

# Vaping (Nicotine and Marijuana)

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“Vaping” is the act of inhaling a vapor produced by a vaporizer, electronic cigarette, or disposable vape containing a liquid, concentrate, or dry herb that is vaporized to form an aerosol mist.

## What does it look like?

Electronic cigarettes are battery-operated devices used to inhale a liquid solution, which typically contains flavorings, flavoring with nicotine, or marijuana (ground plants, waxes, or THC and CBD oils). They can resemble traditional tobacco cigarettes, cigars, or pipes, or even everyday items like pens or USB memory sticks.

## How does it work?

Most e-cigarettes consist of four different components, including: a cartridge or reservoir, which holds the liquid solution (e-liquid or e-juice), a heating element (atomizer), a power source (usually a battery), and a mouthpiece.

Puffing activates the battery-powered heating device, which vaporizes the liquid in the cartridge. The person then inhales the resulting aerosol or vapor (called vaping). Vaping can be difficult to detect as there is no smoke. Minimal odor and the vapor produced dissipates rapidly.

## If vaping uses flavorings that are in food, isn't it okay to inhale them?

Researchers also found that the liquid in e-cigarettes may contain artificial flavorings that, while safe to ingest, are toxic to inhale. This chemical, called diacetyl, is found in as much as 75% of e-cigarettes and is linked to a disease referred to as “popcorn lung” or bronchiolitis obliterans. Even if e-cigarettes do not contain nicotine or marijuana, the aerosol emitted can contain other harmful substances, including heavy metals such as lead, volatile organic compounds, and cancer-causing agents.



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## Is vaping safe? What are the effects?

Vaping isn't considered safe for teens and young adults, especially since the teen years are critical for brain development. Since vaping is a relatively new phenomenon, long-term studies that compare vaping to other methods of using nicotine and marijuana have yet to be concluded. But there are numerous studies on the negative effect that nicotine, toxic substances, and marijuana have on the developing brain.

Following are common effects of vaping: dependence, poisonings, burns and other injuries due to faulty equipment, difficulty with critical thinking skills, risks of mental health issues, decline in school/work performance, and other effects associated with nicotine and marijuana use. Also, multiple studies show that teenagers are more susceptible to a progression of a more significant drug problem if they start using nicotine or marijuana during their middle and high school years.



## Trends & Statistics

Nicotine vaping remained stable for all three grades surveyed, with 12% of eighth graders, 20.5% of 10<sup>th</sup> graders, and 27.3% of 12<sup>th</sup> graders reporting vaping nicotine in the past year.

Cannabis use also remained stable for all three grades surveyed, with 8.3% of eighth graders, 19.5% of 10<sup>th</sup> graders, and 30.7% of 12<sup>th</sup> graders reporting cannabis use in the past year. Of note, 6.0% of eighth graders, 15.0% of 10<sup>th</sup> graders, and 20.6% of 12<sup>th</sup> graders reported vaping cannabis within the past year, from Monitoring the Future study 2022.

Among the e-cigarette or vape users, 78% had used pod- or cartridge-based vapes, 60% had used disposable vapes and 57% had used other e-cigarettes, such as tanks and mods. But participants' recent use favored disposable vapes: In the 30 days prior to being surveyed, 54% had used disposables, 45% had used pod- or cartridge-based, and 40% had used other e-cigarettes. Participants identified the most popular disposable vape product as Puff Bar (pictured above.)

Contrary to popular belief, the FDA hasn't found e-cigarettes to be safe and effective in helping smokers quit. Instead of quitting, many e-cigarette users continue to use e-cigarettes while still smoking conventional cigarettes.

Sources: *Monitoring the Future Survey, Stanford Medicine*