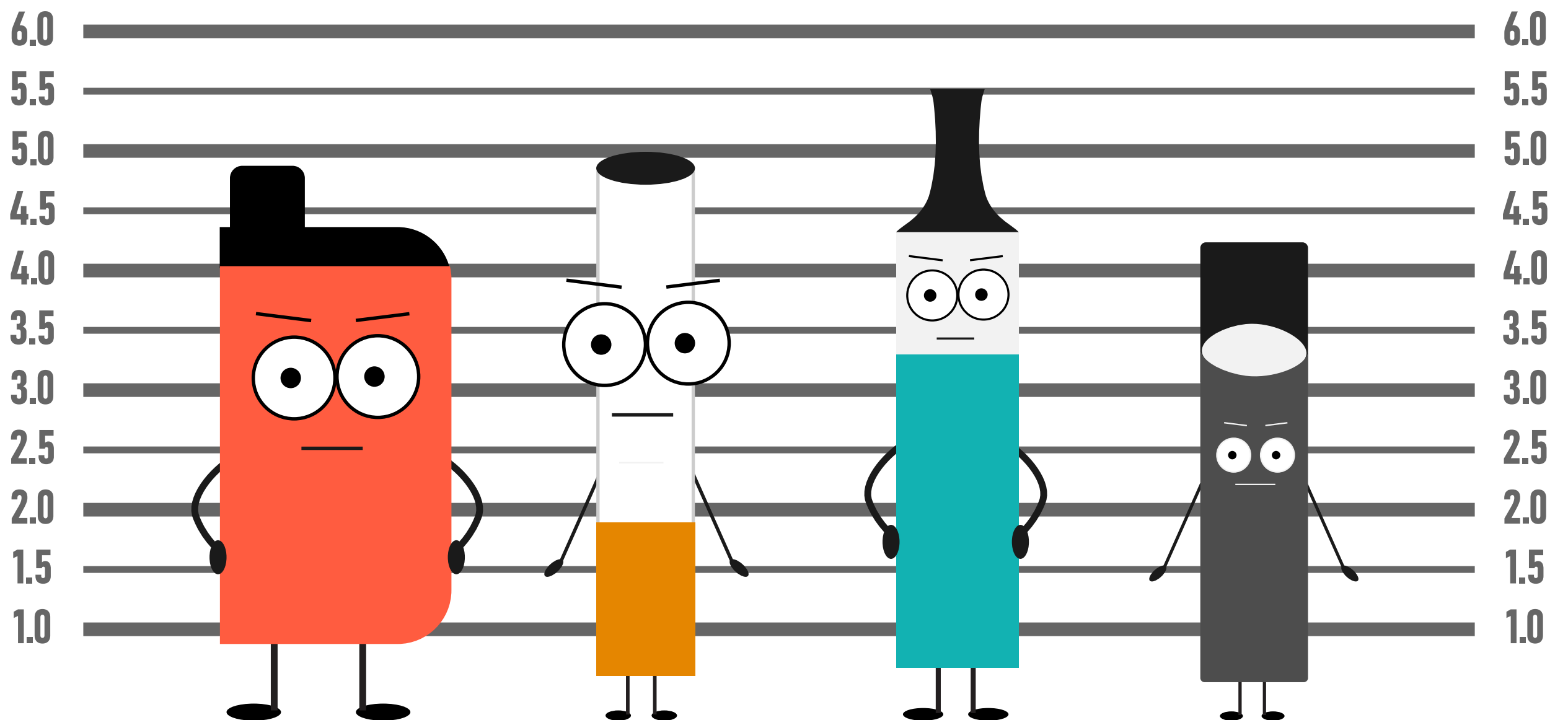


Vaping & Your Body

An Exploration of the Effects of E-Cigarette Usage

What Are Electronic Cigarettes?

