



# Clinical Update

## For Telephone Triage Nurses

October 2019

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## E-Cigarettes and Vaping

Use of electronic cigarettes (vaping) has risen greatly over the last several years. Adult smokers have increasingly turned to e-cigs to quit or decrease tobacco smoking. An especially concerning fact is that e-cigs have become the most widely used tobacco product by youth. They are used by 1 in 5 high school students and almost 1 in 20 middle schoolers. The U.S. Surgeon General declared the use of e-cigs among young people an epidemic.

The Centers for Disease Control and Prevention (CDC) has reported an outbreak of lung injury from smoking e-cigs. As of October 1, 2019, there have been over 1000 cases with 18 deaths.

**Telephone triage nurses** should be ready to answer questions from concerned callers. This issue of *Clinical Update* gives you an overview on this important topic.

### **What are electronic cigarettes (e-cigs)?**

E-cigarettes go by many names such as e-cigs, e-hookahs, vape pens, vapes, tank systems, or ENDS (Electronic Nicotine Delivery system). E-cigarettes have three main parts: a battery, a fluid chamber, and a heating element. The battery powers the heating element and the heating element turns the liquid into vapor. The vapor is inhaled by a user. This is why smoking e-cigs is also called “vaping”.

E-cigarettes may look like pipes, cigars, pens, regular cigarettes, or even USB flash drives. “Pod mods” are re-chargeable and have increasing popularity among teens. A popular brand is JUUL.

### **What is in the e-cigarette fluid?**

E-cigarette fluid has three main types of chemicals:

- **Nicotine:** Nicotine content ranges from none to 36 mg/dL.
- **Flavor:** There are thousands of different flavors. Some flavors are chocolate, cotton candy, gummy bear and bubble gum. Such flavors may add to the use of e-cigs and nicotine addiction in children.
- **Other chemicals:** Other likely harmful substances in e-cigarette vapor are propylene glycol, heavy metals (nickel, lead, tin), and possible cancer-causing chemicals.

It is not easy for users to know exactly what they are vaping. There have been e-cigarette cartridges labelled “nicotine free” that have been found to have nicotine.

Some people use marijuana products or other drugs by vaping.

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### **What are the risks and complications?**

E-cigs may be less harmful than smoking normal cigarettes. Still, vaping does have health risks and complications:

- **Nicotine:** Nicotine is a stimulant. Nicotine is addictive and can lead to cravings. It is the same chemical that makes normal cigarettes habit-forming. Nicotine can harm the growing brain of adolescents and young adults. For those that are pregnant, nicotine can be harmful to the unborn baby.
- **Vaping-linked Lung Injury:** The Centers for Disease Control and Prevention (CDC) has recently reported an outbreak of lung injury from smoking e-cigs. The cause of this is not yet known. Most of those with lung injury used a marijuana product (THC) with their e-cig. Symptoms are cough, shortness of breath, chest pain, fever, upset stomach, throwing up, diarrhea and stomach pain. Symptoms appear over days to weeks.
- Battery failure can lead to explosion or fire.
- Swallowing the e-cigarette liquid can be very harmful and even deadly, especially to children.
- The long-term effects of vaping are not known.

### **Do e-cigs help people quit smoking?**

- Many people start using e-cigs to quit or stop smoking normal cigarettes. It is not yet known if e-cigs work well for those trying to quit smoking.
- One study found that many smokers trying to quit regular cigarettes by using e-cigs ended up using both products.
- E-cigarettes have not been approved by the FDA to help people quit smoking.

### **Some Closing Recommendations**

Here are some recommendations supported by the CDC:

- Pregnant women, teens, and children should NOT use e-cigs.
- If you don't currently use e-cigs, do NOT start.
- If you are currently using e-cigs to quit smoking, do NOT return to smoking cigarettes. Talk with your doctor about the patch or other treatments.
- Do NOT buy e-cigarette products off the streets.
- Do NOT change or add anything to the e-cig product beyond what is approved by the manufacturer.

**Call your healthcare provider if you use e-cigs and develop a cough or trouble breathing.**

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Authors:

Gary Marks DO  
David Thompson MD

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