NIH National Institute on Drug Abuse
DrugFacts
www.drugabuse.gov

Drug Use and Viral Infections (HIV, Hepatitis)

What's the relationship between drug use and viral infections?

People who engage in drug use or high-risk behaviors associated with drug use put themselves at risk for contracting or transmitting viral infections such as HIV/AIDS or hepatitis. This is because viruses spread through blood or body fluids. It happens primarily in two ways: (1) when people inject drugs and share needles or other drug equipment and (2) when drugs impair judgment and people have unprotected sex with an infected partner. This can happen with both men and women. Women who become infected with a virus can pass it to their baby during pregnancy, whether or not they use drugs. They can also pass HIV to the baby through breastmilk. Drug use can also affect the symptoms a person has from a viral infection.

The viral infections of greatest concern related to drug use are HIV and hepatitis.

What is HIV/AIDS?

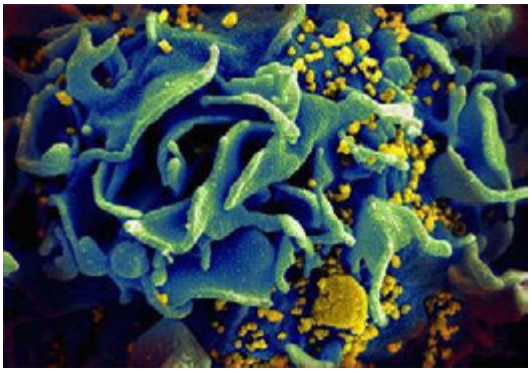

Image by NIAID

HIV stands for *human immunodeficiency virus*. This virus infects the body's immune cells, called CD4 cells (T cells), which are needed to fight infections. HIV lowers the number of

these T cells in the immune system, making it harder for the body to fight off infections and disease.

Acquired immune deficiency syndrome, or AIDS, is the final stage of an HIV infection when the body is unable to fend off disease. A health care provider diagnoses a patient with AIDS when that person has one or more infections and a T cell count of less than 200. A person with a healthy immune system has a T cell count between 500 and 1,600. Being infected with HIV doesn't automatically mean that it will progress to AIDS.

More than 1.1 million people in the United States live with an HIV infection, with an estimated 162,500 who are unaware of their condition.[1] While there are medicines that help prevent the transmission and spread of HIV and its progression to AIDS, there is no vaccine for the virus, and there is no cure. Drug use and addiction have been inseparably linked with HIV/AIDS since the beginning of the HIV/AIDS epidemic. People who inject drugs accounted for about 6 percent of HIV diagnoses in 2015.[2]

What is hepatitis?

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Hepatitis is an inflammation (painful swelling and irritation) of the liver, most often caused by a family of viruses: A, B, C, D, and E. Each has its own way of spreading to other people and its own treatment. Hepatitis B virus (HBV) and hepatitis C virus (HCV) can spread through sharing needles and other drug equipment. Infections can also be transmitted through risky sexual behaviors linked to drug use, though this is not common with HCV.

Hepatitis can lead to cirrhosis—scarring of the liver—resulting in loss of liver function. It can also lead to liver cancer. In fact, HBV and HCV infections are the major risk factors for liver cancer in the United States.[3]

There is a vaccine to prevent HBV infection and medicines to treat it. There are also medicines to treat HCV infection, but no vaccine for prevention. Some people recover from infection without treatment. Other people need to take medicine for the rest of their lives and be monitored for liver failure and cancer.

How does drug use affect symptoms and outcomes of a viral infection?

Drug use can worsen HIV symptoms, making it easier for HIV to enter the brain and causing greater nerve cell injury and problems with thinking, learning, and memory. Drug and alcohol use can also directly damage the liver, increasing risk for chronic liver disease and cancer among those infected with HBV or HCV.

How can people lessen the spread of viral infections?

