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ABSTRACT

Marijuana is the illegal drug most often used in the United States. In the early 1990s marijuana use doubled among 8th graders and significantly increased among 10th and 12th graders. Accompanying this pattern of use is a significant erosion in antidrug perceptions and knowledge among young people. While marijuana use among high school seniors increased by 38%, the proportion of those who believe marijuana use is harmful dropped by 22%. Because many parents of this generation of teenagers experimented with marijuana when they were in college, they often find it difficult to talk about marijuana use with their children and to set strict ground rules against drug use. This booklet, presented in a question and answer format, was designed to provide parents and their teens an opportunity to review the scientific facts about marijuana. Topics covered include: current slang terms for marijuana; how marijuana is used; usage statistics; signs of usage; whether marijuana usage leads to usage of other drugs; physical effects of marijuana; how marijuana affects pregnancy and the brain; marijuana and motivation; and how to talk with children about marijuana. Twelve additional resources and seven tips for parents are provided. (JBJ)

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Marijuana: Facts Parents Need to Know

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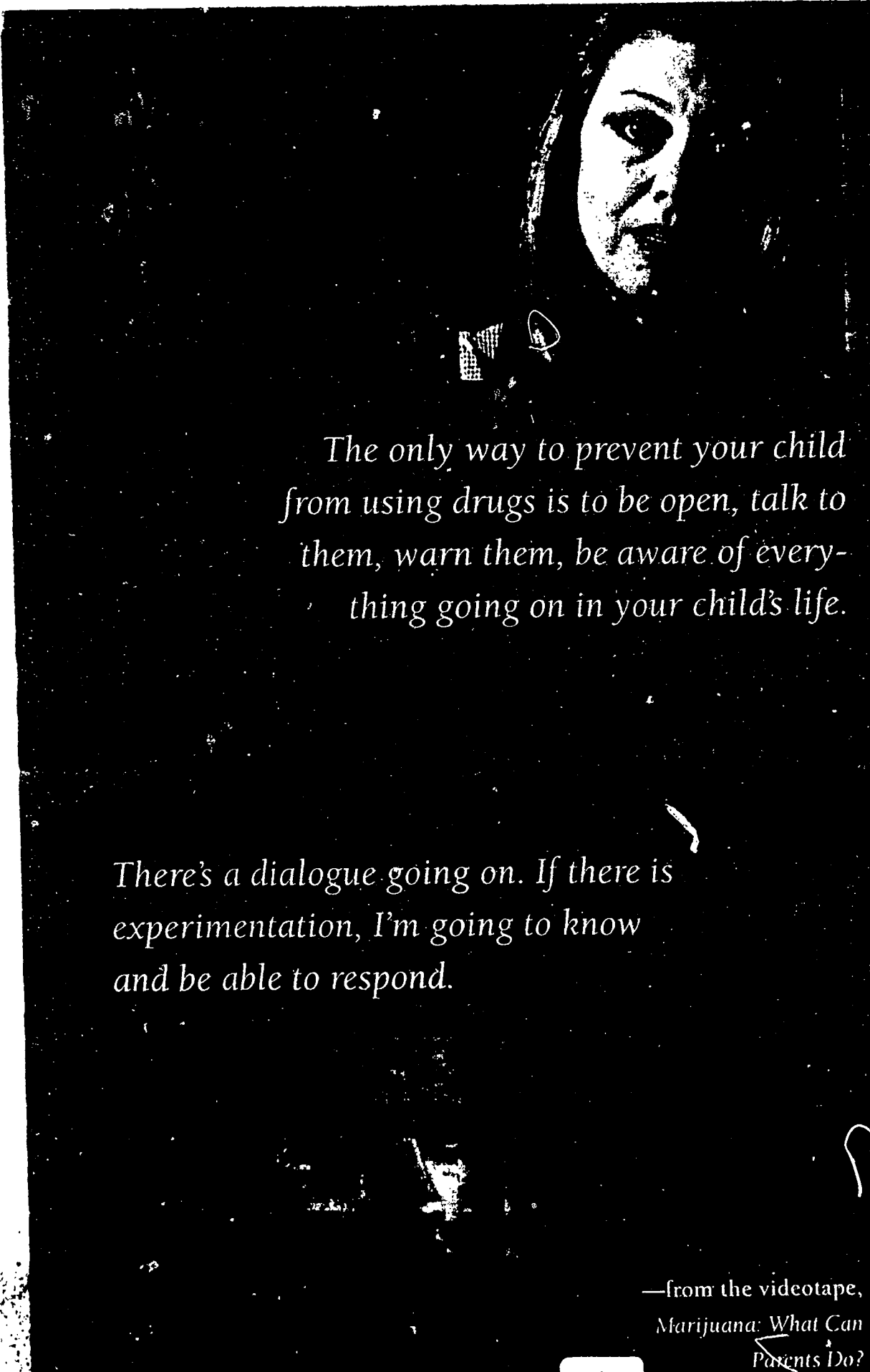
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*The only way to prevent your child
from using drugs is to be open, talk to
them, warn them, be aware of every-
thing going on in your child's life.*

*There's a dialogue going on. If there is
experimentation, I'm going to know
and be able to respond.*

*—from the videotape,
Marijuana: What Can
Parents Do?*

A Letter to Parents

Marijuana is the illegal drug most often used in this country. During the last three years, we have seen a doubling in marijuana use among 8th graders, and significant increases among 10th and 12th graders. Our research shows that accompanying this upward pattern of use is a significant erosion in antidrug perceptions and knowledge among young people today. While current marijuana use among high school seniors has increased by 38 percent, the proportion of those who believe marijuana use is harmful has dropped by 22 percent in the past three years.

