

E-cigarettes: What You Need To Know

E-cigarettes

- E-cigarettes are known by many names like e-cigarettes, e-cigs, vapes, and electronic nicotine delivery systems (ENDS).
- These products use an “e-liquid” found in pre-filled or refillable cartridges, disposables, or pods.
- The liquid is heated to create an aerosol that the user breathes in. The heat can turn some of the chemicals into known cancer-causing chemicals.
- The liquid that goes in the e-cigarettes can contain:
 - **nicotine**
 - Nicotine is the addictive drug in tobacco.
 - **chemical flavorings**
 - Current studies show “flavors” added to e-cigarettes are harmful. They are linked to problems with the heart, lungs and brain. They can be especially harmful in youth and young adults, whose brains and lungs are still developing.
 - **additives such as propylene glycol and vegetable glycerin**
 - When propylene glycol is heated, it turns into formaldehyde, which is a chemical known to cause cancer.
 - When vegetable glycerol is heated, it changes into acrolein, which irritates your airways.



Disposable e-cigarettes are intended for a one-time use only. They are pre-filled and contain the same chemicals found in traditional pod, cart or tank-based systems. “Disposable” does not mean they are safe or safer than other ENDS products. Many disposables have higher nicotine strengths than traditional ENDS products.

- **nicotine salt (nic-salt)**
 - Nic-salt is added to e-liquid to reduce the harsh feelings in the user’s throat from the nicotine and other chemicals. Nic-salt makes the e-cigarettes more addictive.
- E-cigarettes come in many shapes and sizes. They look like regular cigarettes, cigars, or pipes. And they may look like pens, flash drives, and other everyday items.
- ENDS are a tobacco product because they are designed to deliver nicotine.
- E-cigarettes can also be used with marijuana and other street drugs.

(over)



Tobacco products come in different shapes and sizes. This can make them difficult to spot.

E-cigarettes use e-liquid that, when heated, create an aerosol that contains chemicals. This makes these products unsafe.

Using e-cigarettes is not an FDA-approved way to quit smoking cigarettes, cigars or pipes.

Image: [FDA](#).

What Happens When You Use an E-cigarette

- Each time you take a puff, the liquid moves past a small metal coil. The coil heats up and warms the liquid causing it to come out as an aerosol that looks like cigarette smoke.

E-cigarette Aerosol Contains Chemicals

- The aerosol you breathe in and out is not water vapor. It includes chemical changes from being heated and turned into the aerosol.
- It can also contain pieces of the metal called “whiskers” that may break off the coil during the heating process. It is possible for these whiskers to get lodged into your lungs.

Not a Safe Choice

- E-cigarettes are not safe. E-cigarettes are a tobacco product.
- E-cigarettes can cause many harms to your body such as asthma attacks, seizures, lightheadedness, vomiting, nausea, rapid heart rate, and abnormal heart rhythms.
- The U.S. Food and Drug Administration (FDA) is starting to regulate ENDS products. This is a slow process.
- The FDA approves some e-cigarette brands to be sold. Even though e-cigarettes have fewer chemicals than cigarettes, they are not safe. “Safer” does not mean safe.
- Private and federally-funded tests found many of the same chemicals in ENDS products that make cigarettes so dangerous.
 - benzene (found in car exhaust)
 - heavy metals (nickels, tin, lead)

- arsenic (found in rat poison)
- formaldehyde (used to preserve dead tissue)
- glycerin and glycol (used in antifreeze).

Testing has also found chemicals known to cause cancer in humans and scarring in the lungs.

- Beware of products labeled as “nicotine-free” (0 milligrams). They may actually contain some nicotine.
- Companies use confusing language (such as percentage versus milligrams) that makes it hard to tell how much nicotine is actually being delivered. For example:



(Top) JUULs or similar products come in different colors and look like a flash drive.

(Bottom) The different parts of e-cigarettes include heating coils and flavoring liquids.

- 5% nicotine strength is actually 5 milligrams (mg) of nicotine per pod or 50 mg of nicotine per milliliter (mL) of fluid.
- If the pod holds 1.8 mL of fluid: multiply 50 mg times 1.8. This equals 90 mg nicotine (the same amount of nicotine as smoking 4 ½ packs of cigarettes).
- It is possible for there to be more or less nicotine than what is listed on the label.
- Users can be exposed to a significant amount of nicotine. Different brands can deliver the same amount of nicotine as low as 2 packs of cigarettes and as high as 19 packs of cigarettes, depending on the number of puffs in the device.
- Even chemicals that are considered “safe” need to be retested for safety when they are heated and inhaled. Heat produces chemical changes which can be harmful.
- Flavorings have only been approved for safe use in food and drink. They are not safe in e-cigarettes.
- Secondhand aerosol from vaping is not safe. It has many of the same residual chemicals as cigarettes such as heavy metals and nicotine.

E-cigarettes should not be used to quit smoking

- The FDA has not approved e-cigarettes as a way to quit smoking.
- If you want to quit smoking, there are FDA-approved medicines that you can use. These medicines have been studied and are proven to help you quit smoking.

For more information, talk with your health care provider, pharmacist or tobacco counselor to help you decide which type of medicine is right for you and tell you how to use it the right way.

E-cigarettes Harm Youth

- ENDS have been shown to lead to nicotine addiction and increased tobacco use among youth.
- Nicotine exposure in an adolescent can cause damage to parts of the brain that are responsible for memory, the ability to think, and emotion.
- ENDS have been linked to harming youths' lungs. Youth are at risk for chronic (long-term) bronchitis which causes cough, chest congestion, shortness of breath and extra mucus, according to the American Lung Association.
- ENDS and the liquid are sold in kid-friendly flavors.
- There is a risk for severe illness and death if the liquid is swallowed or absorbed into the skin.
- ENDS are popular with young people. The U.S. Surgeon General declared ENDS use as an epidemic. More high school students than adults use ENDS.

Resources To Quit

- Quit Partner
 - 1-800-QUIT-NOW (1-800-784-8669) or quitpartnernm.com (English, Spanish, Somali, and Hmoob)
 - 1-833-9AI-QUIT or aiquit.com (American Indian)
 - asiansmokersquitline.org
- online tobacco cessation support
 - smokefree.gov
- American Lung Association/Tobacco Quit Line
 - 651-227-8014 or 1-800-586-4872
- *Mayo Clinic Nicotine Dependence Center's Residential Treatment Program
 - 1-800-344-5984 or 1-507-266-1930
- financial aid Nicotrol® inhaler
 - 1-844-989-PATH (7284) or pfizerrxpathways.com
- Plant Extracts aromatherapy
 - 1-877-999-4236 or plantextractsinc.com

***There may be a cost to you.
Check with your insurance provider.**