

## Vaping/E-Cigarettes

Vaping is a word used to describe the use of an e-cigarette.

It's called vaping because of the aerosol cloud given off during use.

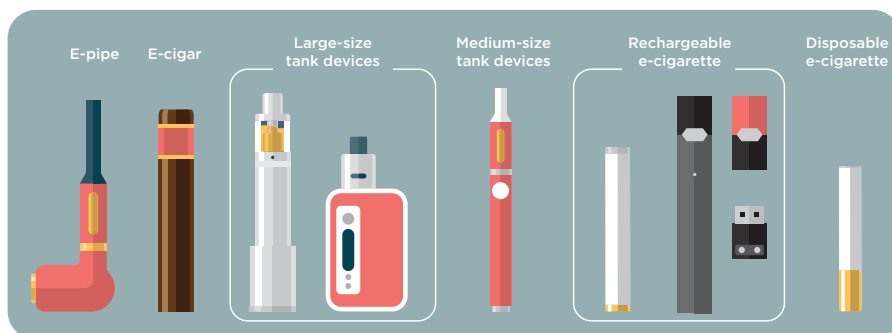


Photo by CDC

### What is an e-cigarette?

E-cigarette is a catch-all phrase for the different electronic devices used to vape. These devices may or may not look like a traditional cigarette. E-cigarettes are battery-powered devices that heat a liquid into an aerosol that the user inhales. The liquid usually has flavorings, and other additives.

There are increasing concerns about the hazards to health from e-cigarette use, and of breathing in the emissions from these devices. There has been an outbreak of severe respiratory disease called e-cigarette or vaping associated acute lung injury (EVALI) in over 2,500 patients which has resulted in hospitalization and over 60 deaths.

E-cigarettes also appear to serve as a gateway drug. Their use increases risk for other tobacco product use (including traditional cigarettes) among young people.

E-cigarettes are now the most popular tobacco products used by middle and high school students. These products come in many different shapes and sizes and have many different names, often making it difficult for someone to understand what they are.

Some devices look like cigarettes. Some are disposable. Some have rechargeable batteries and replaceable e-liquid cartridges. Other products do not look like cigarettes and may have names such as: Vape Pens, Vape Boxes, Vapes, Tank systems, E-Hookah, Hookah Pen, Hookah Stick, Shisha Stick, Juul, Mechanical Mods, E-Cigar, and E-Pipe.

### What is in the vape solution being inhaled?

The concentrated nicotine solution used in some of these devices is called e-liquid or e-juice. Usually the solutions contain the chemical compounds propylene glycol, vegetable glycerin, nicotine, and flavorings. The ingredients often vary by brand and for each type of electronic product. At this time, there are very few rules or regulations that control how these products are made or advertised, however this is rapidly changing.

### Are they addictive?

Most of these products contain nicotine. Nicotine is one of the most addictive substances known. This is the same nicotine that is in tobacco products. Addiction to the nicotine means that you feel the need to keep putting nicotine into your body. Your body depends on it and you will have symptoms that make you uncomfortable—sometimes very uncomfortable—if you don't get enough of it or if you don't get it often enough.

Actual nicotine content in these products may vary from the labeled content. Products labeled as not having nicotine may have nicotine.

Young people who become initiated to nicotine addiction with e-cigarettes are more likely to go on to use of other tobacco products.

### What about the flavors?

There are hundreds of different flavors available. Fruit and candy flavors are especially popular with younger users. Although these flavors have been labeled as safe to eat there are major concern about what happens when you inhale them into your lungs. Many of the flavorings used are known to cause respiratory irritation. Others are toxic to lung tissue.

**SPECIAL CONCERN—**

E-liquids should be kept well out of reach of children. Nicotine poisoning can be fatal. As little as 1/2 teaspoon of the concentrated liquid nicotine can kill a young child.

**Are they safe?**

The simple answer is—No. Tobacco related toxins (poisonous substances that can cause disease) and carcinogens (cancer causing chemicals) have also been found in the aerosol vapor of e-cigarette products. Tiny heavy metal particles that are most likely from the casings and heating elements have been found in the aerosols created from device use. Heating of the e-cigarette solution can create other toxins and carcinogens. There is increasing evidence that inhaled nicotine from e-cigarettes damages lung tissue and lowers the body's natural resistance to infections and to cancers. There are numerous reports of hospitalization and even death related to use of these products. Although much is as yet unknown about their longterm safety, there is plenty of cause for concern.

**Are they useful in helping someone to quit smoking cigarettes?**

Some people claim they have quit smoking cigarettes by using an e-cigarette. However, recent research studies are conflicting. While some studies suggest that these products may help with quitting smoking, many other studies show that they are ineffective at doing so. These products are not FDA approved for helping with quitting smoking. Young people who use e-cigarettes are more likely to start smoking! For more information on products used to help quit smoking, see ATS patient fact sheets: "Over The Counter (OTC) Medicines to Help you Stop Smoking" and "Prescription Medicines To Help You Stop Using Tobacco Products".

**Can using e-cigarettes harm the people close to me?**

E-cigarettes create aerosols. These aerosols (vapors) can and do expose others nearby. Protect your family and friends. If you do use these devices, only use them outside and well away from other people. Many states have put laws in place that prohibit the use of these devices in places where you cannot smoke. These devices cannot be used on commercial airplanes.

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**R<sub>x</sub> Action Steps**

- ✓ Avoid using e-cigarettes.
- ✓ Do not allow e-cigarette use in your home or car.
- ✓ Talk to your children about the dangers of e-cigarette use and of nicotine addiction.
- ✓ Children learn what they see. Set a good example by being e-cigarette and tobacco free.
- ✓ Keep all e-cigarette devices, including concentrated nicotine solutions, out of reach of children.
- ✓ If you are trying to stop smoking or vaping, talk with your healthcare provider about safe and effective medications to treat nicotine addiction and to help you to feel comfortable when not smoking or using tobacco.
- ✓ For help with stopping tobacco or nicotine use go to [www.thoracic.org/patients/](http://www.thoracic.org/patients/).
- ✓ For additional help in quitting, join a local quit smoking support group or call 1-800-QUIT-NOW

**Resources****American Thoracic Society**

- [www.thoracic.org/patients/](http://www.thoracic.org/patients/)
- <https://www.thoracic.org/patients/patient-resources/resources/vapi-patient.pdf>

**FDA (Food and Drug Administration)**

- <https://www.fda.gov/tobacco-products/products-ingredients-components/vaporizers-e-cigarettes-and-other-electronic-nicotine-delivery-systems-ends>

**American Lung Association**

- <https://www.lung.org/stop-smoking/smoking-facts/e-cigarettes-and-lung-health.html>

**The Truth Initiative**

- <https://truthinitiative.org/research-resources/emerging-tobacco-products/e-cigarettes-facts-stats-and-regulations>
- <https://truthinitiative.org/what-we-do/quit-smoking-tools>

**American Academy of Pediatrics – Healthy Children**

- <https://www.healthychildren.org/English/safety-prevention/at-home/Pages/Liquid-Nicotine-Used-in-E-Cigarettes-Can-Kill-Children.aspx>

**National Cancer Institute**

- <https://teen.smokefree.gov/>

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