Nicotine Fact Sheet

Overview

- Nicotine is the highly addictive chemical found naturally in tobacco
- Most tobacco users become addicted to nicotine
- Tobacco use is the single largest cause of death and disease in America
- Nicotine poses danger to youth, pregnant women and fetuses
- Nicotine use in adolescence may increase risk for future addiction to other drugs
- Quitting the use of nicotine is one of the hardest things a person can do, but also one of the most important things they can do for their health
- Quitting may take several attempts before success

ENDS* and Nicotine Levels

- A CDC study of 2015 scan sales data from stores found that 99% of ENDS sold contained nicotine
- The amount of nicotine in ENDS is highly variable due to the e-liquid, the temperature of heating, and the depth of the puff
- Although most e-liquids on the market previously contained 36 mg/ml or less, new products utilizing nicotine salts instead of freebase nicotine have increased the level of nicotine
  - JUUL Pods (.7 ml cartridge labeled 5%) contain 59 mgs of nicotine per ml
    - Juul was introduced to the market in 2015 and rose to over 70% of the market
    - The majority of youth and young adult Juul users surveyed did not know they contained nicotine

Key Points:

- Nicotine is very addictive
- Most ENDS devices contain nicotine, with varying levels
- Youth are especially vulnerable to becoming addicted quickly
- Quitting nicotine addiction is hard but evidence-based treatments work

* ENDS= Electronic Nicotine Delivery Systems and vapor products, also referred to as vaping, e-cigarettes

WARNING: This product contains nicotine. Nicotine is an addictive chemical.
Nicotine and Youth

- Liquid nicotine is toxic and exposure to high doses can be fatal especially to young children
- Intentional or accidental exposure to liquid nicotine via ingestion, inhalation or absorption through the skin or eyes can have adverse health effects
- Children and adolescents are likely more sensitive to nicotine and become addicted faster than adults
- Nicotine disrupts the development of brain circuits that control attention and learning

Nicotine Pathway

- It only takes 10 seconds for the nicotine from a puff to reach the brain
- Nicotine causes cells in the brain to release dopamine, which triggers a ‘pleasure response’
- The number of nicotine receptors increases over time, changing the anatomy of the brain
- The brain keeps wanting more
- Quitting triggers withdrawal symptoms that makes the brain crave nicotine
- As nicotine intake is reduced, the number of nicotine receptors goes back to normal

Nicotine can affect the body in other ways. For example, a rapid increase in nicotine blood levels can raise the heart rate and blood pressure and narrow arteries around the heart.

Nicotine Withdrawal

Symptoms include:
- Feeling anxious, fidgety and restless
- Trouble sleeping
- Trouble concentrating, thinking
- Crave tobacco products
- Feeling hungrier than usual

[Image of nicotine effects diagram]
References


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