

IF VAPING ADS WERE HONEST:

LET US **FUUL** YOU

WITH
CANDY
FLAVORS!

COLORS AND
DESIGN SO COOL
"IT'S LIT!" (WITHOUT
LIGHTING UP).

NOT LIKE
CIGARETTES AT
ALL, EXCEPT FOR
THE NICOTINE!



COUGH!
HACK!
BLECH!

FUULS

VAPE NOW ... WE'LL GET YOU SMOKING LATER!

Don't Be FUUL'D

IT'S AS SMALL AS A FLASH DRIVE—BUT HAS THE NICOTINE EQUIVALENT OF A PACK OF CIGARETTES. GET THE SCOOP ON JUULS AND WHAT VAPING DOES TO YOUR BODY AND BRAIN.

By LISA LOMBARDI • Illustration by WARD SUTTON

W

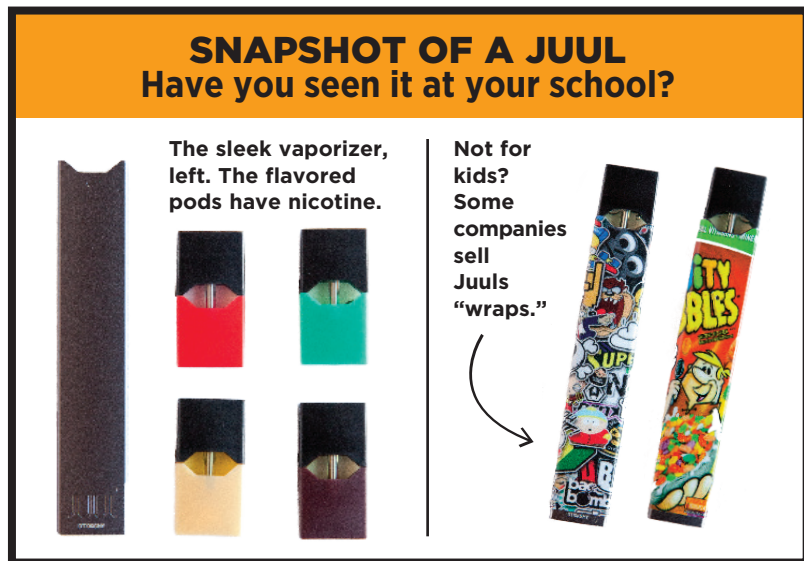
hen he first started using the super popular e-cigarettes Juuls, Clay, 18, was **vaping** from his friends' devices on weekends. "All my friends were doing it," says Clay, a senior and football player. Clay felt he had his vaping under control. But then Clay decided to get his own Juul vaping device, and got into a habit of starting his day vaping "to wake up" for his drive to school. Then he began vaping before and after his daily weight lifting routine. Pretty soon, he says, he was addicted. "I could feel a difference in my lungs, and I wanted to be in the best possible shape for football, so I stopped," says Clay. His friends haven't quit "Juuling," though, and Clay's school has removed the doors to the bathrooms to stop students from gathering there to vape between classes. "Among the people I know, cigarettes are considered disgusting," says Clay. "But Juuls are everywhere."

Hiding in Plain Sight

Small and discreet, Juuls—which look so much like a USB flash drive, they often escape detection—are in schools nationwide. Sales of the trendy gadgets, which debuted in 2015, jumped 621 percent this past year.

If you're like most teens in America, if a friend offered you a pack of Camels, you'd look at her like she was crazy. You know cigarettes are gross and that regularly lighting up gives you bad skin, nasty teeth, and a boatload of more serious problems. (Cancer and heart disease, anyone?) But while only 11 percent of teens consider themselves smokers, 45 percent of high school students have used a vaping device, according to a 2015 report from the Centers for Disease Control and Prevention (CDC). And e-cig use in general grew a staggering 900 percent among high school students between 2011 and 2015, according to a 2016 U.S. Surgeon General's report.

Teens try Juuls thinking they're a safe alternative to smoking. But get this: Each "pod" that goes into a Juul contains the **nicotine** equivalent of one pack of cigarettes or 200 puffs, according to the company's website. "That's a lot for a younger person—or anyone—to take in at one time," says Patricia Folan, director of the Northwell Health Center for Tobacco



Control. While you don't have to go through a whole pod at once, some people are doing just that (a Reddit user asked: "Is it normal to finish a pod in a day?"). And that has experts worried.

