

# MARIJUANA

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As the most commonly used illegal drug in the United States, marijuana receives a great deal of attention. This information sheet addresses the main issues, questions, and concerns that are raised, including common misunderstandings about this drug.

## **WHAT IS MARIJUANA?**

Marijuana, or "cannabis", is a plant found in many areas of the world. It is also known as "grass," "pot," or "weed." It contains the mind-altering substance "THC," as well as hundreds of other chemicals. The amount of THC determines the effect on the user.

A "joint" is a marijuana cigarette made from the dried leaves and flowers of the plant. A "blunt" is a marijuana cigar or marijuana rolled in cigar paper.

Other drugs are also made from the plant. Hashish is made from the plant's resin. Hash oil is made from an oily extract of the plant, or from hashish. Hashish and hash oil have high concentrations of THC. These forms of marijuana are smoked, or baked and eaten.

## **DOES MARIJUANA VARY IN STRENGTH?**

Plant strain, climate, soil, and other factors affect the strength of the drug. Users may not know the strength of the marijuana they are using.

The strength of street samples of marijuana has increased over the years. In 1975, samples with over 1 percent THC content were rare. Samples now average 3 percent. One cultivated form called Sinsemilla averages 7 percent THC and may contain more.

The more potent drug has greater effects and risks for the user. Short term, it increases impairment and risk of injury. Long-term, greater THC levels increase the health risks caused by THC accumulation in the body.

## **WHAT ARE THE IMMEDIATE EFFECTS OF MARIJUANA?**

Effects depend on the dose, the strength of the drug, the user, other drugs in the body, and the setting. Physical effects include an increase in heart rate, reddening of the eyes, and dryness in the mouth and throat. Marijuana's psychological effects begin to occur even at low doses and increase if higher doses are taken. These effects include relaxation and feelings of euphoria. Short-term memory is impaired. Sense of time and space are altered. The ability to perform tasks requiring concentration, swift reactions, and

coordination is reduced. Users' reports that hearing, vision, and skin sensitivity are enhanced by the drug are not confirmed by objective research. Altered sense of body image, and bouts of exaggerated laughter are also commonly reported.

Effects usually begin and peak soon after smoking, and diminish gradually over several hours. Use is followed by fatigue. Heavy use is often followed by a marijuana "hangover".

## **WHAT IMMEDIATE PROBLEMS OCCUR WITH MARIJUANA?**

Immediate problems may occur, even at low doses.

- Headache and dizziness are possible.
- The drug can trigger seizures in people with epilepsy.
- A user may have an "acute panic reaction," in which the drug's effects are exaggerated, causing anxiety and a fear of losing control or "going crazy". Such panic symptoms often go away in a few hours when the acute drug effects have diminished.
- Marijuana increases heart rate-- as much as 50 percent. This could be dangerous for people with abnormal heart conditions. It can bring on chest pain in people who have poor blood supply to the heart, and does so more rapidly than tobacco smoking. Doctors believe that people with heart conditions or at high risk for heart problems should not use marijuana.
- Marijuana affects mood, senses, reaction, and coordination. This may cause behavior that leads to injury or death in traffic crashes, or other incidents.
- Despite marijuana's reputation as a relaxing drug, arguments and aggression may occur in some users.
- Effects on concentration, memory, and coordination can cause poor job or school performance.
- As an illegal drug, marijuana obviously causes the risk of legal problems.

## **WHAT LONG-TERM PROBLEMS OCCUR WITH MARIJUANA?**

- Smoking marijuana is particularly harmful to the lungs. Smoke of any kind inflames the lungs and affects their functions. Marijuana smoke contains many irritants and known cancer causing chemicals. Users may experience hoarseness, coughing, laryngitis, and bronchitis. One study showed that smoking marijuana impairs the lungs even more than does smoking

cigarettes. Evidence shows that smoking marijuana impairs the body cells that defend against bacteria and other disease germs.

- It is likely that smoked marijuana can cause cancer if used for a number of years. Marijuana smoke contains even more cancer-causing agents than tobacco smoke. Human lung tissue that had been exposed to marijuana smoke in a laboratory showed precancerous cell changes. In laboratory tests, tars from marijuana smoke have produced tumors when applied to animal skin.
- Animal studies have shown persistent changes in the structure of the brain cells after regular marijuana use. Subtle and lasting changes in human brain function may result from heavy and continuous marijuana use. However, no definitive study has yet proven permanent marijuana-related brain damage in humans.
- Marijuana burnout may occur. People who smoke marijuana heavily over long periods may become dull, slow-moving, and inattentive, even when not currently under the influence of the drug. A common term for this is “burned out”. These users often do not perceive themselves to be burned out. Burnout may be a sign of drug-related mental impairment, not merely fatigue or a “don’t care” attitude. It may not be completely reversible, or it may diminish only after months of abstinence.

