

Although e-cigarettes have been around for more than a decade, vaping rates have skyrocketed in recent years, especially among teens. E-cigarettes are now the most frequently used tobacco product among adolescents — some 2.1 million middle and high school students were e-cigarette users in 2017 — far surpassing traditional combustible cigarettes.

JUUL, a popular vape device that comes in fun flavors, looks like a flash drive and can be charged in a USB port, is especially concerning. JUUL delivers high levels of nicotine, making the product extremely addictive. The company that makes and markets JUUL recently exceeded a \$10 billion valuation faster than any company, including Facebook. JUUL sales now make up more than half of the e-cigarette market.

Last month the FDA announced that it will be cracking down not only on illegal sales of e-cigarettes to minors, but also the “kid-friendly marketing and appeal of these products” because “we see clear signs that youth use of electronic cigarettes has reached an epidemic proportion.”

Teachers, health professionals and parents are alarmed by this trend and trying to educate not only teens but also themselves, as it's all still so new.

### **What is vaping?**

Vaping is the act of inhaling and exhaling the vapor produced by the heated nicotine liquid (often called “juice”) of an electronic cigarette (e-cigarette or e-cig), vape pen, or personal vaporizer. It's also commonly called JUULing (pronounced jewel-ing).

What originated as a smoking cessation aid has quickly become a popular — and addictive — product in its own right. Sarper Taskiran, MD, a child and adolescent psychiatrist at the Child Mind Institute, attributes the recent rise in popularity to packaging and advertising. “The teens are after innovation and they're attracted by sleek design and ease of use,” he says. “They look like an Apple product.”

Although vaping companies emphatically deny that they are marketing to young people, critics note such features in their advertising as youthful images and colors, animation, actors who appear to be under 21, and suggestions that vaping makes you happier and improves your social status.

Although some of the health risks associated with vaping appear to be less severe than traditional combustible cigarettes (there's no tar, for example), there are still risks.

Some known risks of vaping are:

- E-cigarettes contain high levels of nicotine. According to the company's website, the nicotine content of one JUULpod is equivalent to one pack of cigarettes.
- Because of these high nicotine levels, vaping is extremely addictive — and teens are already more susceptible to addiction than adults because their brains are still developing, which makes them more likely to habituate to using drugs and alcohol.
- Addiction can impact the ability to focus. Dr. Taskiran has observed this with the adolescents he works with, who report that vaping initially increases their alertness and attention, but then experience a decrease in attention span. One student, for example, was able to sit through practice ACT exams but after JUULing for six months “can't sit still because she starts craving, can't think of questions, and just starts fidgeting.”

- E-cigarettes and similar devices contain carcinogenic compounds, and a recent study found significantly increased levels of carcinogens in the urine of teens who vape.
- A recent study found that vaping does, in fact, cause lung irritation akin to that seen in smokers and people with lung disease and causes damage to vital immune system cells.
- Taskiran notes that vaping increases heart rate and blood pressure, so can increase circulatory problems. One teen he works with started vaping and found that his swim times dropped because he can no longer sustain the heart rate required for swimming.

Since they leave little odor, e-cigarettes are particularly easy to hide and even use discreetly in public places, including school. Kids are also vaping marijuana at increasing rates, which brings its own health risks.

### **Why parents should be concerned**

One problem with vaping is that teens hear that it's not as bad for your health as smoking cigarettes and think there is no harm. "They really think that they are mostly flavors and that they are inhaling a pleasant gas," says Dr. Taskiran.

A recent study of 12th graders found that kids who vaped (but were not previously smokers) were more than four times as likely to "move away from the perception of cigarettes as posing a great risk of harm." The study and others like it have showed that teens who vape are much more likely to start smoking cigarettes.

The packaging does little to convey the risks. "They are very enticing the way they look. It's not transparent at all. It says 5% nicotine, which sounds like nothing, so teens think 95% is water weight or vapor," laments Dr. Taskiran.

Plus, he points out, smoking never stopped being cool. It's still positively portrayed in movies, and JUUL in particular has re-branded it to make vaping an even cooler alternative. But vaping isn't only for the cool kids — many teens are curious (with flavors like mango, cucumber and crème, who wouldn't be?) and presented with the opportunity will give it a try.

Sarah, a mom of two in Ann Arbor, MI, was shocked to get a phone call the other day from her son's middle school principal, requiring her to come get him immediately for "emergency removal and suspension." He and two friends had been caught vaping on school grounds after school, and a passing parent took photos and sent them to the administration.

Though they didn't find any devices on her son — a straight A student with no prior offenses — the school, like many others, is taking a hard stance. "The principal knows that the businesses in downtown Ann Arbor are selling to teens without asking for IDs," relayed Sarah. "However, she feels the need to let my son and his friends know that it's a really, really big deal."

At this school, students caught vaping have to sign behavior contracts, must attend a Teens Using Drugs Class, and cannot participate in any sports, clubs or special events for the rest of the year. If the kids had been across the street, not on school grounds, it would have been a different scenario. But the principal said that had they been in high school rather than middle school, she would have called the police.

Sarah remembers what it was like to be a teenager so doesn't think trying it is that big of a deal, but is concerned about addiction. "Addiction runs in my family and I worry about my son. Of course, I worry about the damage that the chemicals can do to his lungs and body as well," she says.

Although some places are tightening restrictions locally, kids can still go to a website, click a button that says they are at least 21 years old, and purchase online. "The majority of adolescents I see are purchasing JUUL from the Internet," says Dr. Taskiran.

### **How to talk to kids about vaping**

Dr. Taskiran advises parents to start by educating themselves, so they know what they're talking about going in, and to take an inquisitive and curious approach to what their teen's experience is. "The most important thing is keeping it as a dialogue," he says. "Declarative statements like 'It's bad for you' just end the conversation."

Dr. Taskiran recommends starting the conversation more generally by asking if a lot of kids at school vape. Once the conversation is initiated, you can slowly work up to asking things like, "What is your experience with that? What are the flavors like?" He also suggests getting a sense of what they know (or think they know) about the product, which gives you an opening to start educating them.

The silver lining of Sarah's experience with her son is that he actually told his dad about the experience even before he knew he'd been caught. "They had a full one-hour conversation about it after I was already asleep. He told my husband that he tried it for the first time and that it burned his throat and he didn't like it." She got the call from the principal the next morning before her son had a chance to tell her himself. "He's a great kid and doesn't really get in trouble except for talking in class because he's bored. My goal has always been open communication and to keep him talking to us. He did!"

Of course, while parents need to educate themselves, the onus isn't entirely on them. "Schools need to own this as well and provide educational strategies for both teachers and students," says Dr. Taskiran. Prevention is a lot easier than treatment later on, he says, and notes that peer education can play a particularly important role.

If you are concerned that your child has become addicted there are plenty of treatment options. Dr. Taskiran recommends consulting with a clinician who is well-versed in addiction treatments. "This is a true nicotine addiction," he says. "People usually think this is different from cigarette use — but it can be more severe than cigarette use."

For tips on how to talk to teenagers about vaping, check out [this guide from the Partnership for Drug-Free Kids](#).