



KNOW THE RISKS: A Parent's Guide to E-Cigarettes and Youth



Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Office on Smoking and Health





1 What Are E-Cigarettes?

2 What Are the Health Risks?

3 What Leads to E-Cigarette Use?

4 What Can You Do About It?

WHAT ARE E -CIGARETTES?

E-cigarettes are devices that heat a liquid into an aerosol that the user inhales.



E-cigarettes sometimes called “e-cigs,” “vapes,” and “electronic nicotine delivery systems (ENDS),” are battery operated devices that heat a liquid to produce an inhaled aerosol. The liquid in e-cigarettes usually contains nicotine as well as flavorings and other chemicals. Some e-cigarettes can also be used to deliver THC (a psychoactive chemical found in cannabis) or other drugs.

E-cigarettes come in a variety of shapes and sizes. Some e-cigarettes look like USB flash drives or regular cigarettes.

In 2022, the most common type of device used by middle and high school students was disposable e-cigarettes. [Notes from the Field: E-cigarette Use Among Middle and High School Students — United States, 2022 | MMWR \(cdc.gov\)](#)

Tobacco use is NOT safe for young people.

NOTE: The definition of aerosol is a suspension of fine solid or liquid particles in gas. [Aerosol Definition & Meaning - Merriam-Webster](#) It is not water vapor. Examples of aerosols include cleaning products and cooking sprays.



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E-Cigarettes Are the Most Commonly Used Tobacco Product Among U.S. Youth

E-cigarettes are the most common tobacco product currently used (use on 1 or more days in the past 30 days) by **2.55 million** students, or **almost 1 in 10** of America's middle school and high school students.

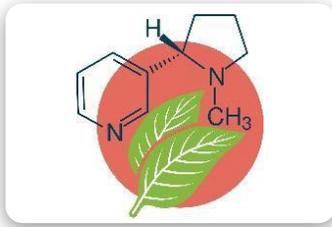
- **Slightly more than 4 in 10** reported frequent use (use on 20 or more days in the past 30 days)
- **Slightly more than 1 in 4** reported daily use.

Source: Cooper M, Park-Lee E, Ren C, et al. *Notes from the Field: Cigarette Use Among Middle and High School Students—National Youth Tobacco Survey, United States, 2022*. *MMWR Morbidity and Mortality Weekly Report* 2022;71:1283-1285

CDC and the Food and Drug Administration (FDA) analyzed data from the 2022 National Youth Tobacco Survey (NYTS) to estimate current (past 30-day) use of eight tobacco products among U.S. middle (grades 6–8) and high school (grades 9–12) students.

- Since 2014, e-cigarettes have been the most commonly used tobacco product among U.S. youth.
- In 2022, e-cigarettes continue to be the most common tobacco product.
 - Over 2.5 million students currently used (past 30-day) e-cigarettes in 2022, including 2.14 million high school students.
 - Among both middle and high school students who currently used e-cigarettes, the most commonly used device type was disposables, followed by prefilled or refillable pods or cartridges and tanks or mod systems.
 - The most commonly reported “usual brand” was Puff Bar, followed by Vuse, JUUL, SMOK, NJOY, Hyde, and blu. Approximately one fifth of current e-cigarette users reported “some other brand” as their usual brand.

Nicotine Poses Unique Dangers to Young People



Nicotine is a highly addictive drug.



Nicotine can harm brain development, which continues until about age 25.

Nicotine can harm the parts of the brain that control attention, learning, mood, and impulse control.



Nicotine can prime the brain for addiction to other drugs.

Source: USDHHS. E-cigarette Use Among Youth and Young Adults—A Report of the Surgeon General. 2016.

- Nicotine exposure during adolescence can harm the developing brain—which continues to develop until about age 25.
- Using nicotine in adolescence can harm the parts of the brain that control attention, learning, mood, and impulse control.
- Using nicotine in adolescence may also increase risk for future addiction to other drugs.