These changes in perception and knowledge may be due to a decrease in antidrug messages in the media, an increase in prodrug messages through the pop culture, and a lack of awareness among parents about this resurgence in drug use — most thinking, perhaps, that this threat to their children had diminished.

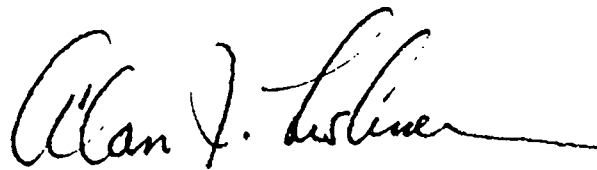
In December 1994, HHS Secretary Donna E. Shalala, Ph.D. called for an Initiative to alert the public — particularly parents — to the rise in marijuana use, its potential health consequences to young people, and the need for parents to take action to prevent the return of a full-blown epidemic of teenage drug use.

Because many parents of this generation of teenagers experimented with marijuana when they were in college,

they often find it difficult to talk about marijuana use with their children and to set strict ground rules against drug use. But marijuana use today starts at a younger age — the average age of first use is about 13.5 years old — and more potent forms of the drug are available to these young children. Parents need to recognize that marijuana use is a serious threat — and they need to tell their children not to use it.

We at the National Institute on Drug Abuse (NIDA) are pleased to offer these two short booklets, *Marijuana: Facts for Teens* and *Marijuana: Facts Parents Need to Know*, for parents and their children to review the scientific facts about marijuana. While it is best to talk about drugs when children are young, it is never too late to talk about the dangers of drug use.

Talking to our children about drug abuse is not always easy, but it is very important. I hope these booklets can help.



Alan I. Leshner, Ph.D.

Director

National Institute on Drug Abuse

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Fact: There are stronger forms of marijuana available to adolescents today than in the 1960s. Stronger marijuana means stronger effects.

Q What is marijuana? Are there different kinds?

A Marijuana is a green, brown, or gray mixture of dried, shredded flowers and leaves of the hemp plant (*Cannabis sativa*). Before the 1960s, many Americans had never heard of marijuana, but today it is the most often used illegal drug in this country.

Cannabis is a term that refers to marijuana and other drugs made from the same plant. Stronger forms of cannabis include sinsemilla (sin-seh-me'-yah), hashish ("hash" for short), and hash oil.

All forms of cannabis are mind-altering (psychoactive) drugs; they all contain THC (delta-9-tetrahydrocannabinol), the main active chemical in marijuana. There are about 400 chemicals in a cannabis plant, but THC is the one that affects the brain the most.

There are stronger forms of marijuana available today than there were in the 1960s. The strength of the drug is measured by the amount of average THC in test samples confiscated by law enforcement agencies.

- Most ordinary marijuana has an average of 3 percent THC.
- Sinsemilla (made from just the buds and flowering tops of female plants) has an average of 7.5 percent THC, with a range as high as 24 percent.





- Hashish (the sticky resin from the female plant flowers) has an average of 3.6 percent, with a range as high as 28 percent.
- Hash oil, a tar-like liquid distilled from hashish, has an average of 16 percent, with a range as high as 43 percent.

Q *What are the current slang terms for marijuana?*

A There are many different names for marijuana. Slang terms for drugs change quickly, and they vary from one part of the country to another. They may even differ across sections of a large city.

Terms from years ago, such as pot, herb, grass, weed, Mary Jane, and reefer, are still used. You might also hear the names Aunt Mary, skunk, boom, gangster, kif, or ganja.

There are also street names for different strains or "brands" of marijuana, such as "Texas tea," "Maui wowie," and "Chronic." A recent book of American slang lists more than 200 terms for various kinds of marijuana.

Q *How is marijuana used?*

A Most users roll loose marijuana into a cigarette (called a joint or a nail). The drug can also be smoked in a pipe. One well-known type of water pipe is the bong. Some users mix marijuana into foods or use it to brew a tea.

Lately, young people have a new method: They slice open cigars and replace the tobacco with marijuana, making what's called a blunt. When the blunt is smoked with a +0 oz. bottle of malt liquor, it is called a "B-+0."

Q *How many people smoke marijuana?*

At what age do children generally start?

A A recent government survey tells us:

- Over 70 million Americans over the age of 12 have tried marijuana at least once.
- About 10 million had used the drug in the month before the survey.
- More than 5 million Americans smoke marijuana at least once a week.
- Among teens aged 12 to 17, the average age of first trying marijuana was 13.5 years old.



