

Menthol's soothing effects may lead to addiction and illness in young smokers

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(Medical Xpress) -- A research team from Yale and the University of Connecticut has found that the cooling effect of menthol may actually cause people to smoke more and become addicted to cigarettes because it reduces the protective respiratory response to irritants in cigarette smoke. The biggest danger, they argue, is to young smokers, because they disproportionately prefer menthol cigarettes and are therefore likely to become addicted more quickly. The study appears online in the *Journal of the Federation of American Societies for Experimental Biology (FASEB)*.

Menthol, the cooling agent in peppermint, is added to almost all commercially sold cigarettes these days, in varying degrees. But until now, little was known about menthol's pharmacological effects on

smokers and its connection to addiction and smoking-related disease.

The Yale-UConn team revealed those effects to be potent. Researchers found that in mice, inhaled menthol immediately abolished the response in airway receptors that promote sensations of irritation to protect the respiratory system. The mouse equivalent of a "smoker's cough" was almost completely blocked when mice inhaled menthol and tobacco irritants together.

"By suppressing the sensation of irritation, menthol may make [smoke inhalation](#) easier to tolerate, and therefore promote [nicotine addiction](#) and smoking-related illness," said author Sven-Eric Jordt, associate professor of pharmacology at Yale School of Medicine. This is a particular hazard for young people just beginning to smoke, he noted. "Studies indicate that most young people smoke [menthol cigarettes](#). So they are being exposed to higher levels of nicotine and other toxic substances at a young age, which may lead to rapid addiction and, ultimately, the development of smoking-related disease."

In 2009, Congress passed the Family [Smoking Prevention](#) and [Tobacco Control Act](#), which outlawed flavored tobacco additives such as cloves, cinnamon, candy, chocolate or fruit flavors. But menthol was specifically exempted from the ban. The Food and Drug Administration is currently evaluating scientific data on menthol, however, and could decide to ban it as well if it is deemed harmful.

Provided by Yale University

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