

fast facts

nicotine

■ **Overview:** Most smokers don't think of themselves as drug addicts, but that's what they are. In fact, the drug they're addicted to—nicotine—is one of the most powerfully addictive substances in the whole chemical kingdom. That's why so many smokers (and users of other nicotine-based products) find it so hard to stop, in spite of the many risks linked to addiction.



■ **Forms:** Nicotine occurs naturally only in the tobacco plant, which is native to North America. Used mostly for ceremonial purposes by Native Americans, tobacco's drug effects were not lost on early explorers, who introduced it to Europe. Although tobacco was used traditionally as a snuff or smoked in pipes or cigars, cigarettes became dominant in the 20th Century. Today, nicotine is also sold as gum, patches, and inhalers. Drug levels vary in each product.

■ **Actions/Effects:** Absorbed via the alveoli in the lungs or the mucous membranes in the nose and mouth, nicotine unleashes a rapid release of *adrenaline*, which increases blood pressure and heart rate, and steps up activity of the neurotransmitter *dopamine*, causing a range of other effects. To addicted users, nicotine triggers both stimulant and calming effects.



■ **Risks/Side Effects:** Early side effects include dizziness and nausea until users develop tolerance to nicotine's drug effects. Most of the long-term risks associated with nicotine use are linked to the tars, toxic gases, and particulates in tobacco smoke, which can cause cancer, heart disease, emphysema, and other diseases.

■ **Medical Uses:** Recent research has shown that small doses of nicotine delivered by skin patches may help those with Alzheimer's disease and attention deficit disorder (ADD) maintain concentration and improve short-term memory.



■ **Addiction:** Nicotine creates both a physical and psychological addiction, often resulting in intense and persistent craving. Withdrawal can be eased via nicotine replacement devices or the medical use of antidepressant drugs.

■ **Trends:** Under terms of a recent settlement, the tobacco industry is barred from targeting promotions at young people and must even develop anti-tobacco campaigns to reduce use. But they've sure got their work cut out for them. At last count, some 44.5 million American adults were still puffing away and another 7.6 million were using smokeless tobacco products.

■ **Demographics:** Although use among young people had been on the upswing throughout the '90s, national surveys have reflected a steady drop in smoking among 8th, 10th, and 12th grade students from 1998 through 2006.



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