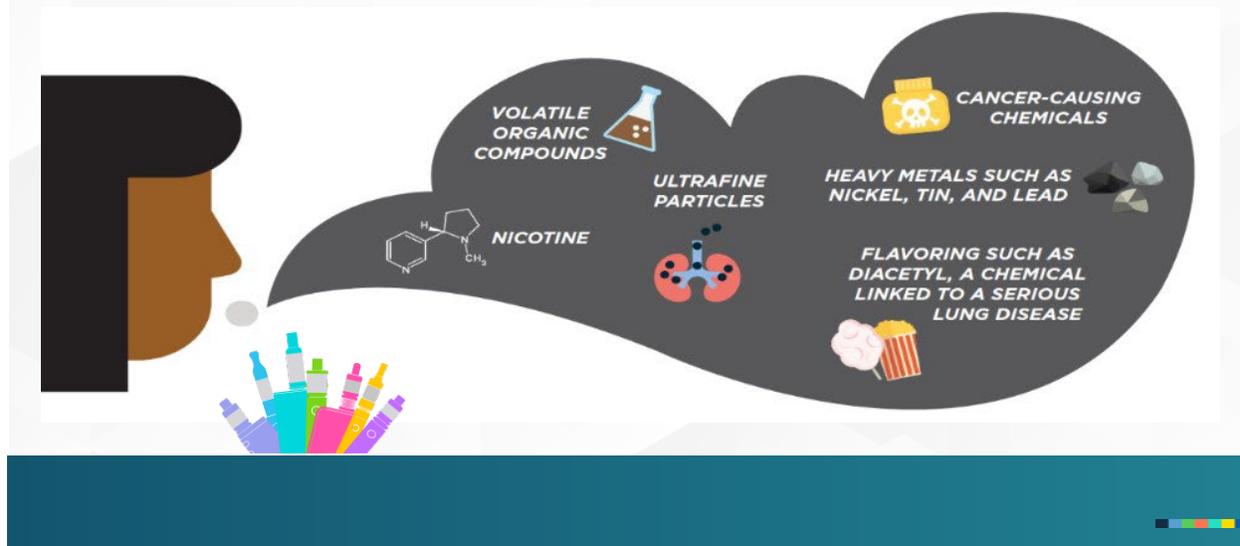


Nicotine Addiction Is a Source of Stress

- **When a person is dependent on nicotine** and stops using it, their body and brain must readjust to not having nicotine.
- Youth may turn to vaping to try to deal with stress or anxiety, **creating a cycle of nicotine dependence**
- Nicotine withdrawal symptoms **include irritability, restlessness, feeling anxious or depressed, trouble sleeping, problems concentrating, and craving nicotine.**
- People, especially youth, may **keep using tobacco products** to help relieve these symptoms.

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E-Cigarette Aerosol is Not Harmless



Besides nicotine, e-cigarette aerosol can contain cancer-causing chemicals, heavy metals, and ultrafine particles that can be inhaled deeply into the lungs and harm your body. Again, it is not harmless, and it is not water vapor.

And even though e-cigarette aerosol generally contains fewer harmful chemicals than regular cigarettes, safer doesn't mean safe. This applies to both people using e-cigarettes, as well as people who may be exposed to secondhand aerosol from other people using e-cigarettes.

By the way, those flavorings in e-cigarettes aren't necessarily safe either. The gut can handle a lot more than the lungs and flavorings in e-liquids or pods may not be safe when inhaled.

Scientists are still working to understand more fully the health effects and harmful doses of e-cigarette content when they are heated and turned into an aerosol.



1 What Are E-Cigarettes?

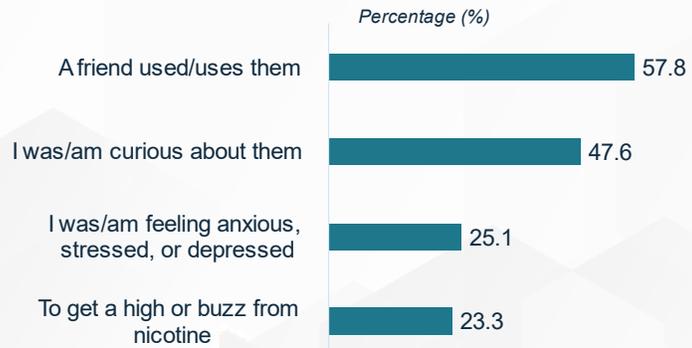
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Youth Reasons for Ever *Trying* an E-Cigarette, NYTS, 2021