People can reduce the risk of getting or passing on a viral infection by:

1. **Not using drugs.** This decreases the chance of engaging in unsafe behavior, such as sharing drug-use equipment and having unprotected sex, which can lead to these infections.
2. **Pre-exposure prophylaxis (PrEP)**. PrEP is when people who are at significant risk for contracting HIV take a daily dose of HIV medications to prevent them from getting the infection. Research has shown that PrEP has been effective in reducing the risk of HIV infection in people who inject drugs.
3. **Getting treatment.** People in treatment for drug use should receive counseling to learn how to stop or reduce their drug use and related risky behaviors. Health care providers can use the Seek, Test, Treat, and Retain model of care to seek out and test hard-to-reach people who use drugs and offer them treatment. Read more about drug use disorder treatments in *DrugFacts: Treatment Approaches for Drug Addiction*.
4. **Post-exposure prophylaxis (PEP)**. PEP is when people take antiretroviral medicines to prevent becoming infected after being potentially exposed to HIV. According to the CDC, PEP should be used within 72 hours after a recent possible exposure and only be used in emergency situations. If you think you've recently been exposed to HIV during sex, through sharing needles, or sexual assault, talk to your health care provider or an emergency room doctor about PEP right away. Read more about PEP in the Centers for Disease Control and Prevention's (CDC's) fact sheet, PEP 101.
5. **Getting tested.** People who use drugs should get tested for HIV, HBV, and HCV. Those who are infected may look and feel fine for years and may not even be aware of the infection. Therefore, testing is needed to help prevent the spread of disease—among those most at risk and in the general population. Read more about HIV testing at the HIV.gov webpage, HIV Test Types. Read more about hepatitis testing in the CDC's fact sheet, *Hepatitis C: Information on Testing and Diagnosis*.
6. **Practicing safer sex every time.** People can reduce their chances of transmitting or getting HIV, HBV, and HCV by using a condom every time they have sex. This is true for those who use drugs and those in the general population.

Points to Remember

- People who engage in drug use or high-risk behaviors associated with drug use put themselves at risk for contracting or transmitting viral infections such as HIV/AIDS or hepatitis. This is because viruses spread through blood or body fluids.
- People can get or pass on a viral infection when they inject drugs and share needles or other drug equipment.
- Drugs also impair judgment and can cause people to make risky decisions, including having unprotected sex.
- Women who become infected with a virus can pass it to their baby during pregnancy or while breastfeeding, whether or not they use drugs.
- The viral infections of greatest concern related to drug use are HIV and hepatitis.
- People can reduce their risk of getting or passing on a viral infection by not using drugs, taking PrEP if they are at high risk for infection, getting treatment for drug use, getting PEP if you think you've been exposed to HIV, getting tested for HIV and HCV, and consistently practicing safer sex.

Learn More

For more information about drug use disorder treatment, visit our Treatment webpage.

For more information about HIV/AIDS, including testing and treatment, visit:

- NIDA's HIV/AIDS webpage
- HIV.gov
- CDC's HIV Basics

For more information about our AIDS Research program, visit the webpage, AIDS Research Program (ARP).

For more information about hepatitis, including testing and treatment, visit:

- the NIDA's webpage, Viral Hepatitis—A Very Real Consequence of Substance Use
- the CDC's Viral Hepatitis webpage

References

1. Centers for Disease Control and Prevention (CDC). *HIV in the United States: At A Glance*.; 2017. https://www.cdc.gov/hiv/statistics/overview/ataglance.html. Accessed February 8, 2018.
2. Centers for Disease Control and Prevention (CDC). *HIV and Injection Drug Use*.; 2017. https://www.cdc.gov/hiv/risk/idu.html. Accessed February 8, 2018.
3. Ly KN, Xing J, Klevens RM, Jiles RB, Ward JW, Holmberg SD. The increasing burden of mortality from viral hepatitis in the United States between 1999 and 2007. *Ann Intern Med*. 2012;156(4):271-278. doi:10.7326/0003-4819-156-4-201202210-00004

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