

## National Health LLC

### **E-cigarettes: A Safer Alternative or Another Dangerous Habit?**

Advertisements for e-cigarettes proclaim they are a miracle solution to the health problems associated with tobacco addiction. Their makers promise e-cigarettes contain none of the harmful cancer-causing chemicals found in tobacco smoke and that users will be free to smoke anywhere they want, even places where regular cigarette smoking is prohibited.

But should you believe the hype? As the popularity of e-cigarettes grows, it's important you know the facts and controversies surrounding this new, high-tech habit before deciding to light up—or in this case, plug in.

#### **What are e-cigarettes?**

The “e” stands for electronic. Basically e-cigarettes are battery operated devices that turn liquid nicotine into a vapor that the user inhales, and are also called e-cigs, personal vaporizers (VP), or electronic nicotine delivery systems (ENDS). The main components of a typical e-cig are a nicotine-containing cartridge in the mouthpiece, a heating element that turns the nicotine into a vapor, and a rechargeable battery that supplies power to the heating element. E-cigs can look like real cigarettes, or can be disguised as pens, lipsticks, flash drives, or lighters.

### **Are e-cigarettes safe?**

E-cigarettes may be safer than conventional cigarettes, but most health experts agree they don't know enough about them—that more research regarding their safety is needed. Manufacturers claim e-cigs expose users and people around them to fewer cancer-causing agents than tobacco cigarettes. But e-cig users are still inhaling substances not meant to enter the lungs. In 2009, the FDA discovered cancer-causing chemicals called nitrosamines (nigh-TROH-suh-meens) in e-cigarettes. Because cancer takes years to develop in humans, and e-cigarettes are a new phenomenon, scientists do not yet know the impact e-cigarette use will have on developing cancer.

In addition, studies by the Food and Drug Administration—the FDA—have shown that some e-cigs contain many of the same toxins as conventional cigarettes, including diethylene glycol, a toxic chemical used in antifreeze. While it's uncertain how much long-term damage these toxins will cause, most physicians agree that anything you put into your lungs has the potential of creating lung problems, including bronchitis and emphysema.

Manufacturers claim that e-cigarettes are safer than traditional cigarettes because users inhale vapor instead of smoke. Yet a recent survey found that e-cigarette users were unable to inhale as easily as non-users. The “airway resistance,” or ease of how air enters the lungs, was higher in users after they inhaled the e-cigarette's vapors, as compared to non-users.

## **Nicotine addiction**

Although a few e-cig cartridges sold claim to be nicotine-free, the overwhelming majority contain nicotine, the addictive drug in traditional cigarettes. When you inhale an e-cig, the nicotine-laced vapor goes from your lungs to your bloodstream to your brain, causing it to release adrenaline. That's why smokers—and e-cig inhalers—feel a buzz of energy when they smoke. The nicotine high quickly fades, however, leaving users feeling down and craving for another nicotine kick. So they continue their habit of inhaling, either vapor or smoke. Soon a user's body builds a tolerance for the nicotine, and needs to inhale more and more to receive the pleasure and prevent uncomfortable withdrawal symptoms. This cycle leads to nicotine addiction.

Using nicotine can affect your body in many ways. It increases heart rate and blood pressure, thus making it particularly dangerous for people with heart disease or hypertension. Nicotine addiction also causes withdrawal symptoms such as intense cravings, restlessness, sleeplessness, drowsiness, headaches, anxiety, problems concentrating, depression, and weight gain. E-cigarette advertisements often use the concept of “freedom” to sell their products. But how can you be truly free when you are dependent on a highly addictive product, like e-cigarettes?

Nicotine itself—in either regular cigarettes or e-cigs—is particularly dangerous to children, the elderly, people with heart conditions, and pregnant and nursing mothers. When a pregnant woman inhales an e-cig, she is still exposing her unborn

baby to nicotine, which can result in a lower birth weight and other serious health problems as the child grows up.

## **What about nicotine-free e-cigarettes? Are they safe?**

Researchers have found small amounts of nicotine in some e-cigs that are advertised as nicotine-free. And once again, there may be other dangerous chemicals present. Because e-cigs are unregulated by the FDA, manufacturers are not required to list ingredients or test them for safety.

