

E-Cigarettes and Teens: Vaping, Puffing and Dripping



Tobacco Use is a Pediatric Disease



“Nicotine addiction begins when most tobacco users are teenagers, so let’s call this what it really is: *a pediatric disease.*”

David A. Kessler, MD
Commissioner of FDA, 1995

Most Tobacco Users Start Before Age 21

95% of adult smokers start before age 21

Tobacco use during youth:

- Immediate health consequences
- Accelerates development of chronic diseases over the lifespan

If a person makes it to age 21 without using their first tobacco product, it's unlikely they'll ever become a smoker



Public Health Harms

- Kids who use e-cigarettes are **more likely** to progress to cigarette use
- E-cigarettes use sweet flavors to attract kids
- Renormalizing smoking:
 - Allowed in places where smoking is not allowed
 - Advertising is completely unrestricted, with TV ads for the first time since 1971
 - Largely indistinguishable from cigarettes



Teen Brain Development

- Adolescence is a critical window in brain development.
- The brain is still developing until about age 25
- During this developmental window, the brain develops rapidly, and is highly vulnerable to being shaped by the environment and outside sources

Adolescent Brain Activity

Adult Vs. Teen Brain

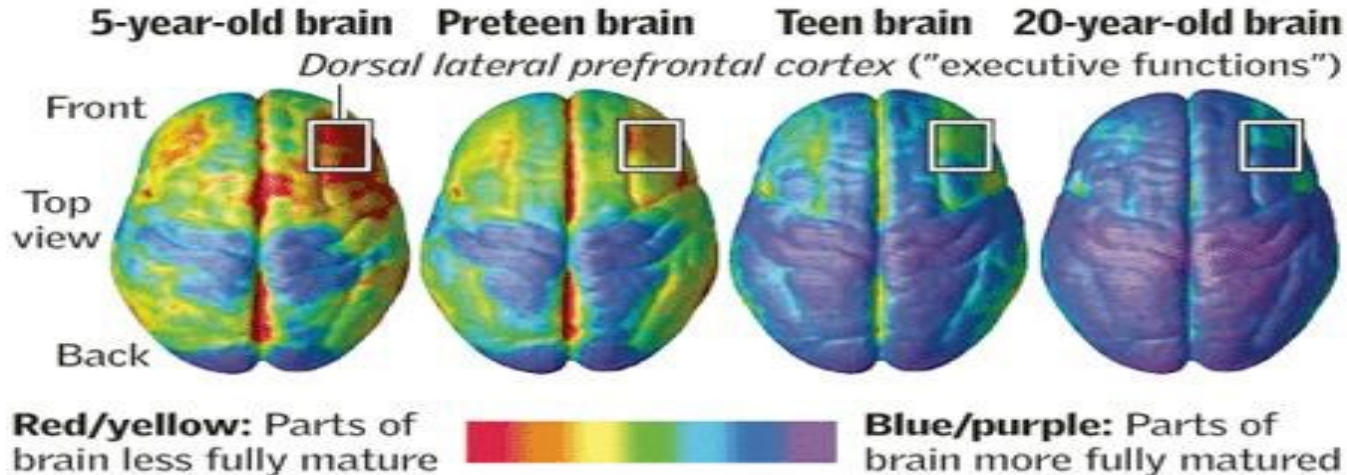


- Most of the activity in the adult brain is in the frontal lobe
 - Thinking, reasoning, planning
- Most of the activity in the teen brain is focused in the center
 - Pleasure reward center

Judgment Last to Develop

Judgment last to develop

The area of the brain that controls "executive functions" — including weighing long-term consequences and controlling impulses — is among the last to fully mature. Brain development from childhood to adulthood:



*Sources: National Institute of Mental Health;
Paul Thompson, Ph.D., UCLA Laboratory of
Neuro Imaging*

Thomas McKay | The Denver Post

Nicotine and the Developing Adolescent Brain

Prefrontal cortex still developing

- Decision making, impulse control, executive functioning

Adolescent brain uniquely vulnerable to nicotine addiction

- Become addicted more quickly, at lower levels of use
- Addiction begins when youth are “experimenting”

Early use of cigarettes associated with:

- Earlier addiction
- Greater risk of progressing to daily smoking
- Harder to quit



E-Cigarettes and Addiction

- Teens are uniquely vulnerable to nicotine addiction
- Most e-cigarettes contain nicotine
- JUUL, Phix, Myle, and other high-nicotine e-cigarettes may be particularly problematic.
- Teens who use e-cigarettes are **more likely** to progress to using traditional cigarettes