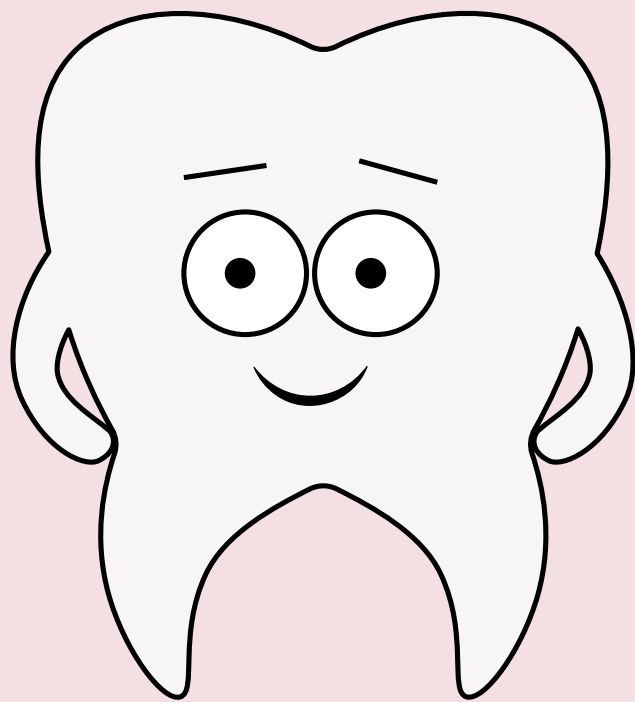
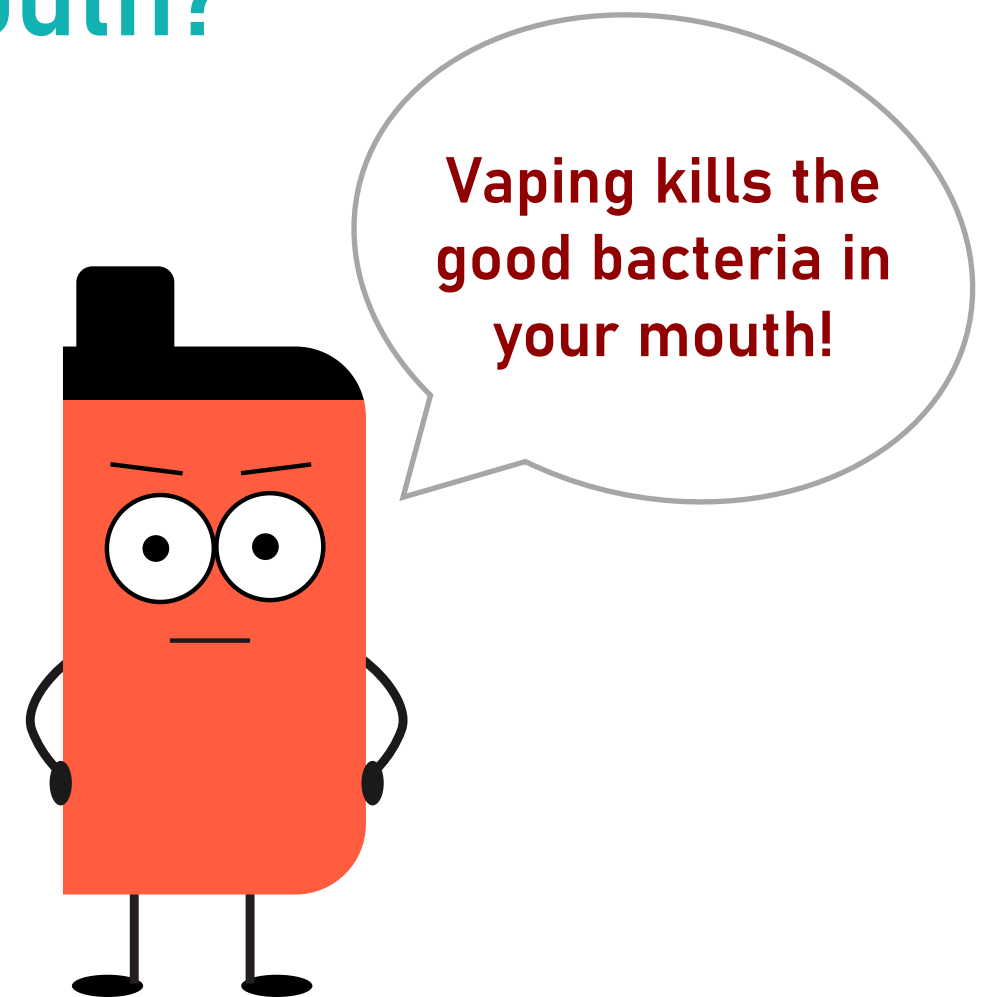
An electronic cigarette is a battery-operated device that heats a liquid solution into a vapor that people inhale. The liquid solution typically contains nicotine (an addictive tobacco product), various chemicals for dissolving (such as propylene glycol and glycerol), and sometimes flavorings (to make the taste more appealing). Electronic cigarettes are also known as e-cigarettes, e-cigs, vape pens, vapes, e-hookahs, and electronic nicotine delivery systems (ENDS). They can sometimes look like a traditional cigarette but can also be of varying shapes and sizes.



