

## LSD

LSD (lysergic acid diethylamide) is one of the major drugs making up the hallucinogen class of drugs. Hallucinogens cause hallucinations—profound distortions in a person’s perception of reality. Hallucinogens cause their effects by disrupting the interaction of nerve cells and the neurotransmitter serotonin. Distributed throughout the brain and spinal cord, the serotonin system is involved in the control of behavioral, perceptual, and regulatory systems, including mood, hunger, body temperature, sexual behavior, muscle control, and sensory perception.

Under the influence of hallucinogens, people see images, hear sounds, and feel sensations that seem real but do not exist. Some hallucinogens also produce rapid, intense emotional swings. One of the most potent mood-changing chemicals, LSD, was discovered in 1938 and is manufactured from lysergic acid, which is found in ergot, a fungus that grows on rye and other grains.

### **Health Hazards** —————

The effects of LSD are unpredictable. They depend on the amount taken; the user’s personality, mood, and expectations; and the surroundings in which the

drug is used. Usually, the user feels the first effects of the drug 30 to 90 minutes after taking it. The physical effects include dilated pupils, higher body temperature, increased heart rate and blood pressure, sweating, loss of appetite, sleeplessness, dry mouth, and tremors.

Sensations and feelings change much more dramatically than the physical signs. The user may feel several different emotions at once or swing rapidly from one emotion to another. If taken in a large enough dose, the drug produces delusions and visual hallucinations. The user’s sense of time and self changes. Sensations may seem to “cross over,” giving the user the feeling of hearing colors and seeing sounds. These changes can be frightening and can cause panic.

Users refer to their experience with LSD as a “trip” and to acute adverse reactions as a “bad trip.” These experiences are long; typically they begin to clear after about 12 hours.

Some LSD users experience severe, terrifying thoughts and feelings, fear of losing control, fear of insanity and death, and despair while using LSD. Some fatal accidents have occurred during states of LSD intoxication.

Many LSD users experience flashbacks, recurrence of certain aspects of a person's experience, without the user having taken the drug again. A flashback occurs suddenly, often without warning, and may occur within a few days or more than a year after LSD use. Flashbacks usually occur in people who use hallucinogens chronically or have an underlying personality problem; however, otherwise healthy people who use LSD occasionally may also have flashbacks. Bad trips and flashbacks are only part of the risks of LSD use. LSD users may manifest relatively long-lasting psychoses, such as schizophrenia or severe depression. It is difficult to determine the extent and mechanism of the LSD involvement in these illnesses.

Most users of LSD voluntarily decrease or stop its use over time. LSD is not considered an addictive drug since it does not produce compulsive drug-seeking behavior, as do cocaine, amphetamine, heroin, alcohol, and nicotine. However, like many of the addictive drugs, LSD produces tolerance, so some users who take the drug repeatedly must take progressively higher doses to achieve the state of intoxication that they had previously achieved. This is an extremely dangerous practice, given the unpredictability of the drug.

## **Extent of Use** \_\_\_\_\_

### **Monitoring the Future (MTF) Survey\***

Lifetime\*\* use dropped significantly among 12th-graders from 2004 to 2005, while annual and 30-day use remained stable. (Also see the *InfoFacts* on High School and Youth Trends.) Perceived availability of the drug fell among 12th-graders for this same period.

<b>LSD Use by Students, 2005: Monitoring the Future Survey</b>			
	8th-Graders	10th-Graders	12th-Graders
Lifetime	1.9%	2.5%	3.5%
Annual	1.2	1.5	1.8
30-day	0.5	0.6	0.7

### **National Survey on Drug Use and Health (NSDUH)\*\*\***

NSDUH data show decreases in annual use of LSD from 2002 to 2004. In 2004, 9.7 percent of Americans aged 12 and older reported using LSD at least once in their lifetimes, 0.2 percent had used it in the past year, and 0.1 percent used in the past month. Lifetime use declined significantly from 2003 to 2004 among persons aged 12 to 17 and 18 to 25.

\* These data are from the 2005 Monitoring the Future survey, funded by the National Institute on Drug Abuse, National Institutes of Health, DHHS, and conducted annually by the University of Michigan's Institute for Social Research. The survey has tracked 12th-graders' illicit drug use and related attitudes since 1975; in 1991, 8th- and 10th-graders were added to the study. The latest data are online at [www.drugabuse.gov](http://www.drugabuse.gov).

\*\* "Lifetime" refers to use at least once during a respondent's lifetime. "Annual" refers to use at least once during the year preceding an individual's response to the survey. "30-day" refers to use at least once during the 30 days preceding an individual's response to the survey.

\*\*\* NSDUH (formerly known as the National Household Survey on Drug Abuse) is an annual survey of Americans age 12 and older conducted by the Substance Abuse and Mental Health Services Administration. Copies of the latest survey are available at [www.samhsa.gov](http://www.samhsa.gov) and from the National Clearinghouse for Alcohol and Drug Information at 800-729-6686.



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