



# RECREATIONAL DRUGS AND HIV

## **HOW DOES RECREATIONAL DRUG USE AFFECT HIV?**

Recreational drug use can increase the risk of HIV infection. Also, for people taking antiretroviral medications (ARVs) to fight HIV, there can be some serious interactions between drugs and ARVs. These interactions can lead to under- or overdoses of ARVs or recreational drugs. Some of these may be fatal.

## **DRUGS AND GETTING INFECTED WITH HIV**

Drug and alcohol use increases the likelihood of a sexual encounter, and using alcohol or drugs before or during sexual activity greatly increases the chances of not following safer sex guidelines (see fact sheet 151) and thus HIV/STI infection. This risk is further increased for people who exchange drugs for sex.

If recreational drugs are injected using shared needles, there is increased risk of infection with blood-borne diseases, including HIV and viral hepatitis (fact sheet 506). See fact sheet 155 on ways to reduce this risk.

Drug users should be tested regularly for HIV. The long-term symptoms of persistent drug use may be similar to those of HIV or AIDS. Be sure to tell your medical provider about any of the recreational drugs you use.

## **DRUG USE AND HIV DISEASE**

There is little research on drug use and HIV disease progression. We do know that heavy drug use may negatively impact a person's sleep schedule, appetite and overall health. Drug use can cause the immune system to weaken and exacerbate the side effects of ARVs. In turn, this can provide a pathway for opportunistic infections to develop (see fact sheet 500). Another risk of drug use is missing ARV doses and poor adherence. This can lead to HIV resistance (see fact sheet 126) or treatment failure. For more information on adherence, see fact sheet 405.

## **DRUG INTERACTIONS**

Recreational drugs will likely interact or interfere with ARV therapy, increasing or decreasing ARV drug levels. This can lead to ARV treatment failure. Also, drug

interactions can cause a serious, possibly fatal increase in the level of recreational drugs.

There is little research on the effects of interactions between ARVs and recreational drugs on the human body. This is because the use of recreational drugs is illegal and they cannot be provided to people with HIV, even to study the effects. The liver metabolizes most ARVs and all protease inhibitors. Recreational drugs metabolized in the liver can cause serious drug interactions.

### **Alcohol**

Excessive alcohol use may weaken the immune system function and threatens the long-term benefits of ARV therapy. Alcohol can increase blood levels of abacavir (Ziagen, fact sheet 416). Chronic alcohol use affects treatment adherence by interfering with a person's ability to stick to a regular ARV regimen. Alcohol use may increase the risk of pancreatitis when used with didanosine (ddI, Videx, fact sheet 413.)

### **Cocaine**

Although interactions between cocaine and ARVs are unlikely to increase cocaine toxicity, the cocaine use may decrease ARV effectiveness by diminishing adherence.

**Crystal Meth, Methamphetamine (Crank, Glass, Tina, and others).** A recent study found that gay men who use crystal meth have five times the risk of HIV infection as non-users. Serious and dangerous drug interactions are highly likely. When methamphetamine is used with ritonavir (Norvir, fact sheet 442), including when used for boosting other ARVs, amphetamine levels can double or triple.

### **Ecstasy/MDMA**

Ecstasy uses the same liver pathway as protease inhibitors. This can cause very high levels of ecstasy in the body of people taking protease inhibitors. There is one documented case report of a death due to an interaction between ecstasy and ritonavir. Ecstasy can also increase the risk of kidney stones when used with indinavir (Crixivan, fact sheet 441) due to dehydration.

**GHB (Xyrem, "date rape drug")** This drug is primarily metabolized by the liver. There are no known interactions between GHB and ARVs. Protease inhibitors may increase GHB levels.

### **Heroin (smack, brown junk, China White)**

This drug is primarily metabolized by the liver. There are no known interactions between heroin and ARVs. Use with protease inhibitors may decrease effect of heroin.

### **Ketamine (K, Special K)**

This drug is primarily metabolized by the liver. All protease inhibitors may cause high levels of ketamine. This could cause hepatitis. To date, there are no case reports or studies of interactions between ketamine and ARVs.

### **LSD**

The metabolism of LSD is not understood. Interactions with ARVs are possible but unknown.

### **Marijuana** (see fact sheet 731)

There are no known interactions between marijuana and ARVs. Interactions may be greater if marijuana is eaten rather than smoked. Use with protease inhibitors may increase effect of marijuana.

## **THE BOTTOM LINE**

Some recreational drugs may interact with some ARVs. The information on these interactions is incomplete, but interactions can be dangerous or fatal. Drug users should be tested regularly for HIV. Be sure to tell your medical provider about any of the recreational drugs you use.

## **FOR MORE INFORMATION**

National AIDS Education and Training Resource Center at <http://www.aids-ed.org/resource/recreational-drugs-and-hiv-antivirals-guide-interactions-clinicians>

*Interactions Between Recreational Drugs and Antiretroviral Agents* by Tony Antoniou and Alice Lin-in Tseng, published in *The Annals of Pharmacotherapy* 2002, pages 1598-1613.

[http://www.researchgate.net/publication/1146724\\_Interactions\\_between\\_recreational\\_drugs\\_and\\_antiretroviral\\_agents/file/2e7e52b4995009073.pdf](http://www.researchgate.net/publication/1146724_Interactions_between_recreational_drugs_and_antiretroviral_agents/file/2e7e52b4995009073.pdf)

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