

In animal study, 'cold turkey' withdrawal from drugs triggers mental decline

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Can quitting drugs without treatment trigger a decline in mental health? That appears to be the case in an animal model of morphine addiction. Georgetown University Medical Center researchers say their observations suggest that managing morphine withdrawal could promote a healthier mental state in people.

"Over time, drug-abusing individuals often develop [mental disorders](#)," says Italo Mocchetti, PhD, a professor of neuroscience. "It's been thought that drug abuse itself contributes to [mental decline](#), but our findings suggest that 'quitting cold turkey' can also lead to damage."

In the study published in the November issue of *Brain, Behavior and Immunity* and presented at Neuroscience 2013, Mocchetti and his research colleagues treated the animals with morphine, or allowed them to undergo withdrawal by stopping the treatment. Then, they measured pro-inflammatory cytokines, which can promote damage and cell death, and the protein CCL5, which has various protective effects in the brain.

"Interestingly, we found that treating the addicted animals with morphine both increased the protective CCL5 protein while decreasing pro-inflammatory cytokines, suggesting a beneficial effect," Mocchetti explains. The animals that weren't treated during withdrawal had the opposite results—decreased CCL5 and increased levels of the damaging cytokines.

"From these findings, it appears that morphine withdrawal may be a

causative factor that leads to mental decline, presenting an important avenue for research in how we can better help people who are trying to quit using drugs," concludes Mocchetti.

Provided by Georgetown University Medical Center

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