

Exercise can help beat cocaine addiction, study finds

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Exercise can help prevent relapses into cocaine addiction, according to new research led by the University at Buffalo's Panayotis (Peter) Thanos, Ph.D.

"Cocaine addiction is often characterized by cycles of recovery and relapse, with stress and negative emotions, often caused by withdrawal itself, among the major causes of relapse," says Thanos, senior research scientist in the UB Research Institute on Addictions and Department of Pharmacology and Toxicology.

Using animal models, Thanos found that regular aerobic exercise (one hour on a treadmill, five times a week) decreased stress-induced cocaine-seeking behavior. Exercise also altered behavioral and physiological responses to stress.

Individuals who are addicted to cocaine have altered neural, behavioral and [physiological responses](#) to stress. Recent research by Thanos demonstrated how exercise can alter the brain's mesolimbic dopamine pathway, which is linked to the rewarding and reinforcing properties of drugs such as cocaine.

In addition, exercise has been shown to reduce stress hormones and elevate mood, which could assist in alleviating anxiety and [negative emotions](#) associated with withdrawal.

Studies already have shown that aerobic exercise (also known as "cardio") is an effective strategy against many physical health problems, including heart disease, diabetes and arthritis, along with certain [mental health issues](#), such as stress, anxiety and depression.

"Our results suggest that regular aerobic exercise could be a useful strategy for relapse prevention, as part of a comprehensive treatment program for recovering [cocaine abusers](#)," Thanos says. "Further research is necessary to see if these results also hold true for other addictive drugs."

More information: Lisa S. Robison et al, Chronic forced exercise

inhibits stress-induced reinstatement of cocaine conditioned place preference, *Behavioural Brain Research* (2018). DOI: [10.1016/j.bbr.2018.07.009](https://doi.org/10.1016/j.bbr.2018.07.009)

Provided by University at Buffalo

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