

Think vaping is safer than cigarettes? Think again!

Tobacco use is the single most preventable cause of disease, disability and death.

E-cigarettes are designed to deliver nicotine, the highly addictive chemical found in **all** tobacco products.

Research shows that vaping is **not** a safe alternative to using cigarettes or any other forms of tobacco. Read on...



“Four out of five young adults who have ever used tobacco reported that their first product was flavored.”
— Truth Initiative

What's really in vape aerosol?

E-cig aerosol is not water vapor. There are more than 100 compounds in e-cigarette liquids. When they are heated and converted into aerosol, more compounds are created. The aerosol **you, your friends and your pets breathe** can contain harmful chemicals such as:



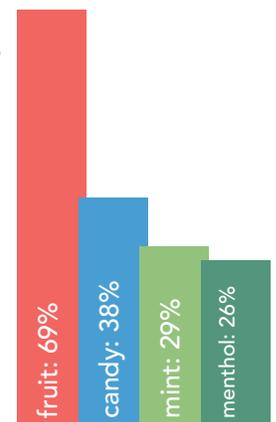
- ☠ acrolein: a weed killer
- ☠ benzene: found in car exhaust
- ☠ formaldehyde: used to preserve dead bodies
- ☠ nickel, tin, lead and other heavy metals
- ☠ nicotine: highly addictive chemical in tobacco products

- ☠ propylene glycol: used as antifreeze
- ☠ volatile organic compounds and ☠ ultrafine particles.



Tobacco companies use cool words like “ice,” “frost,” “chill” or “freeze” to hide that they added menthol — “a flavor” that makes tobacco products more addictive. That “banana ice” isn’t just appealing, it’s addicting!

In 2022, of the 2.55 million middle and high school students who used e-cigarettes in the past 30 days, 85% reported using a flavored e-cigarette during that time. See the graph for the most common flavors.



Current studies show flavors added to e-cigarettes are harmful. They are linked to heart, lung and brain problems. (See page 3.)

Source: Centers for Disease Control & Prevention (numbers are rounded)

Nicotine 411: it's a numbers game

The U.S. Food and Drug Administration (FDA) **does not** regulate how much nicotine can be added to tobacco products such as e-cigarettes and oral nicotine products.

■ **e-cigarettes:** To determine how much nicotine is being delivered, there are 3 numbers to know:

- the e-liquid capacity of the pod/cartridge/tank is measured in milliliters (mL)
- how many times the pod/cartridge/tank is filled or changed/replaced
- the nicotine strength of the e-liquid. It is a percentage (%) or whole number.
 - If the e-liquid strength is a percent, convert it to a whole number. So, 5% would be 50 mg of nicotine / mL of e-liquid fluid.
 - If the e-liquid strength is a whole number, like 60, this means 60 mg of nicotine / mL of e-liquid.

■ **oral nicotine products (gum, pouches, lozenges, toothpicks):** They may claim to be "tobacco-free" or "leaf-free." This is misleading as they are still tobacco products that contain nicotine.

- **gum:** 1 piece delivers about 2 to 6 mg of nicotine
- **pouch (including liquid-filled capsules):** 1 pouch delivers about 2 to 12 mg of nicotine
- **lozenge:** 1 lozenge delivers about 2 to 4 mg of nicotine
- **toothpick:** 1 toothpick delivers about 2 to 3 mg of nicotine

example

Loon Maxx™ (disposable e-cigarette):

- nicotine 6% (convert to whole number) = 60
- e-liquid capacity = 6.5 mL
- device use = 1 week
- $60 \text{ mg} \times 6.5 \text{ mL} = 390$ mg of nicotine total / by 7 days = 55.7 mg of nicotine each day



This device delivers 390 cigarettes worth of nicotine total = 19.5 packs of cigarettes.

Plant-based nicotine



As the tobacco plant grows, it absorbs chemicals such as cadmium, lead and nitrates from the soil and fertilizer.

During manufacturing of tobacco leaves, chemicals may be added to help the nicotine be absorbed.

This is used in cigarettes, cigars, pipes, and e-cigarettes and oral nicotine products

such as Velo, on!, Zyn™, Lucy™.

Synthetic-based nicotine



Synthetic nicotine is made in a lab. Tobacco companies call synthetic-based nicotine "tobacco-free" or "tobacco-leaf free" products. This is misleading. Even if a product is "tobacco-free," it can still contain nicotine.

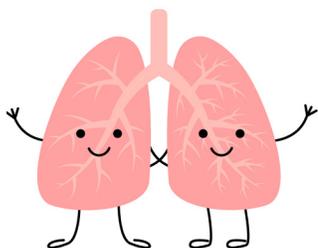
"Safer" does not mean "safe."

