

Rat models of opioid use and addiction explore risk of abuse

7 November 2018

New research revealed today highlights the power of animal studies to explore mechanisms of opioid addiction, withdrawal, and relapse to inform new prevention strategies and treatments for people. The findings were presented at Neuroscience 2018, the annual meeting of the Society for Neuroscience and the world's largest source of emerging news about brain science and health.

Opioids are a highly addictive class of drug that includes prescription pain relievers such as oxycodone and morphine as well as illicit drugs such as heroin. More than 2 million people are addicted to opioids in the United States, where the crisis has been declared a public health emergency. The Centers for Disease Control and Prevention reports that 72,000 people died from drug overdose in 2017—an increase of nearly 10 percent from the previous year—of whom two-thirds died due to [opioid](#) use. Scientists are working to better understand why some people are more susceptible to [opioid addiction](#) and why more than 70 percent of those who quit will relapse within a year.

Today's new findings show that:

- Rats' drug-seeking behavior, indicative of relapse, increases over time after a conflict-driven choice to abstain from opioids (Ida Fredriksson, abstract 420.19).
- Previous exposure to prescribed opioids increases the risk for subsequent opioid abuse in male, but not female, rats (Tania Lintz, abstract 420.13).
- Sensation-seeking behavior is associated with more severe opioid withdrawal as well as vulnerability to [addiction](#) in rats (Yayi Swain, abstract 236.10).

"More effective preventions and treatments are desperately needed for managing the opioid overdose epidemic, which now claims the lives of more than 100 Americans every day," said press

conference moderator Chris Evans, Ph.D., of the University of California, Los Angeles. "The research presented today demonstrates how animal models can provide insight into even complex human behaviors, such as opioid addiction and relapse, and work toward new biology-based strategies to guide the scientists and clinicians on the front lines of this crisis."

Provided by Society for Neuroscience

APA citation: Rat models of opioid use and addiction explore risk of abuse (2018, November 7) retrieved 31 October 2020 from <https://medicalxpress.com/news/2018-11-rat-opioid-addiction-explore-abuse.html>

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