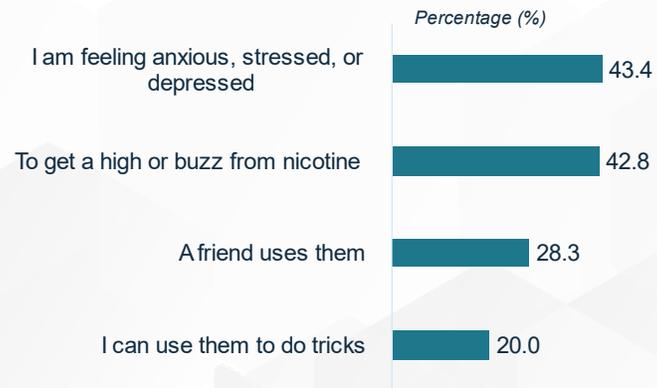
* Restricted to the top 4 reasons listed for combined middle and high school students, NYTS 2021

Source: Gentzke AS, Wang TW, Cornelius M, et al. Tobacco Product Use and Associated Factors Among Middle and High School Students — National Youth Tobacco Survey, United States, 2021. *MMWR Surveill Summ* 2022;71(No. 53):1–29.

- Youth trying an e-cigarette means the first use of the product.



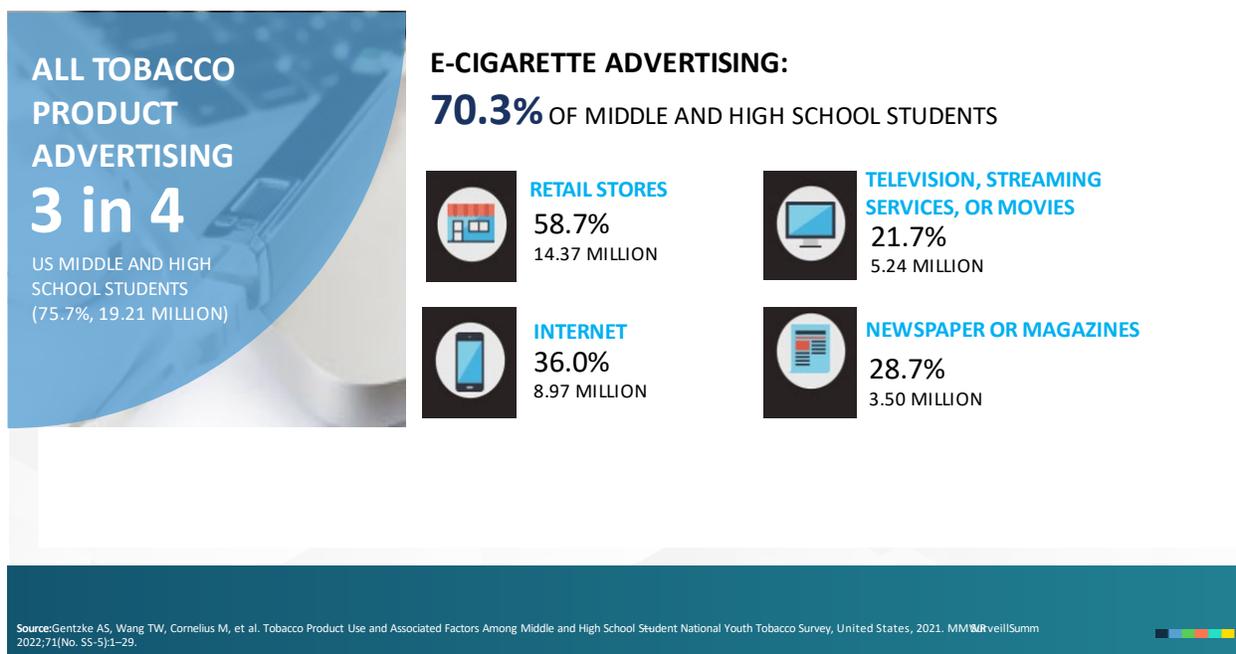
Youth Reasons for *Current* E-Cigarette Use, NYTS, 2021



* Restricted to the top 4 reasons listed for combined middle and high school students, NYTS 2021

Source: Gentzke AS, Wang TW, Cornelius M, et al. Tobacco Product Use and Associated Factors Among Middle and High School Students—National Youth Tobacco Survey, United States, 2021. *MMWR*. 2022;71(No. 53):1-29.

- Current use of e-cigarettes was defined as use on ≥ 1 day during the past 30 days.



Youth exposure to e-cigarettes is increasing.

One of the main reasons is advertising.

Overall, 3 in 4 US middle and high school students see tobacco product advertising.

And these messages come in many different forms, whether it's store signs, television ads, movies, the Internet, social media ads, magazines with cool images, or newspapers.... it's all around you.

And big tobacco is one of the main contributors. They spent \$8.2 billion in the year 2019 on marketing their products.

