



# RECREATIONAL DRUGS AND HIV

## HOW DOES RECREATIONAL DRUG USE AFFECT HIV?

Recreational drug use can make people more likely to be infected by HIV. 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

Using alcohol or drugs before or during sexual activity greatly increases the chances that you will not follow safer sex guidelines (see fact sheet 151.) You may have more fun while you're partying, but you're more likely to have sex. If you do, you probably won't be thinking about safer sex guidelines to reduce your chances of getting HIV or other sexually transmitted diseases. If you swap drugs for sex, the risks increase.

If you are feeling the effects of using drugs, you might wonder if you have HIV infection. Some of the signs and symptoms overlap. Be sure that your doctor knows about all of the reasons why you might be feeling bad.

## DRUG USE AND HIV DISEASE

There is very little research on drug use and HIV disease progression. However, it's clear that if you party a lot, you may not be taking care of your physical health. Getting enough sleep and eating regular meals can help you stay healthy. Drug use can make you choose not to sleep and can reduce your appetite. If you do this, your body and immune system can become weaker. This can make it easier for you to feel the side effects of ARVs, or even to get the infections that take advantage of a weaker immune system (opportunistic infections, see fact sheet 500.)

A serious risk for people with HIV who are still actively using drugs is that they will miss doses of their ARVs. This can lead to HIV resistance (see fact sheet 126), where HIV changes (mutates) so that the ARVs you are taking can stop working.

## DRUG INTERACTIONS

Another major risk for people with HIV who use drugs is that the drugs they use will interact with their ARVs. These interactions can increase or decrease the levels of ARVs or of recreational drugs. In the worst case, ARVs may stop working because there's not enough of them in your body. Also, the drug interactions can cause a serious, possibly fatal increase in the level of recreational drugs.

There is virtually no careful research on interactions between ARVs and recreational drugs. The use of recreational drugs is illegal and pharmaceutical companies cannot provide them to people with HIV, even to study the effects. This means that information on drug interactions with ARVs is based on laboratory studies of the recreational drugs or what is already known about how the drugs are broken down (metabolized) in the body.

Most ARVs are processed by the liver. All protease inhibitors use this pathway. The levels of recreational drugs metabolized in the liver can be changed significantly.

### Alcohol

Alcohol can increase blood levels of abacavir (Ziagen®, fact sheet 416) and amprenavir (Agenerase®, fact sheet 445). Chronic alcohol use can lower levels of many ARVs. May increase the risk of pancreatitis when used with didanosine (ddl, Videx®, fact sheet 413.)

### Cocaine

Interactions between cocaine and ARVs are mostly theoretical and are unlikely to increase cocaine toxicity.

Crystal meth, methamphetamine (also called crank, glass, tina, and many other names). A recent study found that gay men who use crystal meth have 5 times the risk of HIV infection as non-users. This drug uses the same liver pathway as protease inhibitors. Serious interactions are highly likely. When used with ritonavir (Norvir®, fact sheet 442) it increases amphetamine levels 2 – 3 times)

### 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. It can also increase the risk of

kidney stones with indinavir (Crixivan®, fact sheet 441) due to dehydration.

GHB (Xyrem®, "date rape drug") is normally eliminated from the body by the lungs (through breathing). However, protease inhibitors might increase GHB levels. Interactions with non-nucleoside reverse transcriptase inhibitors (delavirdine, Rescriptor®, fact sheet 433; nevirapine, Viramune®, fact sheet 431, and efavirenz, Sustiva®, fact sheet 432) are unknown.

### Ketamine (K, Special K)

This drug is primarily metabolized by the liver. There are no case reports or studies of interactions with ARVs. However, ritonavir (Norvir®), nelfinavir (Viracept®, fact sheet 444) and efavirenz (Sustiva®) may cause high levels of ketamine. This could cause hepatitis.

### 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. Theoretically, interactions may be greater if marijuana is eaten rather than smoked.

## THE BOTTOM LINE

Many recreational drugs interact with ARVs. The information on these interactions is incomplete and difficult to find. Interactions can be dangerous or fatal.

## FOR MORE INFORMATION

AIDS Community Research Initiative of America update, Spring 2005 at [www.acria.org/treatment/treatment\\_edu\\_springupdate2005\\_interactions.html](http://www.acria.org/treatment/treatment_edu_springupdate2005_interactions.html)

National AIDS Education and Training Resource Center at [http://www.aids-ed.org/pdf/tools/nynj\\_rec\\_drug\\_interactions.pdf](http://www.aids-ed.org/pdf/tools/nynj_rec_drug_interactions.pdf)

High 5 Youth Canada Network at [http://www.high5youth.com/page\\_party.php](http://www.high5youth.com/page_party.php)

*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

Reviewed May 22, 2008