How Does Vaping Affect Your Mouth?

Vaping can increase your risk for:

- Cavities
- Gum infections
- Oral thrush (yeast infection)



After just 20 minutes of vaping, your mouth temperature can increase enough to kill the good bacteria in your mouth.

Committee on the Review of the Health Effects of Electronic Nicotine Delivery Systems, National Academies of Sciences, Engineering, and Medicine. (2018). Public health consequences of e-cigarettes. The National Academies Press. <https://doi.org/10.17226/24952>.

McClelland, M., Sesoko, C., MacDonald, D., Davis, L., & McClelland, S. (2021). The immediate physiological effects of e-cigarette use and exposure to secondhand e-cigarette vapor. *Respiratory Care*, 66(6), 943–950. <https://doi.org/10.4187/respcare.08596>

Mokeem, S. A., Abduljabbar, T., Al-Kheraif, A. A., Alasqah, M. N., Michelogiannakis, D., Samaranayake, L. P., & Javed, F. (2018). Oral candida carriage among cigarette- and waterpipe-smokers, and electronic cigarette users. *Oral Diseases*, 25(1), 319–326. <https://doi.org/10.1111/odi.12902>

Rouabhia, M., & Semlali, A. (2020). Electronic cigarette vapor increases *Streptococcus mutans* growth, adhesion, biofilm formation, and expression of the biofilm-associated genes. *Oral Diseases*, 27(3), 639–647. <https://doi.org/10.1111/odi.13564>

How Does Vaping Affect Your Heart?

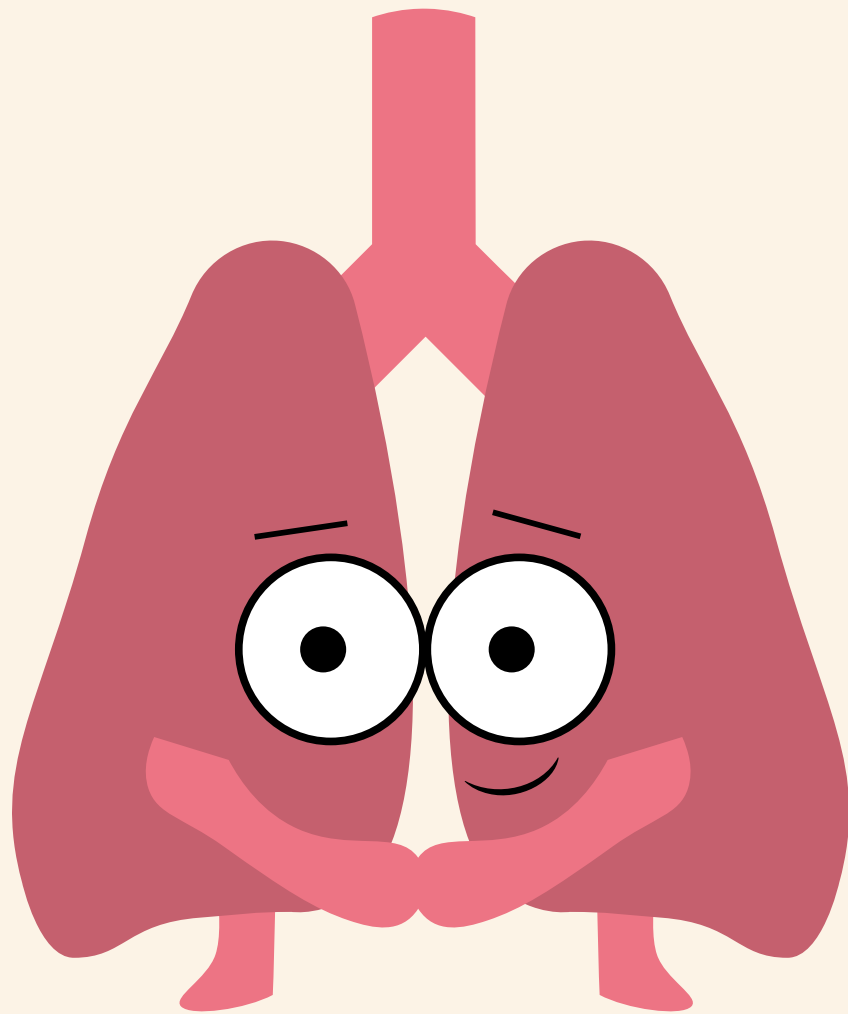
Vaping increases your heart rate and blood pressure and decreases your blood oxygen level, which can increase your risk for heart disease. Higher voltage e-cigarettes can do more damage to your heart than traditional cigarettes.