## **Liquid nicotine: the dangers and risks**

The highly concentrated liquid nicotine in e-cig cartridges is a poison—a neurotoxin, to be exact. Depending on the concentration, accidentally swallowing small amounts could cause rapid heart beat, elevated blood pressure, nausea, vomiting, diarrhea, dizziness, confusion, or seizures which could lead to coma or death.

In addition, liquid nicotine can be absorbed through the skin. A woman in Kentucky was rushed to the emergency room with heart problems after her e-cig broke in bed while she was sleeping causing the liquid nicotine to be absorbed through her skin. Adults should be very careful when loading their e-cigs to avoid any contact with skin.

Liquid nicotine cartridges can come in many flavors, such as bubble gum, cotton candy, and piña colada. These flavors can mislead young children into thinking the cartridges are candy, which could have dire consequences, including death. Adults who do use e-cigarettes should make sure to keep

their liquid nicotine cartridges locked up, away from children and pets.

### **Secondhand vapor: A threat to nonsmokers**

Users claim their e-cigs are better than cigarettes because they produce no second-hand smoke, making them safe around family and friends, especially indoors. However, one study showed that nicotine, when combined with nitrous acid, a common component of indoor air, can create carcinogens which non-users can inhale. Another study found that the vapors users exhaled released cancer-causing agents and toxins in the air which included formaldehyde and acetaldehyde.

### **Other threats: Exploding cigarettes**

An exploding cigarette sounds like a silly punchline in a Road Runner cartoon, but there have been incidents of e-cigs exploding and starting fires, including a 2012 ABC-News report of an e-cig blowing up in a Vietnam veteran's face. The man lost half his teeth and part of his tongue. E-cigs have exploded or shot flames while charging in laptops and car chargers. Although these incidents are rare, why take the risk of your nicotine habit literally blowing up in your face?

### **Will e-cigarettes help me quit smoking?**

Manufacturers often advertise e-cigs as aids to quit smoking. And experts disagree regarding whether e-cigs work as well as nicotine patches and other methods. However, unlike nicotine patches and drugs that can help you withdraw from nicotine addiction, e-cigs are not yet regulated by the

Food and Drug Administration, although the FDA has proposed a list of regulations. Because of this lack of regulation, the amount of nicotine stated on the cartridge packages may not be accurate and could vary from package to package. Since gradually reducing the amount of nicotine you inhale is an important part of quitting, the levels of nicotine stated on the package must be exact. Furthermore, because e-cigs provide users with the same pleasures as cigarettes, smokers may end up merely exchanging one addiction for another.

### **How to really quit smoking—without e-cigs**

There are many resources available for people who are committed to quitting smoking cigarettes or inhaling e-cigs. First, focus on the reasons you want to quit. Are you concerned about your health? Do you want to be a good role model for your children? Or would you like to save money? (Remember, e-cigarettes are costly, too.) Next, setting a quit-date can be very helpful. Try to choose a time when you won't be too stressed out. You should get rid of all cigarette and e-cigarette paraphernalia, such as ashtrays and lighters as well as your e-cigs, cartridges, and chargers. You may wish to try an FDA-approved, over-the-counter smoking cessation product such as nicotine patches, lozenges or gum, or talk to your doctor about medicines that can help with nicotine cravings. You should try to avoid situations that you associate with smoking, called triggers. For example, if you smoked after dinner, you might try going for a brisk walk instead.

## **E-cigarettes and teenagers**

E-cigarette advertisers seem to manipulate young adults by suggesting that e-cigarettes set them apart from the crowd.

Manufacturers use promotional tie-ins with concerts, sporting events, music festivals, and technology conferences to create a cutting-edge image for their product. For teens, e-cigarettes may seem an intriguing way to begin smoking: they're hip and represent the new technology, like smart phones and tablets. Unfortunately, when a teenager begins using an e-cigarette, he could be launching a lifetime of nicotine addiction.