E-cigarette ads reach nearly 4 in 5 middle and high school students, and tobacco product advertising reach 3 in 4 middle and high school students.

Here are a few examples of how they are doing it.

E-cigarette marketing ads are using themes including sexual content, independence, rebellion, and celebrity figures to appeal to youth and young adults.

Tobacco Use Impacts People and Communities Differently

- Certain communities are targeted by tobacco industry marketing
- This includes the geographic distribution of tobacco retail outlets and price promotions
- The tobacco industry develops novel tobacco products that appeal to youth, including flavored tobacco products and “stealth” products
- There is unequal implementation of policies we know work to reduce youth use: tobacco price increases, smokefree indoor air laws, and flavor restrictions



Source: American Academy of Pediatrics. Youth Tobacco Cessation: Considerations for Clinicians (page 4). Accessed August 8, 2021. https://downloads.aap.org/AAP/PDF/AAP_Youth_Tobacco_Cessation_Considerations_for_Clinicians.pdf

- Targeted marketing by the tobacco industry – In 2019, the tobacco companies spent about \$22.5 a day marketing their products. The tobacco companies specifically advertise and market their products to specific populations. ([Tobacco Industry Marketing | CDC](#))
 - Youth and young adults
 - Tobacco ads make smoking appear to be appealing, which can increase adolescents’ desire to smoke.
 - Women
 - Marketing toward women is dominated by themes of social desirability, empowerment, and independence, which are conveyed by advertisements featuring slim, attractive, and athletic models.
 - Racial and minority populations
 - Hispanic and American Indians/Alaska Natives, African American communities
 - African American communities is targeted with advertisements and promotion for menthol cigarettes.
 - Asian Americans
 - LGBTQ+ communities ([Unfair and Unjust Practices Harm LGBTQ+ People and Drive Health Disparities | CDC](#))
- Geographic distribution of tobacco retail outlets and promotions – The number of retailers selling tobacco products varies widely depending on community characteristics with more retailers in areas with lower incomes and greater proportions of African-American residents. ([Inequalities in tobacco outlet density by race, ethnicity and socioeconomic status, 2012, USA: results from the ASPIRE Study | Journal of Epidemiology & Community Health \(bmj.com\)](#)).
- Industry development of novel tobacco products that appeal to youth, including flavored tobacco products and “stealth” products – E-cigarettes in youth–appealing flavors are being sold in retailers. Several of the e-cigarettes most popular with youth resemble USB flash drives and

can be relatively odorless. E-cigarettes can be “stealth” products and disguised as backpacks, smartwatches, sweatshirts, fidget spinners, or hand-held gaming devices to avoid detection or be seen by others. [How to Spot Stealth and Disposable E-Cigarettes | Parents | Vaping Prevention Resources | HHS.gov](#)

- There are policies that we know work and have known that they work for decades, but they have not been implemented in all communities. This includes increasing the price of tobacco products, smokefree indoor air laws, and prohibiting the sale of flavored products.



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Talk with Your Teen

KNOW THE RISKS
E-CIGARETTES
BY SURGEON GENERAL

Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents



START THE CONVERSATION

Find the right moment.

- A more natural discussion will increase the likelihood that your teen will listen. Rather than saying "we need to talk," you might ask your teen what he or she thinks about a situation you witness together, such as:
 - Seeing someone use an e-cigarette in person or in a video.
 - Passing an e-cigarette shop when you are walking or driving.
 - Seeing an e-cigarette advertisement in a store or magazine or on the internet.

Ask for support.

- Not sure where to begin? Ask your health care provider to talk to your teen about the risks of e-cigarettes.
- You might also suggest that your teen talk with other trusted adults, such as relatives, teachers, faith leaders, coaches, or counselors whom you know are aware of the risks of e-cigarettes.
- These supportive adults can help reinforce your message as a parent.



BEFORE THE TALK

Know the facts.

- Get credible information about e-cigarettes and young people at e-cigarettes.SurgeonGeneral.gov.

Be patient and ready to listen.

- Avoid criticism and encourage an open dialogue.
- Remember, your goal is to have a conversation, not to deliver a lecture.
- It's OK for your conversation to take place over time, in bits and pieces.

Set a positive example by being tobacco-free.

- If you use tobacco, it's never too late to quit. For free help, visit smokefree.gov or call a **800-QUIT-NOW**.



