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[Previous marijuana use may increase the risk of nicotine dependence in rats](#)

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Exposure to tetrahydrocannabinol (THC), the major psychoactive ingredient in marijuana, can increase the addictive properties of nicotine, according to a study in rats published online this week in *Neuropsychopharmacology*. The study suggests that previous marijuana use may potentially increase the risk of nicotine dependence and tobacco-related diseases.

There has been a reduction in the prevalence of cigarette smoking in the United States, but it is still a leading cause of preventable death. Although tobacco is often considered a "gateway" to other drugs, there is now evidence to show that the reverse can be true — the use of other drugs can lead to nicotine dependence.

Steven Goldberg and colleagues tested whether exposing rats to THC would increase the likelihood that they would self-administer nicotine. For three days, one group was given twice-daily injections of THC and a control group received an equivalent injection of an inactive placebo. Starting one week after the final THC or placebo injection, the rats were trained to work for intravenous injections of nicotine. Rats that were previously exposed to THC were far more likely than control rats to self-administer nicotine, the researchers found. In addition, the THC-exposed rats worked much harder to obtain nicotine than the control group, suggesting that the value of nicotine was far greater after THC exposure.

Although there are many factors that may contribute to a progression from marijuana use to tobacco dependence, the research suggests that lasting effects of THC may make marijuana users more susceptible to the addictive effects of tobacco.

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