### **Can I smoke e-cigarettes in public?**

The answer is yes—and no. Advertisers want you to believe that e-cigs let you be “free” to smoke anywhere. And when e-cigs were new to this market, that may have been true. However, as more health advocates voice their concerns about the dangers of e-cigs, more local ordinances are popping up that ban e-cigs in public places—that includes bars and clubs. The current trend points to further bans and restrictions. So that e-cig you're puffing at your favorite club or sporting event today could easily be banned there tomorrow.

### **E-cigs: A gateway drug for marijuana use?**

People aren't just using vaporizer devices to deliver nicotine to their lungs, they're using them to inhale marijuana, too. These “vape pens” can look just like e-cigs, but they're designed specifically to vaporize concentrated marijuana oils. And just as

with e-cigs, there's no odor. The only one who knows whether he's inhaling nicotine or marijuana oil is the user. This can create serious problems for parents who believe their teens are “only” smoking nicotine. But worse, the concentrations of THC, the active ingredient in marijuana, can be much higher than in a regular rolled joint. And at high concentrations, users can feel very uncomfortable or even psychotic.

## **Our final thoughts**

Over two-thousand years ago, Native Americans began using tobacco for special occasions and ceremonies, and introduced tobacco to the first European settlers. Not until the Surgeon General's office released its famous 1964 report did people begin to realize that smoking directly caused cancer, emphysema, and heart disease. So think about how long it's taken society to truly understand the real health risks of cigarette smoking. Likewise, because e-cigarettes are so new, very little research has been done regarding their safety, and it will be a while before users understand all the risks. E-cigarettes may be somewhat safer than regular cigarettes, but when it comes to your physical health, shouldn't you err on the side of caution?

If you don't use nicotine products, good for you! Be smart and don't fall for the hype. If you do smoke cigarettes or inhale e-cigs, the greatest thing you can do for your health is to quit. There are many resources available for you, including support groups and websites like [smokefree.gov](http://smokefree.gov).

**Good luck and good health!**

## **E-Cigarettes: Facts & Myths**

### **A Safer Alternative or Another Dangerous Habit?**

#### **Quiz**

#### **True or False**

1. E-cigarette smokers can legally “smoke” their e-cigs anywhere real smoking is prohibited.
2. A pregnant woman can smoke e-cigarettes without worrying about hurting her unborn baby.
3. E-cigarettes have very little to no odor, unlike conventional cigarettes.
4. Secondhand vapor, unlike secondhand smoke, is harmless to those who inhale it.
5. Nicotine-free e-cigarettes are safe.
6. Liquid nicotine can be absorbed through the skin, and thus cause nicotine poisoning.
7. The nicotine in e-cigs is just as addictive as the nicotine in traditional cigarettes.

## Answers

1. False. Regulations vary from city to city, and town to town. As more health advocates voice their concerns about the dangers of e-cigs, more local ordinances are popping up that ban e-cigs in public places—that includes bars and clubs. The current trend points to further bans and restrictions.
2. False. Although e-cigarettes do not contain carbon monoxide, the nicotine in e-cigs can cause babies to be born underweight and suffer from other health problems as they grow older.
3. True. However, this does not mean that the vapor exhaled is harmless.
4. False. One study showed that nicotine, when combined with nitrous acid, a common component of indoor air, can create carcinogens which non-users can inhale. Another study found that the vapors users exhaled released cancer-causing agents and toxins in the air which included formaldehyde and acetaldehyde.
5. False. Researchers have found small amounts of nicotine in some e-cigs that are advertised as nicotine-free. And once again, there may be other dangerous chemicals present. Because e-cigs are unregulated by the FDA, manufacturers are not required to list ingredients or test them for safety.
6. True. Liquid nicotine can be absorbed through the skin and cause serious symptoms that require prompt medical attention.
7. True. Nicotine is addictive, no matter what the form.

**kineticvideo★.com**

96 Vine Avenue, Suite 7  
Toronto, Ontario M6P 1V7  
Phone (416) 538-6613  
or (800) 263-6910  
Fax (416) 538-9984

255 Great Arrow Avenue  
Buffalo, NY 14207  
Phone Toll-Free  
(800) 466-7631  
Fax (716) 856-7838

Email: [info@kineticvideo★.com](mailto:info@kineticvideo★.com)