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Four Things Researchers Know — and Some Things They Don't Know — about Vaping

By Julie Grisham, **Friday, November 23, 2018**



E-cigarettes contain nicotine, which is highly addictive. They also have other chemicals with largely unknown long-term health effects.

Summary

Jamie Ostroff, Director of Memorial Sloan Kettering's Tobacco Treatment Program, discusses the issues surrounding vaping.

More than 10 million people in the United States currently use electronic cigarettes, according to a [recent study](#) published in the *Annals of Internal Medicine*. About half of them are under 35 years old, raising concerns about long-term health consequences.

The US Food and Drug Administration recently announced that it was [taking new steps](#) to address vaping among teenagers by preventing access to flavored products. But there has been less discussion about use among adults.

We spoke with clinical psychologist [Jamie Ostroff](#), Director of Memorial Sloan Kettering's [Tobacco Treatment Program](#), about vaping. Much is still unknown about the health effects of vaping in people of all ages, including those with cancer.

1. Vaping is considered to be safer than smoking traditional cigarettes, but it is still not considered to be safe.

Traditional tobacco products like cigarettes and cigars contain thousands of chemicals, about 70 of which are known to cause cancer. E-cigarettes are battery operated and are not burned, so they don't emit all the cancer-causing compounds that are released when tobacco is smoked. For this reason, most public health experts consider them to be safer than cigarettes and other smoked tobacco. But e-cigarettes do contain nicotine, which is highly addictive, as well as other chemicals with largely unknown long-term health effects.

E-cigarettes are currently unregulated and manufactured without strict safeguards, and may contain other dangerous substances, such as heavy metals like nickel, tin, and lead. Ultrafine particles contained in the vapor from vaping can cause irritation and inflammation in the lungs. Some of the most harmful substances found in e-cigarettes come from the chemicals that give these products their flavors.

Nicotine itself can be unsafe, especially at high doses. In addition to causing addiction, it can have negative effects on the cardiovascular system.

2. Vaping is especially dangerous for teenagers and young adults.

A [study](#) from the US Surgeon General in 2016 reported a 900% increase in the use of e-cigarettes by high school students from 2011 to 2015.

Tobacco Treatment Program

Since the mid-1990s, Memorial Sloan Kettering's Tobacco Treatment Program has helped thousands of individuals stop using tobacco products.

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According to the Centers for Disease Control and Prevention, vaping is especially unsafe for kids, teens, and young adults. Nicotine can harm the parts of the developing brain that control attention, learning, mood, and impulse control. Brain development continues until someone is in their mid-20s.

“There’s always been experimentation with tobacco use among adolescents, but vaping doesn’t have the stigma that’s associated with smoking,” Dr. Ostroff says. “There are young people who would never consider smoking cigarettes, but they might consider using e-cigarettes.” She adds that because vaping doesn’t produce odor or smoke, it can be done much more secretly by young people who want to hide it from parents and teachers.

There are also concerns that use of e-cigarettes among young people who previously had never smoked may lead to use of more traditional tobacco products later. On the other hand, e-cigarettes could intercept some who would become smokers.

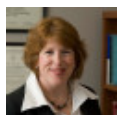
3. There is not enough evidence to recommend vaping to quit smoking.

“Many adult electronic cigarette users are smokers who report trying to quit smoking, which begs the question about whether they help or hinder quitting efforts,” Dr. Ostroff says.

Findings from rigorously designed clinical trials give healthcare providers guidelines for what works and what doesn't. “Members of MSK's Tobacco Treatment Program would tell someone who wants to quit or cut down their smoking to seek behavioral counseling combined with medications that have been found to be safe and

effective in helping people to quit in clinical trials,” she adds. There are currently five FDA-approved nicotine replacements, including patches, gum, and inhalers, and two non-nicotine drugs (bupropion and varenicline) that help people reduce symptoms of nicotine withdrawal and successfully quit.

“We take a very individualized approach and work with each patient to develop a tailored quitting plan informed by the latest research findings and patient preferences.”



Jamie S. Ostroff

Director, Tobacco Treatment Program

“That said, we know that many adults are using these products as alternate nicotine delivery devices to try to quit smoking, so we have an obligation to discuss the known and unknown risks and benefits,” Dr. Ostroff says. “We take a very individualized approach and work with each patient to develop a tailored quitting plan informed by the latest research findings and patient preferences.”

She explains that one advantage of using FDA-approved nicotine replacements over vaping is in determining how much to use and how often to use it. “There’s so much ambiguity and variation in the nicotine content among electronic cigarettes, so people who use them don’t know how much nicotine they’re getting,” she says. “This makes it hard for doctors to guide smokers trying to quit and make recommendations that will help them manage nicotine withdrawal.”

She notes that many people who vape are dual users who continue to use some traditional tobacco products as well. “We know that dual use is extraordinarily common. But people don’t get the full benefits from quitting smoking unless they quit smoking cigarettes completely.”

4. There are special considerations surrounding vaping in people with cancer.

“When someone has been diagnosed with cancer, there is an urgency for them to quit smoking cigarettes so that it doesn’t interfere with their treatment or negatively

affect their cancer outcomes,” Dr. Ostroff says. E-cigarette use is not allowed in healthcare settings, so it especially important that people seek support to quit and medication recommendations from health professionals with expertise in treating tobacco dependence.

“To be sure, it can be challenging to quit smoking in the midst of dealing with a cancer diagnosis,” she concludes. “That’s why it is so important to seek out cessation support services to help patients quit and stay quit.”

Comments

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Dr Yousef Farawila

Nov 27, 2018 • 3:15 PM

Interesting article. One comment about the picture of a young beautiful healthy looking woman smoking, as if it came from an e-cig commercial. Next update please change to a more neutral image (if not a sick old wrinkled addict). Thanks!

Judith Smith

Dec 4, 2018 • 9:38 PM

I used e cigarettes to quit about 5 years ago. I didn’t use cigarettes at all during that time. I was able to quit completely with no withdrawal or weight gain. I think e cigarettes are a great quitting aid, especially for people like me who don’t want to suffer too much.

Memorial Sloan Kettering

Dec 5, 2018 • 10:02 AM

Dear Judith, congratulations on quitting! We’re glad to hear that e-cigarettes worked for you. Thank you for your comment.

Dave

Dec 5, 2018 • 5:59 PM

I am now 3 days without a single cigarette and am currently using the ecigarette on the occasion when the urge to smoke feels too great for me to overcome. So far it’s stopped me from buying a pack of smokes. I HATE cigarettes and the death-sentence addiction they bring, and if an ecigarette helps me short-term to overcome