



# NICOTINE AND ADOLESCENTS

Electronic Nicotine

Delivery Systems (ENDS)

*Information for parents and providers*



## Prevalence: What parents and providers should know

**Between 2011 - 2018  
in the United States:**

- e-cigarette use by middle schoolers increased from 0.6% to 4.9%
- e-cigarette use by high schoolers increased from 1.5% to 20.8%

From 2017-2018, overall teen tobacco use rose for the first time in years. This was due to the increase in e-cigarette use by teens.<sup>1</sup>

The average age adolescents tried their first e-cigarette is 17.<sup>2</sup>

Adolescents who use e-cigarettes are **more likely** to smoke cigarettes.

<sup>1</sup>U.S. Food & Drug Administration, 2018

<sup>2</sup>Chen, Yu, & Wang, 2017

## NICOTINE AND THE DEVELOPING BRAIN

Nicotine changes the way the brain forms and can have lasting consequences for teens in terms of learning, emotional regulation and addiction.<sup>3</sup>

### SHORT - TERM

Adolescents who use nicotine are more vulnerable to nicotine addiction as well as other harmful and addictive substances (like cocaine)

Adolescents exposed to nicotine have more trouble with their short-term memory

Early adolescents in particular are more likely to show anxious behaviors when exposed to nicotine

### LONG - TERM

The earlier adolescents use nicotine, the more likely they are to use regular nicotine products

Adults who used nicotine as adolescents are more impulsive and have more difficulty concentrating

Nicotine use in adolescents has been shown to foster depression-like symptoms and increase anxiety in adulthood



## Vape Systems

Pod vape systems, like **JUUL** and **Suorin**, are particularly attractive to youth because they are:

- **simple to use**
- **discrete**
- **believed to be safe**

Pod vapes deliver high levels of nicotine despite their small size. Pod vapes can be a lot stronger than other ENDS due to nicotine salts. Nicotine salts allow pod vapes to:

- deliver similar levels of nicotine to cigarettes without the harsh taste that discourages youth from continuing to smoke<sup>3</sup>
- contain more nicotine by volume compared to other ENDS<sup>4</sup>

<sup>3</sup> Yuan, Cross, Loughlin & Leslie, 2015  
<sup>4</sup> Barrington-Trimis & Leventhal, 2018



## Tips for parents addressing ENDS use

**Know the facts:** The FDA, CDC, Truth Initiative and the Surgeon General all have helpful online information.

**Set a positive example by being tobacco free:** it's never too late to quit.  
*For help call 1-800-QUIT-NOW.*

**Be patient and ready to listen:** avoid criticism and encourage an open dialogue. The goal should be a conversation, not a lecture. It's okay for the conversation to take place over time and in bits and pieces.

**Find the right moment:** rather than say, "we need to talk," try to find an organic time – e.g., when you see an e-cigarette commercial or someone using an ENDS device.

**Ask for support:** encourage your adolescent to talk to your health provider, as well as other trusted adults.

**Other resources:** *MD Quitline for parents and teens (13-17): call 1-800-QUIT-NOW; Truth Initiative text program for parents and teens: text "QUIT" to (202) 804-9884.*

## Tips for providers addressing ENDS use

**Screen patients**  
for all tobacco and ENDS use

**Identify and correct**  
misconceptions about ENDS products

**Misconception example:**  
Many teens think that e-cigarettes are harmless

**Counsel patients**  
with regard to cessation

**Understand and explain** the risks associated with adolescents' ENDS use

**MDQuit.org**

**UMBC**  
UNIVERSITY OF MARYLAND

Maryland's  
**1-800-QUIT-NOW**  
SmokingStopsHere.com

**For More Information**  
Contact Us

**MDQuit Resource Center**  
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