This has also been called the “Amotivational syndrome”, since such persons have little motivation. It has also been called “Organic Brain Syndrome”, a pattern of effects on the brain.

### **HOW LONG DOES MARIJUANA STAY IN THE BODY AFTER IT IS SMOKED?**

THC is fat soluble (“lipophilic”). It is absorbed into many fat-rich tissues and organs in the body, and builds up in organs such as the brain, liver, lungs, and reproductive organs. Laboratory tests have shown traces of THC in the body for up to a month after the marijuana was smoked.

Because it is stored in the body, marijuana effects may persist for days or weeks with regular use. The fact that THC is stored may contribute to tolerance.

### **CAN MARIJUANA CAUSE DEPENDENCE?**

Physical and psychological dependence occur with regular marijuana use. Tolerance to marijuana (the need to take more and more of the drug over time to get the original effect), has been shown. Dependent users who stop taking the drug feel withdrawal symptoms. These include irritability, sleep problems, loss of appetite and weight, sweating, and stomach upset.

### **HOW CAN MARIJUANA AFFECT YOUNG PEOPLE?**

In addition to the health and safety risks given above, a further problem for young people is the drug’s effect on growing up. Marijuana use, like any other drug use, can interfere with the development of social and psychological skills. Young people need to learn how to make decisions, handle success and failure, and form their own beliefs and values. Marijuana and other drugs can interfere with young people becoming mature, independent, and responsible.

The effects of marijuana can also interfere with learning. They impair the user’s thinking, reading, verbal, and math skills.

### **WHAT CONCERNS YOUNG PEOPLE ABOUT MARIJUANA?**

Concern about physical and psychological effects are the most common reasons young people give not to start using marijuana.

Reasons teens give for quitting include not feeling like getting high, fear of becoming dependent, and parental disapproval. Availability and expense are not major reasons to stop.

According to young people surveyed, problems associated with marijuana use (and the percentage of users reporting this) include:

- interference with thinking (43%),
- less energy (40% of users)
- involvement with people who have a bad influence (33%),
- hurt school or job performance (33%),
- makes them less interested in other activities (30%),
- caused them to behave in ways they later regretted (25%).

Also indicated were hurt relationships with parents, and hurt relationships with significant others.

### **HOW DOES MARIJUANA AFFECT MEN’S REPRODUCTIVE SYSTEMS?**

Studies have found that marijuana use can lower the levels of the male sex hormone testosterone. Use can also diminish the sperm count in young adults, and can damage sperm. Marijuana may also interfere with the physical and sexual development of adolescent males. These effects may be linked to the build-up of THC in the reproductive organs.

### **HOW DOES MARIJUANA AFFECT WOMEN’S REPRODUCTIVE SYSTEMS?**

Female animal studies show that the drug interferes with the female sex hormones estrogen and progesterone,

and with the growth hormone from the pituitary gland. These effects may be linked to the build-up of THC in body organs.

**CAN MARIJUANA AFFECT PREGNANCY?**

Using marijuana during pregnancy creates risks for the unborn child. THC crosses the placenta, especially in early pregnancy. It may have a toxic effect on the fetus. The drug may interfere with the supply of nourishment to the baby through the placenta.

Smoking marijuana, like smoking cigarettes, raises levels of carbon dioxide and carbon monoxide in the blood. This reduces the oxygen supply to the fetus. Animal studies suggest that marijuana may cause spontaneous abortions, stillbirths, and low birth weight. Low birth weight is a sign of poor infant health.

Studies suggest that marijuana use during pregnancy may also affect the baby after birth, causing mental retardation, poor sleep patterns, and other problems. Prenatal exposure to marijuana may impair the baby's decision-making ability, memory, reasoning, and attention span.

A woman who is pregnant, considering pregnancy, or breastfeeding should not use marijuana.

**HOW DOES MARIJUANA AFFECT DRIVING?**

Even low doses of marijuana impair driving skill. The drug significantly affects judgment, caution, and concentration. It also affects perception, causing "tunnel vision," slower adjustment of the eyes to changes in light, and impaired judgment of speed and time. Marijuana causes drowsiness and impairs motor skills. Marijuana and driving do not mix. After alcohol, marijuana is the drug found most often in crash-involved drivers.

Marijuana is often used in combination with alcohol or other drugs, which adds to the dangers.

**DO MARIJUANA USERS GO ON TO USE OTHER DRUGS?**

Surveys show that regular marijuana users are more likely than nonusers to experiment with other drugs. In this respect marijuana, like tobacco and alcohol, not only causes serious problems itself, but is also considered a "gateway" drug to other drug use.

**HOW ARE PEOPLE USUALLY INTRODUCED TO MARIJUANA?**

Most people are introduced to marijuana by people of their own age. These are usually acquaintances, friends, or siblings. Introduction can occur early. Among 1994 eighth graders, 4.6% reported using marijuana by the end of sixth grade.

