

NICOTINE

Nicotine is one of the most heavily used addictive drugs in North America, with young adults aged 18 to 25 reported the highest rate of current use of any tobacco products. In addition, cigarette smoking has been the most popular method of taking nicotine since the beginning of the 20th century.

Health Hazards

Nicotine is highly addictive. Nicotine provides an almost immediate “kick” because it causes a discharge of epinephrine from the adrenal cortex. This stimulates the central nervous system and other endocrine glands, which causes a sudden release of glucose. Stimulation is then followed by depression and fatigue, leading the abuser to seek more nicotine.

Nicotine is absorbed readily from tobacco smoke in the lungs, and it does not matter whether the tobacco smoke is from cigarettes, cigars, or pipes. Nicotine also is absorbed readily when tobacco is chewed. With regular use of tobacco, levels of nicotine accumulate in the body during the day and persist overnight. Thus, daily smokers or chewers are exposed to the effects of nicotine for 24 hours each day.

Addiction to nicotine results in withdrawal symptoms when a person tries to stop smoking. For example, a study found that when chronic smokers were deprived of cigarettes for 24 hours, they had increased anger, hostility, and aggression, and loss of social cooperation. Persons suffering from withdrawal also take longer to regain emotional equilibrium following stress. During periods of abstinence and/or craving, smokers have shown impairment across a wide range of psychomotor and cognitive functions, such as language comprehension.

Women who smoke generally have earlier menopause. If women smoke cigarettes and also take oral contraceptives, they are more prone to cardiovascular and cerebrovascular diseases than are other smokers; this is especially true for women older than 30.

Pregnant women who smoke cigarettes run an increased risk of having stillborn or premature infants or infants with low birth weight. Children of women who smoked while pregnant have an increased risk for developing conduct disorders. National studies of mothers and daughters have also found that maternal smoking during pregnancy increased the probability that female children would smoke and would persist in smoking.

Adolescent smokeless tobacco users are more likely than nonusers to become cigarette smokers. Behavioral research is beginning to explain how social influences, such as observing adults or other peers smoking, affect whether adolescents begin to smoke cigarettes. Research has shown that teens are generally resistant to antismoking messages.

In addition to nicotine, cigarette smoke is primarily composed of a dozen gases (mainly carbon monoxide) and tar. The tar in a cigarette exposes the user to an increased risk of lung cancer, emphysema, and bronchial disorders.