

Occasional heroin use may worsen HIV infection

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Researchers at Yale and Boston University and their Russian collaborators have found that occasional heroin use by HIV-positive patients may be particularly harmful to the immune system and worsens HIV disease, compared to persistent or no heroin use.

The findings are published in the journal *AIDS and Behavior*.

"We expected that HIV-positive patients who abused [heroin](#) on an ongoing basis would have the greatest decreases in their CD4 count, but this preliminary study showed that those who abused heroin intermittently had lower CD4 cell counts, indicating a weakened immune system," said lead author E. Jennifer Edelman, M.D., assistant professor of medicine at Yale School of Medicine. "Our findings suggest that heroin withdrawal may be particularly harmful to the immune system, as measured by CD4 cell count."

A higher CD4 cell count signals a stronger immune system. Since laboratory and epidemiological studies have found that opioids such as heroin are harmful to the [immune system](#), Edelman and her co-authors were interested in whether heroin use impacted HIV disease progression. In this pilot study, the team measured CD4 [cell counts](#) among 77 HIV-infected Russian participants who drank alcohol heavily, and who were not yet taking antiretroviral medication.

Study participants self-reported their use of heroin and other substances at the beginning of the study, and then at 6 and 12 months. Edelman and

her team looked at changes in CD4 count at the beginning and at the end of 12 months and found lower CD4 counts in the participants who intermittently used heroin than in those who consistently abused the drug.

"This manuscript represents an important step towards identifying the need for future study of the effects of heroin withdrawal on HIV disease progression, as it may have unique effects compared with chronic and no heroin use," said Edelman. "Our future analyses will include examining other markers of T cell (CD4 and CD8 cell) dysfunction," said Edelman. "We will also evaluate the effects of heroin and other opioids on other aspects of [immune function](#)."

More information: *AIDS and Behavior*, [DOI: 10.1007/s10461-014-0948-z](#)

Provided by Yale University

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