Watching Others Smoke May Trigger Relapse

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By Cortney Mears [1]

Just the sight of someone smoking may be enough to trigger the desire to start smoking again among those who have kicked the habit. Researchers from Duke University Medical Center have been trying to determine what changes in the brain lead to the desire to start smoking again. They used functional MRI to visualize changes in brain activity of persons who were trying to quit.1 Eighteen adult smokers were scanned once before quitting and 24 hours after quitting. Participants were shown photographs of people smoking during the scanning.

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Joseph McClernon, associate professor in the department of psychiatry and behavioral sciences and lead author of the study that appeared online in the December issue of Psychopharmacology, noted, “Quitting smoking dramatically increased brain activity in response to seeing smoking cues, which seems to indicate that quitting smoking is actually sensitizing the brain to these smoking cues.”

Greater activation was found after abstinence in the parietal, frontal, occipital, and central cortical regions and in the dorsal striatum and thalamus.

Of particular interest was the fact that greater activation was found in the dorsal striatum—the area involved in learning habits. McClernon notes: “That means quitting smoking may not be a matter of conscious control. So, if we’re really going to help people quit, this emphasizes the need to do more than tell people to resist temptation. We also have to help them break that habitual response.”

References: 1. McClernon FJ, Kozink RV, Lutz AM, Rose JE. 24-H smoking abstinence potentiates fMRI-BOLD activation to smoking cues in cerebral cortex and dorsal striatum. Psychopharmacology (Berl). 2008 Dec 24; [Epub ahead of print].

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