Smoking tobacco is considered a "first step" which usually occurs before someone first smokes marijuana.

**HOW MANY PEOPLE USE MARIJUANA?**

The 1999 National Household Survey on Drug Abuse found that marijuana had been used within the past month by

- 7.0 percent of youth 12 to 17,
- 16.4percent of those aged 18 to 25,
- 6.4 percent of those aged 26 to 34, and
- 2.5 percent of those aged over 35.

In 1993, current use was reported by

- 4.9 percent of youth 12 to 17,
- 11.1 percent of those aged 18 to 25,
- 6.7 percent of those aged 26 to 34, and
- 1.9 percent of those aged over 35.

Most young people have never used marijuana, and even fewer are "current" users. However, according to the 1999 Monitoring the Future survey, marijuana use by United States students in eighth, tenth, and twelfth grades declined fairly steadily from 1979 to 1991, increased to 1996 and 1997, and has declined from 1998 through 2000.

Marijuana/Hashish use in lifetime										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Eighth Grade	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	20.3
Tenth Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.3
Twelfth Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8
Marijuana/Hashish use in past 30 days										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Eighth Grade	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	9.1
Tenth Grade	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.14	19.7
Twelfth Grade	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6

[Johnston et al. Monitoring the Future Study, 1999 data. University of Michigan. Website information.]

## DOES MARIJUANA HAVE MEDICAL USES?

Marijuana was once considered for treatment of nausea and glaucoma, but programs using marijuana for medical purposes are now discontinued. Other drugs and medical procedures can treat these problems without marijuana's side effects.

## LEGAL INFORMATION

Marijuana, hashish, hash oil, and related cannabis products are controlled substances under Michigan and

federal law. Use, possession, delivery, possession with intent to deliver, and manufacture of the drug are all illegal. Penalties include imprisonment and fines. Certain penalties are mandatory.

Penalties are increased if a person eighteen years or older distributes the drug to a person under eighteen, or distributes the drug near school property.

For details on the legal penalties, refer to the Michigan Law Fact Sheet in this series.

### SOURCES:

- National Institute on Drug Abuse "Marijuana: What Parents Need to Know" 1995. Pages 5-6.
- Center for Substance Abuse Prevention "Marijuana, Recent Findings" *Prevention Pipeline* September-October, 1995. Pages 1-9.
- American Council for Drug Education "Marijuana" 1983. Page 5.
- "Drugs, Drinking and Adolescents" 1984. Page 57.
- Wisconsin Clearinghouse "Cannabis" pamphlet. 1991. Pages 3,4.
- Neil Swan, "A Look at Marijuana's Harmful Effects", NIDA Notes, February/March, 1994, Page 14. Cited in PrevLine release December 1995. Point 8.
- D. Cherek, presentation at National Conference on Marijuana Use Prevention, Treatment, and Research, NIDA, July 19 and 20, 1995, Arlington, VA.
- Indiana Factline "Marijuana" pamphlet. 1992.
- Dr. Lloyd Johnston, University of Michigan, presentation to National Conference on Marijuana Use Prevention, Treatment, and Research, NIDA, July 19 and 20, 1995, Arlington, VA.  
[Cited in notes by G. Taylor, Sparrow Hospital, Lansing, MI.]
- American Council for Drug Education "Effects of Marijuana on the Reproductive System" 1983. Page 4.
- US Department of Health and Human Services "Alcohol, Tobacco, and Other Drugs May Harm the Unborn." 1990. Page 25.
- Peter Fried, presentation at National Conference on Marijuana Use, Arlington VA July 19-20, 1995. Cited in PrevLine release December 1995. Point 3.
- National Highway Traffic Safety Administration, "Marijuana Effects on Actual Driver Performance" Traffic Tech: NHTSA Technology Transfer Series, Number 62, February 1994. Cited in PrevLine release December 1995. Point 2.
- National Household Study on Drug Abuse: 1999 data. US Department of Health and Human Services, website information. Tables 4.2, 4.3, 4.4, 4.5.
- National Household Study on Drug Abuse: Population Estimates 1993. US Department of Health and Human Services, 1994. Table 3A, Page 23.
- Johnston, et al. "Monitoring the Future Study," University of Michigan press release, December 15, 1995. Table 1.
- Johnston, et al. "Results from the Monitoring the Future Study, 1975-1994, Volume I" National Institute on Drug Abuse 1995. Table 18D. Page 145.
- LD Johnston, PM O'Malley, JG Bachman. (Dec. 2000). Monitoring the Future Data Tables 1 and 2, 2000 Data. University of Michigan News and Information Services: Ann Arbor, MI. [On-line]. Available: [www.monitoringthefuture.org](http://www.monitoringthefuture.org); accessed 02/16/2001.

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