This nicotine is used in e-cigarettes such as PUFF Bar™ and oral nicotine products such as Rush®.

Some brands add nicotine salt (nic-salt) to plant-based and synthetic-based products to reduce harsh feelings in the throat from nicotine and other chemicals. This means there is more nicotine.

There is no safe nicotine source in any tobacco product!

Today and in the future tobacco use damages your body



lungs

- damages cilia (hair-like projections of the lungs that sweep out germs, dust and particles in your airways)
- irritates your airways
- triggers asthma flare-ups

- lowers the amount of oxygen in your bloodstream, making you short of breath
- weakens your lungs' ability to fight off infections
- can cause chronic obstructive pulmonary disease, emphysema



brain

- increases risk of stroke
- e-cigarette use can cause seizures, lightheadedness, anxiety, depression, and lower impulse control



heart

- causes high blood pressure and a rapid heart rate
- narrows blood vessels
- causes your blood to clot faster putting you at risk for heart attack, heart disease, and blood circulation issues

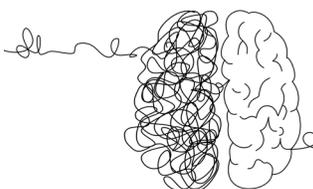
Other harms tobacco can cause: increases your risk for **many types of cancers**, increases your risk for gum disease and tooth decay, and raises your blood glucose (raises your risk for diabetes).

Secondhand smoke and secondhand aerosol are also not safe!

Tobacco products are also dangerous to the environment and pets.

Nicotine poisoning is a medical emergency

Your brain doesn't fully develop until age 25. You have a higher risk of becoming addicted to nicotine than adults.



- stomach pain
- headache
- dizziness
- confusion.

Nicotine can disrupt normal brain development by making it difficult to:

- remember
- focus and pay attention
- learn
- manage your emotions (mood) and your impulse control.



According to the FDA, nicotine poisoning can increase risk of **seizures or seizure-like activity** such as:

- shaking
- twitches in the face
- staring blankly
- fainting.



High levels of nicotine can be toxic and increase risk of **nicotine poisoning**. Signs to watch out for include:

- nausea and vomiting
- abnormal heart rhythms

If you or a friend has any of these symptoms, stop vaping and get help right away by calling your doctor or talking with a trusted adult.

Be kind to yourself. Don't start using any product that has nicotine. If you currently use, see the next page for a resource to quit.

Hooked on nicotine checklist



Question	Yes	No
1. Have you ever tried to quit, but couldn't?	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you smoke/vape/use tobacco now because it is really hard to quit?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have you ever felt like you were addicted to tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
4. Do you ever have strong cravings to smoke/vape/use tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you ever felt like you really needed a cigarette/vape/tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
6. Is it hard to keep from smoking/vaping/using tobacco in places where you aren't supposed to, like school/work?	<input type="checkbox"/>	<input type="checkbox"/>
When you tried to stop smoking/vaping/using tobacco... (or, when you haven't used tobacco for a while...)		
7. Did you find it hard to concentrate because you couldn't smoke/vape/use tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
8. Did you feel more irritable because you couldn't smoke/vape/use tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
9. Did you feel a strong need or urge to smoke/vape/use tobacco?	<input type="checkbox"/>	<input type="checkbox"/>
10. Did you feel nervous, restless or anxious because you couldn't smoke/vape/use tobacco?	<input type="checkbox"/>	<input type="checkbox"/>

Source: National Cancer Institute

If you answered yes to 1 or more questions, this indicates you have an increased dependency on nicotine. Talk with an adult you trust to explore ways to quit.

Reasons Youth Start Using

Common reasons to start using are "a friend is doing it," "I feel anxious or stressed," "I'm curious," and "I like the buzz from nicotine."

Reasons to Quit (or Never Start)

Nicotine and tobacco use is harmful to every part of your body, especially your developing brain and lungs.



Nicotine can make a mental health condition worse.

Tobacco products are bad for the environment.

Resources to Quit or Learn More

- your doctor
- Truth Initiative
 - truthinitiative.org/thisisquitting
 - Text ditchvape to 88709 (ages 13 to 24).
- Quit Partner
 - quitpartnermn.com
 - My Life, My Quit™ (ages 13 to 17): text "Start My Quit" to 36072 or call 1-855-891-9989 to talk with a coach
- teen.smokefree.gov
- TheVapeTalk.org
- National Alliance on Mental Illness
 - [Minnesota](#)
 - [Wisconsin](#)
- [Substance Abuse and Mental Health Services Administration](#)

Sources: Centers for Disease Prevention and Control, drugwatch.com, vapedanger.com, Truth Initiative, American Lung Association, U.S. Surgeon General, U.S. Federal Drug Administration.