

Let's Talk About...

E-Cigarettes: Questions and Answers

What are e-cigarettes?

E-cigarettes are devices that turn nicotine, flavorings, and other chemicals into vapor that you inhale (smoke or "vape"). E-cigarettes are tobacco products.

Many e-cigarettes look like regular cigarettes. Others look like everyday objects like pens or small flashlights. They come in a variety of colors, and the vapor comes in different flavors. Some flavors — grape, gummy bear, and tutti-frutti — appeal to children.

E-cigarettes consist of an electronic device and a canister that holds a liquid solution. (The solution is sometimes called e-liquid or e-juice.) The device has a heating element that vaporizes the solution. The vapor contains a variety of chemicals, often including nicotine.

Are they safe to use?

Because e-cigarettes are still fairly new, scientists don't yet know their long-term health effects. However, **experts agree that e-cigarettes may be unhealthy.** This is based on these facts:

- **E-cigarette users experience many of the same physical effects as smokers.** These include increased heart rate, tightening of the airways in the lungs, and short-term increase in blood pressure.
- **The vapor from e-cigarettes contains chemicals known to cause cancer in humans, such as formaldehyde.** E-cigarettes aren't well regulated, so users may be exposed to a variety of dangerous chemicals. The chemicals may come from the metal or plastic devices, which can get quite hot when used. Or they may come from the solution in the cartridges, which typically don't list all ingredients.



E-cigarettes are often marketed as the "safe alternative" to smoking. Unfortunately, recent studies suggest otherwise.

- **It's difficult (or impossible) to ensure that users are receiving a safe amount of nicotine.** Multiple studies have shown wide ranges in the amount of nicotine in e-cigarettes. Nicotine has even been found in products that were sold as nicotine-free. In general, users of e-cigarettes receive much more nicotine than smokers of regular cigarettes.

What about "secondhand vapor"?

Since e-cigarettes produce vapor, not smoke, many people assume they're safe to use indoors and around children. Unfortunately, new research suggests that **secondhand exposure from e-cigarettes is potentially harmful.** People exposed to the nicotine emissions from e-cigarettes show similar effects to those who are exposed to nicotine from secondhand smoke. Also, blood tests reveal that they have nicotine in their systems. Secondhand vapor may also transmit other dangerous chemicals to non-users and children.



Do e-cigarettes help you quit regular cigarettes?

Although there are anecdotal reports that e-cigarettes have helped people quit smoking, the science isn't yet clear. Current population-level research suggests that e-cigarettes don't help you quit. In fact, it suggests they may lead to an increase in smoking:

- Adults who use e-cigarettes are more likely to continue smoking rather than quit.
- In former smokers, using e-cigarettes may trigger the urge to smoke again.
- Children who use e-cigarettes often progress to smoking regular cigarettes and to using both products (conventional and e-cigarettes). The CDC has called e-cigarettes "the gateway to smoking."

Clinical trials underway right now will help resolve the question of whether e-cigarettes have a role to play in helping people quit. Until then, it's best to stick with products that are proven to work when used as directed (nicotine patch or gum, medication). Support programs such as Freedom from Smoking (ffsonline.org) have also been shown to be effective.

What's the danger to children?

E-cigarettes pose a serious health threat to children for many reasons:

- **E-cigarettes are marketed to children and young adults.** Advertised in social media and other youth-oriented contexts, e-cigarettes can taste like candy or fruit. (Vanilla, chocolate, grape, and bubble gum are popular.) They can look like colorful pens or flashlights. The packaging may feature cartoon-like characters. It doesn't include health warnings and isn't childproof.
- **Marketing is working.** E-cigarette usage is exploding. E-cigarette use doubled from 2011 to 2012 among middle and high school students and young adults. In Utah, e-cigarette use among young people tripled in the last three years. Some communities have use rates as high as 20% (30%, if you count experimentation).

- **Children can easily obtain e-cigarettes.** Free samples are common at youth events. E-cigarettes are available for purchase in stores and online by children and teenagers.
- **Accidental nicotine ingestion by children is increasingly common.** U.S. poison control centers report a significant increase in calls about exposures to e-cigarette devices and liquid nicotine. In the last 4 years, calls regarding e-cigarette exposures increased over a hundred-fold.
- **Children are often involuntarily exposed to other people's e-cigarette vapor.** Unfortunately, children are also especially vulnerable to the poor air quality created when others smoke or vape indoors. In Utah, state law prohibits e-cigarettes wherever smoking is prohibited.



E-cigarette marketing aggressively targets children and teens. One recent study found that awareness of e-cigarettes among young people is nearly universal, ranging from 89% for those ages 13 to 17 to 94% for young adults ages 18 to 21. E-cigarette use among middle school and high school students is skyrocketing.