

# Vaping and E-Cigarettes

## What Are the Risks?

► Learn about the risks of vaping and electronic cigarette use. Understand the current laws and the legal consequences in some states for vaping.

Some people believe that vaping and electronic cigarettes are a safe alternative to smoking traditional cigarettes. The Centers for Disease Control and Prevention (CDC) warns that these devices are not safe for youth or adults because they contain nicotine and other harmful chemicals.

### Electronic Cigarettes

- Electronic or e-cigarettes are battery-operated devices that include vapes, mods, Juuls, e-hookahs, and vape pens. These handheld devices work by heating a cartridge containing liquid nicotine and other chemicals into a vapor.
- The amount of nicotine in e-cigarettes varies. Small amounts of liquid (e-liquid) can contain as much nicotine as an entire pack of regular cigarettes.



- Most e-liquids come in several nicotine strengths: high, medium, low, and zero. But there is no standard for nicotine strength across labels, brands, or cartridges. People may choose a level of nicotine that is too strong for their body or not check the strength before smoking.
- Several studies have found that products labeled *nicotine-free* still contained nicotine.
- E-cigarettes are also used for dripping, which involves heating the e-liquid at high temperatures by dripping a couple of drops of e-liquid directly onto an atomizer's coil and then immediately inhaling the vapor that is produced.
- Some devices are designed specifically for marijuana. While many people believe that vaping marijuana is safe, most vaping hospitalizations involve vaping THC.

### Safety Risks

- Vaping increases health risks for children, pregnant women, and those with preexisting health conditions. These vulnerable populations are also at risk when they are consistently around others who vape.
- Lithium batteries, which power the e-cigarette devices, carry a risk of fire and explosion. This information is currently not on product packaging.
- In May 2018, a 38-year-old Florida man died from a head wound caused by shards of metal from his exploding vape pen. His was the first reported death in the United States attributed to a malfunctioning electronic cigarette battery.



- From 2015 to 2017, U.S. hospital emergency rooms reported an estimated 2,035 e-cigarette explosion and burn injuries. These injuries were burns, with the majority of injuries occurring on the upper leg, hand, and fingers.
- Fire and blast injuries affect not only the people who smoke them but also harm others and damage personal property.
  - Children who are too young to smoke have been harmed by e-cigarettes and related products. Skin exposure and swallowing the e-liquid is far more likely to require an emergency room visit than eating or swallowing regular cigarettes, according to the National Center for Health Research.

## Impacts on the Brain

- Using nicotine as a teen can harm the parts of the brain that control attention, learning, mood, and impulse control.
- Because the brain is still developing during the teen years, nicotine exposure might lead to changes in the central nervous system that could cause teens to form a dependence much faster on other drugs in the future.
- Recent studies have shown that early, repeated intake of nicotine is associated with cognitive decline and performance impairment.
- Following the intentional or accidental swallowing of e-liquid, people have reported seizures or convulsions as a side effect of nicotine toxicity.
- When teens try to quit, the lack of nicotine in the body causes anxiety, irritability, restlessness, difficulty concentrating, depressed mood, frustration, anger, increased hunger, and difficulty sleeping. These symptoms can cause issues at home and in school.



## Impacts on the Heart

- Daily use of e-cigarettes nearly doubles the odds of a heart attack.
- While e-cigarettes deliver lower levels of carcinogens than conventional cigarettes, they expose users to high levels of ultrafine particles and other toxins that have been linked to increased cardiovascular and noncancer lung disease risks. This accounts for more than half of all smoking-related deaths.



## Impacts on the Lungs

- The vapor produced by the chemicals in e-juice enters into the user's lungs and leaves chemical residue behind, causing breathing problems.
- Many of the ingredients in e-cigarette vapors have long-term harmful effects on the lungs.
- Diacetyl, the flavoring chemical used in e-juice, is associated with the lung disease bronchiolitis obliterans, commonly called popcorn lung, and other severe respiratory diseases.
  - Diacetyl (DA) and acetyl propionyl (AP) are often in sweet-flavored e-cigarette liquids and expose users to high levels of the chemicals.





## Cancer Risks

- E-cigarettes have gained popularity as a safer alternative to traditional cigarettes. Experts warn that vaping causes e-cigarette users to inhale dangerous quantities of cancer-causing chemicals.
- While most people are familiar with the cancer risk of formaldehyde, acrolein is also associated with the type of DNA damage that puts people at risk for cancer and leukemia.



## E-cigarette Accessibility

Truth Initiative surveyed a national sample of more than 1,000 12- to 17-year-olds in April 2018:

- 74 percent of teens reported they obtained a Juul from a physical store or retail outlet.
- 52 percent reported they acquired a Juul from a social source, such as a friend or family member.
- 6 percent bought a Juul from the Internet. Minors are easily able to purchase e-cigarettes because Internet-based e-cigarette vendors do not use age-verification measures.
- Some teens borrow vaping devices if they do not own a device or cannot purchase them because of age restrictions. Every state law is different regarding the purchase of e-cigarettes.



**NO SMOKING  
NO VAPING**

## E-cigarette Laws

E-cigarette laws are changing over time. On December 20, 2019, the minimum age to buy tobacco and e-cigarette products increased to 21.

## Current Alabama Laws

E-cigarettes are banned on most university campuses.

The Stringer-Drummond Vaping Act states the following:

- Requires vape shops to have a tobacco permit.
- Prohibits advertising vape and other alternative nicotine products as a means to stop smoking or a healthy alternative to smoking.
- Requires the Alcoholic Beverage Control Board to regulate e-cigarettes and vape products.
- Restricts the in-store and online sale of alternative nicotine products and electronic nicotine delivery systems to minors.
- Arrests can be made for selling or giving anyone under the age of 21 e-cigarette products with up to 30 days in jail and a \$100 to \$300 fine.
- Prohibits advertising such products near schools and or opening vape shops within 1,000 feet of a school, childcare facility, church, youth center, public library, playground, or park.
- Retailers and manufacturers may only advertise the flavors of tobacco, mint, or menthol on outdoor billboards.

If you or your child is currently addicted to e-cigarettes, Juuls, or any other device, talk to your doctor. Following are other helpful resources about quitting vaping:

- “This is Quitting” is a free anonymous text messaging program from the Truth Initiative. “This is Quitting” is for 13- to 24-years-olds and gives teens and young adults appropriate recommendations about quitting. Join by texting DITCHVAPE to 88709
- The US Department of Health and Human Services, National Institutes of Health offers a website, Quit Vaping, to help youth learn how to quit, deal with cravings, understand triggers, and more. The website also has an online chat system.
- Parental Support Line: Are you a parent of a young person who vapes? Parents can text QUIT to (847) 278-9715 to sign up for text messages designed specifically for parents of vapers.



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