

Human Immunodeficiency Virus (HIV)

The [human immunodeficiency virus](#) is a retrovirus that invades cells in the human immune system, making it highly susceptible to infectious diseases. According to the World Health Organization, over 500,000 Americans have died from HIV/AIDS and over one million US citizens are living with the disease.

Survey data indicates that cannabis is used by as many as one in three North American patients with HIV/AIDS to treat symptoms of the disease as well as the side-effects of various antiretroviral medications.¹⁻⁴ One recent study reported that more than 60 percent of HIV/AIDS patients self-identify as "medical cannabis users."⁵ Patients living with HIV/AIDS most frequently report using cannabis to counter symptoms of anxiety, appetite loss and nausea, and at least one study has reported that patients who use cannabis therapeutically are more than three times more likely to adhere to their antiretroviral therapy regimens than non-cannabis users.⁶

A 2008 longitudinal analysis of both HIV positive and HIV negative men reported that cannabis use does not adversely impact CD4 and CD8 T cell counts⁷, while more recent papers find that cannabis exposure is linked to higher lymphocyte counts⁸⁻⁹ and may improve immune function.¹⁰⁻¹¹ Cannabis prevalence is not associated with any negative effects on mortality risk.¹² In patients co-infected with HIV and hepatitis C, daily cannabis use is "independently associated with a reduced prevalence of steatosis (fatty liver disease)".¹³ Co-infected patients are less likely to suffer from insulin resistance as compared to non-users.¹⁴

Clinical trial data has reported that HIV/AIDS patients who inhaled cannabis four times daily experienced "substantial ... increases in food intake ... with little evidence of discomfort and no impairment of cognitive performance." Investigators concluded, "Smoked marijuana ... has a clear medical benefit in HIV-positive [subjects]."¹⁵

Separate clinical data has reported that inhaling cannabis significantly reduced HIV-associated neuropathy compared to placebo. Researchers reported that inhaling cannabis three times daily reduced patients' pain by 34 percent. They concluded, "Smoked cannabis was well tolerated and effectively relieved chronic neuropathic pain from HIV-associated neuropathy [in a manner] similar to oral drugs used for chronic neuropathic pain."¹⁶

Researchers at the University of California at San Diego have reported similar findings. Writing in the journal *Neuropsychopharmacology*, they concluded: "Smoked cannabis ... significantly reduced neuropathic pain intensity in HIV-associated ... polyneuropathy compared to placebo, when added to stable concomitant analgesics. ... Mood disturbance, physical disability and quality of life all improved significantly during study treatment. ... Our findings suggest that cannabinoid therapy may be an effective option for pain relief in patients with medically intractable pain due to HIV."¹⁷

Most recently, cannabis inhalation has been demonstrated in clinical trial to be associated with increased levels of appetite hormones in the blood of subjects with HIV infection.¹⁸ In animal

models, delta-9-THC administration is associated with decreased mortality and ameliorated disease progression."¹⁹ In preclinical models, cannabinoids have also been shown to decrease HIV replication.²⁰

Some experts now believe that "marijuana represents another treatment option in [the] health management" of patients with HIV/AIDS²¹ and that cannabinoids "could potentially be used in tandem with existing antiretroviral drugs, opening the door to the generation of new drug therapies for HIV/AIDS."²²

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