



Nearly half of youth who ever tried vapes are still using them according to the 2023 National Youth Tobacco Survey, and over a quarter of these young people use them daily.¹ The alarming figures in this report suggest that many youth are dependent on nicotine, the highly addictive chemical in vapes, cigarettes, and other tobacco products. Any nicotine use is unsafe for youth, but you can help. Learning about the dangers of vaping and why young people are more at risk can prepare you to have the “vape talk” with your children. Having the conversation now could benefit them for a lifetime.

Nicotine- the brain disruptor

JUUL, the brand that started the youth vaping epidemic, estimates that their original vapes have as much nicotine as 20 cigarettes.² Newer JUUL models and many commonly used brands have that much nicotine or more.³ Young people are more at risk for trying vapes and becoming addicted to them because nicotine takes advantage of the normal brain development that happens during adolescence. Nicotine also disrupts this brain development which can result in long-term consequences for youth who vape.

From ages 10 to about 25, the brain goes through a critical and amazing period where pathways between brain cells are made quickly and then strengthened, creating the type of brain young people will take with them into adulthood. The young brain prepares for this new phase of life by focusing its energy on gaining experience by trying new behaviors.⁴ The brain uses dopamine, the “feel good” hormone that trains the brain to repeat behaviors, to encourage the risk taking required to try new things.⁴⁻⁵ This feedback loop of dopamine and fast learning is beneficial to young people when they are trying out a new sport, musical instrument, or technology, but it makes them vulnerable to dangerous behaviors like vaping as well.

The reward system in our brain was not made for nicotine or other drugs, but nicotine hijacks this system and rewards the brain with dopamine which encourages young people to continue vaping. Repeating the behavior strengthens these brain pathways, resulting in addiction.⁴⁻⁵ The addiction pathways nicotine builds increase the chances that young people will continue to vape;⁶ put them at greater risk to start using cigarettes (the number one cause of preventable death in the U.S.);⁶⁻⁹ and even increase the likelihood they will develop an addiction to other drugs.¹⁰⁻¹¹ Nicotine also disrupts other brain pathways that are developing during this time related to attention, memory, impulse control, and mood management.¹² These disruptions can make it difficult to focus in class, study for tests, and build healthy relationships with peers. Some young people will outgrow their vaping habit, but research suggests that nicotine exposure during adolescence can cause some of these changes to be permanent.¹³ Addiction to nicotine also results in exposure to other dangerous chemicals in vapes. Cancer-causing chemicals like formaldehyde, heavy metals like nickel and tin, and unidentified chemicals with unknown harms have also been found in vapes and affect other organs besides the brain.¹⁴⁻¹⁵

How you can help

2023 marks the 10th year in a row that vapes are the most used tobacco product in youth, but you can help end the trend. Educating yourself and talking to your children about the consequences of vaping can help them make informed decisions about their health. For information on how to start the conversation, check out these resources from Parents Against Vaping e-cigarettes- [Ask the Expert webinar](#); The American Lung Association- [Conversation Guide](#); U.S. Surgeon General- [Tip Sheet](#); and Campaign for Tobacco Free Kids- [Tip Sheet](#). If you know a young person who vapes and want to support their quit journey, evidence-based resources are available for them at [This is Quitting](#), [Smokefree Teen](#), and [Not on Tobacco](#). For more information or resources on youth vaping, including presentations for youth and adults, please reach out to us. Nyree and I are on your team! #TeamEndtheTrend #TeamVapeTalk



“The C Word” is a news brief of the Georgia Cancer Center at Augusta University. For cancer information visit: augusta.edu/cancer/community. To request presentations or exhibits, contact Maryclaire Regan at mregan@augusta.edu | 706-721-4539 or Nyree Riley at nriley@augusta.edu | 706-721-8353. Virtual presentations can also be arranged.

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