Is JUUL Cool?

Many young adults are attracted to the trendy e-cigarette called Juul. They like its sleek black appearance, and conceal ability. Many equate its look to a flash drive. Juul is an END (electronic nicotine delivery) device. It uses a pod-filled cartridge, which contains nicotine liquid or “juice”. Users are attracted to the flavor alternatives available, these include mint, mango, cucumber, fruit and crème.
ENDs or E-cigs are a growing market replacing traditional cigarettes. Traditional cigarettes are known to be toxic due to the burning of the tobacco leaf. The act of smoking an e-cig is called vaping. There is no combustion. The e-liquid is heated to produce a vapor, which the user inhales. There is growing appreciation that vaping may be less harmful than smoking because e-cigs do not contain tobacco.

Smoking is the leading cause of preventable death in the U.S. The smoke from burning tobacco contains over 7,000 chemicals, of which at least 69 are known to cause cancer. So what about vaping? Vaping is tobacco free and may be less harmful than combustible forms of tobacco. However, it is not without risks. Across all brands, E-liquids and the inhaled vapor contain the chemicals propylene glycol or glycerol, and flavorings. Other carcinogenic compounds found in e-liquids include nitrosamines, carbonyl compounds, toxic metals, volatile organic compounds and phenolic compounds. The adverse health effects of these compounds are still largely unknown and may vary depending on type of e-liquid and device use.

Nicotine is the universal component of both traditional cigarettes and e-cigs. A traditional cigarette contains 10-15 mg of nicotine. An e-cig pod cartridge contains the same amount of nicotine as there is in one pack or 20 cigarettes. What we do know is that, Nicotine is addicting. The US surgeon general (2010) concluded that nicotine is as addictive as cocaine or heroin. Nicotine interacts with receptors to release dopamine. Dopamine stimulates the reward center of the brain creating an elevation in mood and apparent improvement in cognitive function. Chronic use of nicotine actually desensitizes the neurons that control dopamine, reinforcing more dependence to nicotine. Early regular use of any nicotine-containing product poses a risk to a lifelong addiction. This concern is accentuated by the rapidly increasing use of e-cigs in adolescents and young adults. Nicotines effect on the developing brain can irreversibly damage the reward systems in the brain. Not only making young brains more susceptible to addiction but also causing reduced attention span, diminished cognition, and enhanced impulsivity. These changes effect memory and motivation.

Serious adverse health effects of nicotine cause additional concern. Nicotine is harmful to the cardiovascular system. It causes vasoconstriction of arteries that supply the heart, increases blood pressure, elevates blood lipids and increases blood viscosity. All these effects raise one’s risk of heart attack, and blood clots, which can block flow of blood to the heart, brain and other vital organs.

More long-term studies are needed to truly evaluate the risks of e-cigarettes.
The US Food and Drug Administration (FDA) have not approved use of e-cigs as a cessation product. There is concern that e-cigs could deter smokers from using FDA approved smoking
cessation medications that have a proven record of safety and efficacy. E-cigs are considered a tobacco product, and in Maine and many other states, they are banned in areas where cigarette smoking is also prohibited.
For help with smoking cessation, contact University Health and Counseling Services at 207-780-5411.

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