information with relatives or friends who may still be smoking or vaping.

## REFERENCES

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Version date: March 17, 2020