ANSWER THEIR QUESTIONS

Here are some questions and comments you might get from your teen about e-cigarettes and some ideas about how you can answer them.

Why don't you want me to use e-cigarettes?

- Science shows that e-cigarettes contain ingredients that are addictive and could harm different parts of your body.
- Right now, your brain is still developing, which means you are more vulnerable to addiction. Many e-cigarettes contain nicotine, and using nicotine can change your brain to make you crave more nicotine. It can also affect your memory and concentration. I don't want that for you!
- E-cigarettes contain chemicals that are harmful. When people use e-cigarettes, they breathe in tiny particles that can harm their lungs.

The cloud that people exhale from e-cigarettes can expose you to chemicals that are not safe to breathe.

What's the big deal about nicotine?

- Your brain is still developing until about age 25. The Surgeon General reported that nicotine is addictive and can harm your brain development.
- Using nicotine at your age may make it harder for you to concentrate, learn, or control your impulses.
- Nicotine can even train your brain to be more easily addicted to other drugs like meth and cocaine.



I (or my friends) have tried e-cigarettes and it was no big deal.

- I appreciate your honesty. In the future, I hope you (or your friends) will stay away from e-cigarettes and other tobacco products, including cigarettes. Science shows that e-cigarettes contain ingredients that are addictive and could harm different parts of your body.
- Next time we go to the doctor, let's ask about the risks of nicotine e-cigarettes, and other tobacco products.

You used tobacco, so why shouldn't I?

- If I could live my life over again, I never would have started smoking. I learned that people who smoke cigarettes are much more likely to develop, and die from, certain diseases than people who don't smoke. This was really scary, so I quit smoking.
- Quitting was really hard, and I don't want you to go through that. The best thing is to not start at all.

I don't say this to scare you, but I want you to have the facts because nothing is more important to me than your health and safety.

Are e-cigarettes safer than conventional cigarettes?

- Because your brain is still developing, scientific studies show that it isn't safe for you to use any tobacco product that contains nicotine, including e-cigarettes.
- Whether you get nicotine from an e-cigarette or a cigarette, it's still risky.
- Some e-cigarette batteries have even exploded and hurt people.

I thought e-cigarettes didn't have nicotine—just water and flavoring?

- I used to think that too. But many e-cigarettes have nicotine. There are also other chemicals in them that can be harmful.
- Let's look at the Surgeon General's website on e-cigarettes (E-cigarettes.SurgeonGeneral.gov) together so you can see for yourself.

Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents (surgeongeneral.gov)

It is never too late to talk with your teen about e-cigarettes.

- Educate yourself about e-cigarettes before discussing them with your teen and learn helpful ways to approach the conversation.
- Recognize the warning signs of nicotine addiction in youth and find e-cigarette quit resources tailored to teens.
- Keep the conversation going.

The Surgeon General's website contains additional tools and resources for parents regarding youth use of e-cigarettes. These resources can be found at <https://e-cigarettes.surgeongeneral.gov/resources.html>.

Resources to Help Youth Quit



Resources to help youth Quit: Quitline trained counselors

- 1-800-QUIT-NOW
- 1-800 DeJélo-Ya (Spanish)
- 1-800-838-8917 (Mandarin + Cantonese)
- 1-800-566-5564 (Korean)
- 1-800-778-8440 (Vietnamese)
- 1-855-5AI-QUIT



Texting Programs

- SmokefreeTXT for Teens
- SmokefreeTXT
- DipfreeTXT
- SmokefreeTXT en Español
- This is Quitting (Truth)
- My Life, My Quit



Web-Based Resources

- Smokefree Teen
- Smokefree en Espanol
- Smokefree.gov
- My Life, My Quit
- American Indian Commercial Tobacco Program
- NOT for Me



Smartphone Apps

- QuitSTART

Source: [Behavioral Cessation Supports for Youth and Young Adults](#), AAP. Accessed August 18, 2021. <https://teen.smokefree.gov/>. Image Source: Become A Smokefree Teen website.

Most youth want to quit using e-cigarettes. There are resources to help them quit.

Be Tobacco Free!



- 1) Ensure your child's school has a tobacco-free grounds policy.
- 2) Set a positive example. If you smoke or vape, consider quitting.
- 3) Establish a tobacco-free home. Don't allow anyone to smoke or vape in your house or car.

Know the Risks

For additional information,
please visit: [Quick Facts on
the Risks of E-cigarettes for
Kids, Teens, and Young
Adults | CDC](#)

