

Signs and Symptoms of Vaping Addiction

Nicotine is a highly addictive chemical that is found in the tobacco plant. Tobacco products—including cigarettes, cigars, smokeless tobacco, hookah, and most vapes—contain nicotine.



Answering yes to any of these questions means it's time to get help quitting. Do you or someone you know...

- ✓ Need to vape as soon as you wake up or during class
- ✓ Feel anxious or irritable when you want to vape
- ✓ Have trouble concentrating or sleeping
- ✓ Keep vaping even though you know it's bad for you
- ✓ Find yourself reaching for your vape without thinking about it
- ✓ Get interrupted by thoughts about vaping throughout the day

Help for Teens: teen.smokefree.gov

Help for Teachers: scholastic.com/youthvapingrisks

FDA Exchange Lab: digitalmedia.hhs.gov/tobacco

Vaping Can Be Very Addictive

Nicotine can change the way your brain works, causing cravings for more of it. If you vape you might end up addicted to nicotine faster than if you smoked.^{1,2} Nicotine from vapes reaches your brain within 10 seconds.^{3,4}

Teen Brain Development

If you think that getting addicted could never happen to you, think again. You're actually more vulnerable than adults to addiction because your adolescent brain is still developing. Nicotine exposure during adolescence can disrupt normal brain development and may have long-lasting effects, such as increased impulsivity and mood disorders.⁵ Nicotine can also cause long-term changes to your brain, affecting memory and the ability to focus and learn—which all promote addiction.^{6,7,8,9}

References:

1. Ramamurthi D, Chau C, Jacklet RK. JUUL and other stealth vaporisers: hiding the habit from parents and teachers. *Tob. Control.* 2018; 0:1-7. Doi: 10.1136/tobaccocontrol-2018-054455.
2. Jackler R K & Ramamurthi D. Nicotine arms race: JUUL and the high-nicotine product market. *Tob Control.* Published Online First: 06 February 2019. doi: 10.1136/tobaccocontrol-2018-054796.
3. St Helen G, Havel C, Dempsey DA, Jacob P, Benowitz NL. Nicotine delivery, retention and pharmacokinetics from various electronic cigarettes. *Addiction.* 2016;111(3), 535-544.
4. U.S. Department of Health and Human Services (USDHHS). A Report of the Surgeon General: How Tobacco Smoke Causes Disease: What It Means to You [Consumer Booklet]. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2010.
5. U.S. Department of Health and Human Services (USDHHS). E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
6. Connor DA, Gould TJ. Chronic fluoxetine ameliorates adolescent chronic nicotine exposure-induced long-term adult deficits in trace conditioning. *Neuropharmacology.* 2017; 125:272-283.
7. Holliday ED, Gould TJ. Chronic Nicotine Treatment During Adolescence Attenuates the Effects of Acute Nicotine in Adult Contextual Fear Learning. *Nicotine & Tobacco Research.* 2017; 19(1):87-93.
8. Counotte DS, Spijker S, Van de Burgwal LH, et al. Long-lasting cognitive deficits resulting from adolescent nicotine exposure in rats. *Neuropsychopharmacology.* 2009 34(2), 299-306.
9. Fountain SB, Rowan JD, Kelley BM, Willey AR, Nolley EP. Adolescent exposure to nicotine impairs adult serial pattern learning in rats. *Exp Brain Res.* 2008; 187(4):651-656.

CONTACT US

1.877.CTP.1373 | AskCTP@FDA.hhs.gov | www.fda.gov/tobacco | @FDATobacco
FDA Center for Tobacco Products | 10903 New Hampshire Avenue | Silver Spring, MD 20993-0002
Last Updated May 2021



CTP-170