

E-CIGARETTES (ELECTRONIC CIGARETTES)

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Electronic cigarettes, also known as e-cigarettes, e-cigs, e-hookah, vape pens, vapes, tank systems, and electronic nicotine delivery systems (ENDS), have recently gained popularity over conventional cigarettes in the nicotine world. They can vary in size and appearance. Some may resemble traditional cigars/cigarettes or even look like pens or USB sticks. However, the mechanisms of operation are similar, even though markets are flooded with more than 460 brands. They are battery-operated devices that people use to inhale an aerosol. The aerosol is created in the devices through small, heated coils that vaporize the “e-cig” solution, often containing varying amounts of nicotine, flavorings, and other chemicals. These devices have also been used as a delivery method for marijuana and other drugs.



E-cigarettes are available in varying sizes & appearance.
UTHealth, the University of Texas

Most common e-cigarettes have four different pieces. First, e-cigarettes contain a cartridge or reservoir, which is where the liquid “e-cig” solution is stored. The next piece is the heating element or atomizer. This is the part that is used to vaporize the solution. A power source is also required to operate and power the heating element. Often the power source is a battery. Lastly, a mouthpiece is needed for the user to inhale the vapor. In order to activate the device to heat and vaporize the liquid stored in the cartridge, the user puffs on the device and inhale the vapor.

E-cigarettes & Safety

While smoking a conventional cigarette is known to lead to and be a contributing factor to a myriad of illnesses and diseases, not much is known about the long-term effects of e-cigarettes. There is no conclusive research on the harmful effects of e-cigarettes. There are concerns about other chemicals that are added to the solution, which could also be carcinogenic. In addition, consumers could be exposing themselves to tiny particles of metals from the device itself that are then inhaled. These tiny particles could travel deeply into the lungs. This could increase a consumer’s risk of contributing to or exacerbating asthma, bronchitis, and emphysema.

While it is true that many long-term effects of e-cigarette usage are unknown, there has been a rise in injuries and illnesses associated with the use of e-cigarettes. E-cigarettes and specifically the batteries within them have been linked to fires and explosions that have resulted in serious injuries. Most recently, there has been an increase in an illness known as an e-cigarette or vaping product use-associated lung injury (EVALI).

The Centers for Disease Control and Prevention (CDC) continues to investigate the recent outbreaks of EVALI. No single compound, ingredient, brand, or manufacturer has been linked to all cases. One of the

commonalities in most (82%) cases of EVALI is that patients reported using an e-cigarette or e-cigarette product with tetrahydrocannabinol (THC). Another compound strongly linked to the outbreak is Vitamin E acetate. Currently, there is no conclusive evidence for a definitive cause of EVALI.

Current Recommendations: The CDC states that nicotine is an addictive substance and known to be harmful to adolescents and pregnant women. The CDC and the U.S. Food and Drug Administration (FDA) do not recommend using THC-containing e-cigarette or vaping products, especially from informal distributors. Informal distributors would be online dealers, friends, family, etc. Additional recommendations include refraining from adding vitamin E acetate and other substances not intended for use by the manufacturer. The products should not be used by youth, young adults, or women who are pregnant.

E-cigarettes & the FDA

In 2016, the FDA established a rule for e-cigarettes and liquids. Since they contain nicotine, which is derived from tobacco, they are subject to the same regulation as tobacco products. This means that both in-store and online purchasers must be at least 18 years of age. E-cigarettes are now the most commonly used form of tobacco among youth in the U.S. This could be the result of the ease of availability, advertisements, appealing flavors, and the belief that they are safer than cigarettes. These regulations were put in place to protect the health of minors due to unknown health effects and preliminary research on the effects of e-cigarettes on young people and teens. The FDA continues to try to reduce the appeal of these products to youth by issuing an enforcement policy on unauthorized flavorings such as fruit and mint flavors. The research suggests that the early use of e-cigarettes, which contain nicotine, can lead to regular use of tobacco products and increase the risk of addiction to other drugs.

Can “E-cigs” Help a Person Quit?

E-cigarettes are not an FDA-approved quit aid. There is no conclusive scientific evidence on the effectiveness of e-cigarettes for long-term smoking cessation. E-cigarettes still contain nicotine, which can be addictive. Some preliminary research suggests that instead of acting as a quitting mechanism, e-cigarettes may serve as a gateway to other tobacco products and even other drugs. For individuals interested in smoking cessation, an FDA approved method, such as nicotine gum, nicotine patches, nicotine lozenges, nicotine nasal spray, or other prescriptions for smoking cessation, are still the only proven safe and effective methods.

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