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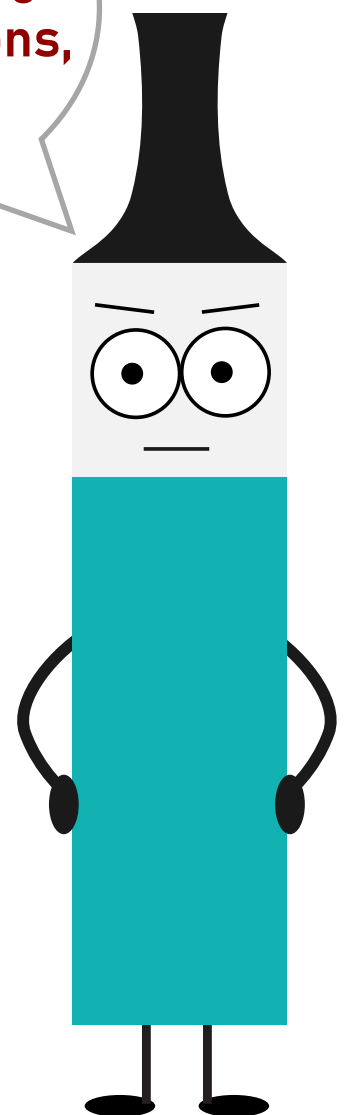
How Does Vaping Affect Your Lungs?

It is unclear how much damage e-cigarettes cause your lungs, but it is clear they do cause damage. The dissolving and flavoring chemicals used in e-cigarette liquid can damage your lungs and other organs used for breathing. Vaping cause your lungs to swell and make bad bacteria stronger.

Vaping can put you at an increased risk for various lung diseases, infections, and injuries including:

- COPD (disease that causes airway blockages and breathing problems)
- bronchiolitis (viral lung infection that causing swelling)
- pneumonia (lung infection that causes fluid and pus to fill lungs)
- EVALI (e-cigarette or vaping use-associated lung injury)

Vaping increases your risk for lung diseases, infections, and injuries!



Chen, L., Arens, R., Chidambaram, A., Capponi, S., Alshawa, L., Claeys, T., Hayes, D., & Robinson, R. (2021). Vaping associated Pulmonary Nontuberculous Mycobacteria. *Lung*, 199(1), 21-27. <https://doi.org/10.1007/s00408-020-00414-6>

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Eltorai, A., Choi, A., & Eltorai, A. (2018). Impact of electronic cigarettes on various organ systems. *Respiratory Care*, 64(3), 328-336. <https://doi.org/10.4187/respcare.06300>

