



cancer.org | 1.800.227.2345

What Do We Know About E-cigarettes?

- [What are e-cigarettes?](#)
- [What is vaping?](#)
- [How do e-cigarettes work?](#)
- [Do e-cigarettes contain nicotine?](#)
- [What is in the aerosol \("vapor"\) of an e-cigarette?](#)
- [What are the health effects of e-cigarettes?](#)
- [What is known about the use of e-cigarettes by youth?](#)
- [Does e-cigarette use cause cancer?](#)
- [Can e-cigarettes explode?](#)
- [Is exposure to secondhand e-cigarette aerosol harmful?](#)
- [Can e-cigarettes help people quit smoking \(known as smoking cessation\)?](#)
- [Where can I find more information about e-cigarettes?](#)

E-cigarettes are known by many different names, and sometimes people find it hard to understand what is really known about these devices. Here we address some of the common questions people ask about e-cigarettes.

What are e-cigarettes?

E-cigarettes are known by many different names, including e-cigs, electronic nicotine delivery systems (ENDS), alternative nicotine delivery systems (ANDS), e-hookahs, mods, vape pens, vaporizers, vapes, and tank systems.

E-cigarettes are available in many shapes and sizes. They can look like cigarettes, cigars, pipes, pens, USB flash drives, or may be in other forms.

E-cigarettes include a battery that turns the device on, a heating element that heats the

e-liquid and turns it into an aerosol of tiny particles (sometimes called a “vapor”), a cartridge or tank that holds the e-liquid, and a mouthpiece or opening used to inhale the aerosol.

E-cigarettes do not contain tobacco, but many of them contain nicotine, which comes from tobacco. Because of this, the Food and Drug Administration (FDA) classifies them as “tobacco products.”

What is vaping?

The use of e-cigarettes is often referred to as “vaping” because many people believe e-cigarettes create a vapor, which is then inhaled. But in fact, e-cigarettes produce an aerosol made up of tiny particles, which is different from a vapor.

How do e-cigarettes work?

E-cigarettes heat a liquid – called e-liquid or e-juice – to turn it into an aerosol (sometimes called a “vapor”). E-cigarette users inhale this into their lungs.

Do e-cigarettes contain nicotine?

The e-liquid in most e-cigarettes contains nicotine, the same addictive drug that is in regular cigarettes, cigars, hookah, and other tobacco products. However, nicotine levels are not the same in all types of e-cigarettes, and sometimes product labels do not list the true nicotine content.

There are some e-cigarette brands that claim to be nicotine-free but have been found to contain nicotine.

What is in the aerosol (“vapor”) of an e-cigarette?

Although the term “vapor” may sound harmless, the aerosol that comes out of an e-cigarette is not water vapor and can be harmful. The aerosol from an e-cigarette can contain nicotine and other substances that are addictive and can cause lung disease, heart disease, and cancer.

Again, it is important to know that most e-cigarettes contain nicotine. There is evidence that nicotine harms the brain development of teenagers. If used during pregnancy, nicotine may also cause premature births and low birthweight babies.

Besides nicotine, e-cigarettes and e-cigarette vapor typically contain propylene glycol and/or vegetable glycerin. These are substances used to produce stage or theatrical fog which have been found to increase lung and airway irritation after concentrated exposure.

In addition, e-cigarettes and e-cigarette vapor may contain the chemicals or substances

VOCs):

Hyperlinks

1. www.cdc.gov/media/

Moline, JM, Golden, AL, Highland, JH, Wilmarth, KR, & Kao, AS. Health effects evaluation of theatrical smoke, haze, and pyrotechnics. 2000. Prepared for Actor's Equity Pension and Health Trust Funds. Accessed at <https://www.actorsequity.org/resources/Producers/safe-and-sanitary/smoke-and-haze/> on November 15, 2018.

National Academies of Sciences, Engineering, and Medicine (NASEM). *Public Health Consequences of E-Cigarettes*. Eaton DL, Kwan LY, Stratton K, eds. 2018. Washington, DC: National Academies Press. Accessed at <https://doi.org/10.17226/24952> on November 15, 2018.

U.S. Department of Health and Human Services, Office of the Surgeon General. *E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General*. 2016. Accessed at https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Full_Report_non-508.pdf on November 15, 2018.

Varughese S, Teschke K, Brauer M, et al. Effects of theatrical smokes and fogs on respiratory health in the entertainment industry. *American Journal of Industrial Medicine*. 2005;47(5):411-418.

Last Revised: June 23, 2022

Written by

The American Cancer Society medical and editorial content team
(<https://www.cancer.org/cancer/acs-medical-content-and-news-staff.html>)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345