Sneaky Dangers

How does a Juul work? These gizmos heat up a juice typically made up of artificial flavors, nicotine, glycerol, and propylene glycol—which just happens to be the stuff in smoke machines. The device turns the liquid into a vapor you inhale. Since e-cigs don't burn real smoke (but produce the vapor clouds that mimic smoke), people often claim they're safer than cigarettes. But vaping devices are packed with potentially harmful materials. Tests have found that

the vapor from some e-cigs contains carcinogens and toxic chemicals, as well as tiny, potentially toxic particles from the device itself, according to the National Institutes of Health. Smokeless doesn't mean harmless.

And then there's the nicotine. This is the component in cigarettes that smokers get hooked on. Research shows that nicotine may be as addictive as heroin or cocaine. A recent study published in the journal *Pediatrics* found that high school students who used e-cigarettes were seven times more likely than kids who didn't vape to be smoking regular cigarettes two years later. "Multiple studies have shown that kids who vape are more likely to move on to using cigarettes," says Suchitra Krishnan-Sarin, a psychiatrist at Yale University and one of the study's authors. That crossover worries experts, because people who try cigarettes for the first time before they turn 18 are much more likely to be smokers as adults—and the younger they start, the harder it will be for them to quit. "Everyone hates the term 'gateway drug,' but e-cigs can be a gateway drug," says Folan.

How It Addicts You

Nicotine messes with your brain chemistry, activating the parts of the brain associated with pleasure and reward. It raises your levels of **dopamine**, a natural "pleasure" brain chemical involved in addiction. After

you inhale, the nicotine reaches your brain and gives you a high, a feeling that leaves you craving more, says Folan. Studies have also shown an association between nicotine and increased anxiety and panic disorder, making symptoms worse. Not. Good.

The Power of Advertising

Another problem with e-cigs coming in fun flavors is that it makes vaping more attractive to teens. "Young people say that flavors are the top reason they try e-cigarettes," Krishnan-Sarin says. The worry is that products that taste like crème brûlée or fruit medley lure in kids. (Cool-looking Juul "skins" or "wraps," which are sold by other companies, don't help.)

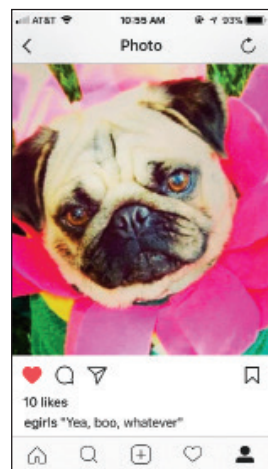
So where do teens get the idea that e-cigs are harmless? "From the industry that sells these products," Folan says. She notes that e-cigarettes burst onto the scene in 2006 with no government regulation and a message that they were a risk-free alternative to smoking (as well as a way to puff in places where smoking is prohibited). While experts have decades of research on the health effects of smoking, there is still little research about vaping—but what we do know looks downright scary.

So what should you do if someone offers you a rip from a Juul? You already know: Say "no thanks" and change the subject. "It seems like something new," Folan says, "but it's really not worth it."

FORGET E-CIGS! Other Ways to Spend

Here, five easy ways to get a shivery-good high—minus the risk of cancer and addiction

1. Get a rush from cute photos.



Go ahead and "aw" your way through Instagram pet accounts. That adorableness gives a dopamine release.

2. Talk to your crush

... or reread his or her message to you in your yearbook. Blood flow to the brain's pleasure center soars when we fixate on someone we like.



Your Time and \$

3. Go shopping.

With cash *not* spent on a Juul "starter kit" (\$50), then more pods (\$16 for four!), you could save up for new sneakers, a Chromebook, or concert tix.



4. Bake some chocolate chip cookies



... or peel an orange. Food smells light up the brain's reward circuit.

5. Perform a random act of kindness.

Pay for your friend's coffee. Let someone skip you in line. Thank a teacher. Being sweet gives you what scientists call a helper's high. —Andrea Bartz