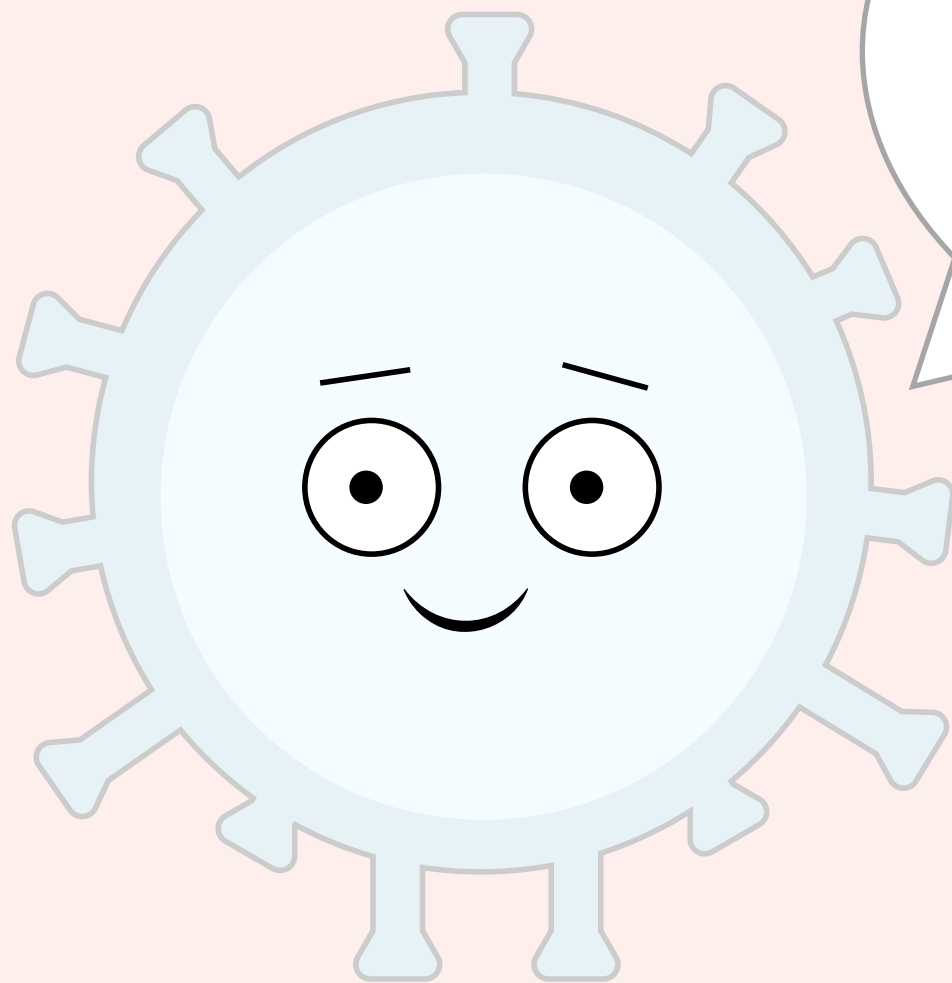
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Sommerfeld, C., Weiner, D., Nowalk, A., & Larkin, A. (2018). Hypersensitivity Pneumonitis and Acute Respiratory Distress Syndrome from e-cigarette use. *Pediatrics*, 141(6), e20163927. <https://doi.org/10.1542/peds.2016-3927>

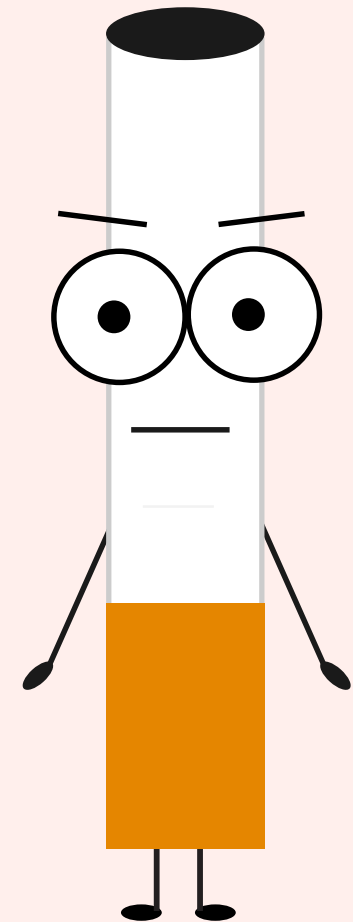
How Does Vaping Affect Your Immune System?

Vaping can:

- make it harder for your body to fight bacteria and viruses
- negatively affect how well your body heals wounds
- decrease the amount of oxygen that can get to your body tissues
- increase the chances of body tissue dying



**Vaping can
weaken your
immune system!**



Cope, G. (2020). E-cigarettes and wound healing. Wounds UK, 16(1), 34–37.

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Thank You for Reading!

Although we know many of the effects of e-cigarette usage, we still don't know the long-term effects. Current research suggests that e-cigarette usage is not recommended—including as an aid for quitting traditional cigarettes.

Learn more about vaping from the American Lung Association at [lung.org](https://www.lung.org)

