

# Long-term brain changes persist years after drug abuse and recovery

18 August 2015



**More information:** "Abnormal resting-state functional connectivity of the nucleus accumbens in multi-year abstinent heroin addicts." [DOI: 10.1002/jnr.23608](https://doi.org/10.1002/jnr.23608)

Provided by Wiley

It's known that brain changes are present in drug addicts even when they have been abstinent for a short period of time. Now new research shows that alterations persist in long-term abstinent heroin-dependent individuals as well.

Through the use of functional magnetic resonance imaging, investigators analyzed the brains of 30 heroin-addicted individuals after a long period of abstinence (more than 3 years) and compared the results with those of 30 healthy controls.

The team found that in the former [heroin users](#), there was significant dysfunctional activity in the nucleus accumbens region of the brain, an area that is involved in appetitive drive and reward-seeking behavior.

The *Journal of Neuroscience Research* findings suggests that intense craving for drugs may be triggered in the presence of stressors or other environmental cues in individuals who have successfully remained abstinent for long periods of time. Taking this into consideration may aid the development of treatment and rehabilitation strategies for those suffering from drug addiction.

APA citation: Long-term brain changes persist years after drug abuse and recovery (2015, August 18) retrieved 3 May 2021 from <https://medicalxpress.com/news/2015-08-long-term-brain-persist-years-drug.html>

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