

E-Cigarettes: What You Need to Know

As lawmakers and scientists respond to a growing industry, there are many good reasons for teens to take a pass on this latest trend.

You may have seen electronic cigarettes (e-cigarettes) in stores, in ads, or being used. Although e-cigarettes are growing in popularity, they are not harmless. They're designed to deliver the same highly addictive nicotine that is in tobacco cigarettes, without tobacco's other harmful effects.

What's Happening

In the past decade, e-cigarettes have become a more than \$1 billion industry in the United States. Many adults who use e-cigarettes are current or former smokers looking to stop nicotine cravings, quit smoking, or cut down on tobacco cigarettes. However, e-cigarettes

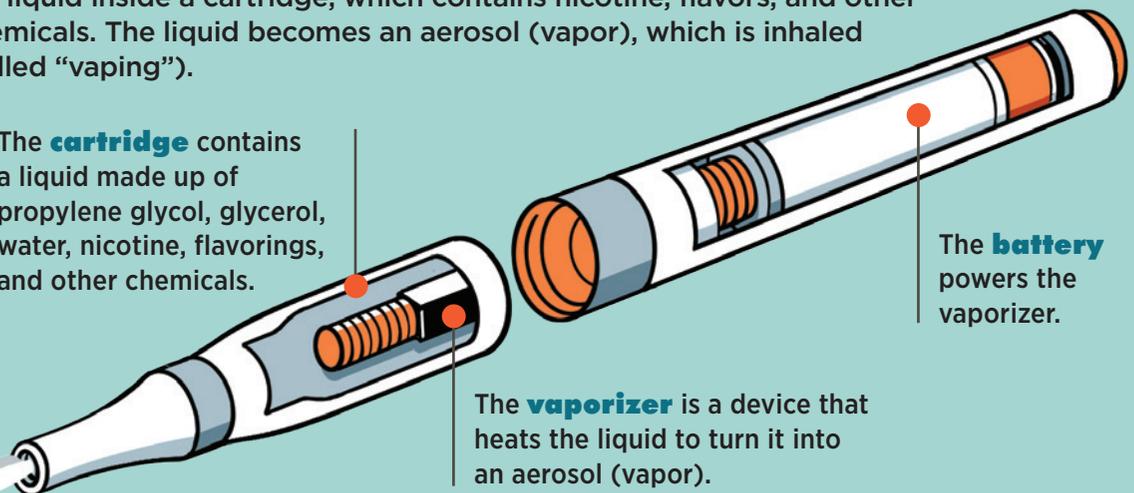
How Do E-Cigarettes Work?

E-cigarettes are designed to provide nicotine. Puffing on the mouthpiece activates a battery-powered device (called a vaporizer). The vaporizer heats the liquid inside a cartridge, which contains nicotine, flavors, and other chemicals. The liquid becomes an aerosol (vapor), which is inhaled (called "vaping").

The **cartridge** contains a liquid made up of propylene glycol, glycerol, water, nicotine, flavorings, and other chemicals.

The **vaporizer** is a device that heats the liquid to turn it into an aerosol (vapor).

The **battery** powers the vaporizer.



► **More Info:** For additional facts about the brain and drugs, visit scholastic.com/headsup and teens.drugabuse.gov.

Research

may not be that helpful for quitting. Most adult smokers (75 percent) who use e-cigarettes continue to use tobacco cigarettes.¹

Although most states outlaw e-cigarette sales to people under 18, some teens are also using them. Recent surveys² show large increases in the numbers of teens who have tried an e-cigarette and who have used them in the past month. This is at a time when smoking tobacco cigarettes is the lowest it's ever been among middle and high school students.

What's Ahead

The U.S. government may start to regulate how e-cigarettes are made and sold. If this happens, e-cigarettes may have rules on safety, advertising, and warning labels, like tobacco cigarettes do. For now, e-cigarettes are not guaranteed to be safe. Also, claims made in ads do not have to be scientifically proven.

Research on the risk of e-cigarettes and the possible benefits for current smokers is just beginning. But there is evidence that teens would be smart not to use e-cigarettes.

Risks for Teens

Nine in 10 adult smokers started smoking tobacco cigarettes before age 18. This is because the teen brain is still developing, which makes teen smokers more likely to become addicted to nicotine (and other drugs) than people who start as adults. Once a person is addicted to nicotine, it's very hard to quit. Early studies show a strong link between teens using e-cigarettes and tobacco cigarettes. Researchers will continue to study this link.

Effect of E-Cigarette Aerosol (Vapor) on the Body

E-cigarettes contain a liquid made up of propylene glycol, glycerol, nicotine, flavorings, water, and other chemicals. Tests of some e-cigarettes have also found toxic chemicals, such as formaldehyde (which may cause cancer). Research will focus on the effects of these chemicals in the aerosol on those that use e-cigarettes as well as on those exposed to the aerosol secondhand.

Nicotine Addiction and the Brain

Studies show that nicotine may make animals' brains more receptive to the effects of other drugs. Some experts think it

could also be true for people. If so, teens who use e-cigarettes (or tobacco cigarettes) may find other drugs more rewarding. This effect makes further drug use and addiction more likely. Researchers will track whether teens who use e-cigarettes are more likely to become addicted to other drugs.

Do E-Cigarettes Help Smokers Quit?

Some studies show that e-cigarettes help people quit tobacco cigarettes. Other studies suggest that they make quitting harder. More research is needed. Meanwhile, smokers who want to quit have other options with proven effectiveness. Find out more at teen.smokefree.gov and cdc.gov/tobacco/campaign/tips/quit-smoking.



Warning! Accidental Poisoning

Drinking, sniffing, or touching the liquid in e-cigarettes can be toxic. Calls to poison control centers about e-cigarettes jumped from one per month (2010) to 215 per month (2014).³ More than half of those poisoned were under age 5.