A yearly survey of students in grades 8 through 12 shows that by 10th grade, nearly 16 percent are "current" users (that is, used within the past month). Among 12th-graders, nearly 40 percent have tried marijuana/hash at least once, and 19 percent were current users.

Other researchers have found that use of marijuana and other drugs usually peaks in the late teens and early twenties, then goes down in later years.

Q *How can I tell if my child has been using marijuana?*

A There are some signs you might be able to see. If someone is high on marijuana, he or she might

- seem dizzy and have trouble walking;
- seem silly and giggly for no reason;
- have very red, bloodshot eyes; and
- have a hard time remembering things that just happened.



Fact: Research shows
that nearly 40 percent of
teenagers try marijuana
before they graduate
high school.

When the early effects fade, over a few hours, the user can become very sleepy.

Parents should be aware of changes in their child's behavior, although this may be difficult with teenagers. Parents should look for withdrawal, depression, fatigue, carelessness with grooming, hostility, and deteriorating relationships with family members and friends. In addition, changes in academic performance, increased absenteeism or truancy, lost interest in sports or other favorite activities, and changes in eating or sleeping habits could be related to drug use. However, these signs may also indicate problems other than use of drugs.

In addition, parents should be aware of:

- signs of drugs and drug paraphernalia, including pipes and rolling papers.
- odor on clothes and in the bedroom
- use of incense and other deodorizers
- use of eye drops
- clothing, posters, jewelry, etc., promoting drug use

Q *Why do young people use marijuana?*

A Children and young teens start using marijuana for many reasons. Curiosity and the desire to fit into a social group are common reasons. Certainly, youngsters who have already begun

to smoke cigarettes and/or use alcohol are at high risk for marijuana use.

Also, research suggests that the use of alcohol and drugs by other family members plays a strong role in whether children start using drugs. Parents, grandparents, and older brothers and sisters in the home are models for children to follow.

Some young people who take drugs do not get along with their parents. Some have a network of friends who use drugs and urge them to do the same (peer pressure). All aspects of a child's environment—home, school, neighborhood—help to determine whether the child will try drugs.

Children who become more heavily involved with marijuana can become dependent and that is their prime reason for using the drug. Others mention psychological coping as a reason for their use—to deal with anxiety, anger, depression, boredom, and so forth. But marijuana use is not an effective method for coping with life's problems, and staying high can be a way of simply not dealing with the problems and challenges of growing up.

Q *Does using marijuana lead to other drugs?*

A Long-term studies of high school students and their patterns of drug use show that very few young people use other illegal drugs without first trying marijuana. Using marijuana puts children and teens in contact with people who are users and sellers of other drugs. So there is more of a chance for a marijuana user to be exposed to and urged to try more drugs. However, most marijuana users do not go on to use other illegal drugs.





Q *What are the effects of marijuana?*

A The effects of marijuana on each person depend on the

- type of cannabis and how much THC it contains;
- way the drug is taken (by smoking or eating);
- experience and expectations of the user;
- setting where the drug is used; and
- whether drinking or other drug use is also going on.

Some people feel nothing at all when they first try marijuana. Others may feel high (intoxicated and/or euphoric).

It's common for marijuana users to become engrossed with ordinary sights, sounds, or tastes, and trivial events may seem extremely interesting or funny. Time seems to pass very slowly, so minutes feel like hours. Sometimes the drug causes users to feel thirsty and very hungry—an effect called “the munchies.”

Q *What happens after a person smokes marijuana?*

A Within a few minutes of inhaling marijuana smoke, the user will likely feel, along with intoxication, a dry mouth, rapid heartbeat, some loss of coordination and poor sense of balance, and decreased reaction time. Blood vessels in the eye expand, so the user's eyes look red.

For some people, marijuana raises blood pressure slightly and can double the normal heart rate. This effect can be greater when other drugs are mixed with the marijuana; but users do not always know when that happens.

As the immediate effects fade, usually after 2 to 3 hours, the user may become sleepy.

Q *How long does marijuana stay in the user's body?*

A THC in marijuana is strongly absorbed by fatty tissues in various organs. Generally, traces (metabolites) of THC can be detected by standard urine testing methods several days after a smoking session. However, in heavy chronic users, traces can sometimes be detected for weeks after they have stopped using marijuana.

Q *Can a user have a bad reaction?*

A Yes. Some users, especially someone new to the drug or in a strange setting, may suffer acute anxiety and have paranoid thoughts. This is more likely to happen with high doses of THC. These scary feelings will fade as the drug's effects wear off.

In rare cases, a user who has taken a very high dose of the drug can have severe psychotic symptoms and need emergency medical treatment.

Other kinds of bad reactions can occur when marijuana is mixed with other drugs, such as PCP or cocaine.



Q *How is marijuana harmful?*

A Marijuana can be harmful in a number of ways, through both immediate effects and damage to health over time.

Marijuana hinders the user's short-term memory (memory for recent events), and he or she may have trouble handling complex tasks. With the use of more potent varieties of marijuana, even simple tasks can be difficult.

Because of the drug's effects on perceptions and reaction time, users could be involved in auto crashes. Drug users also may become involved in risky sex. There is a strong link between drug use and unsafe sex and the spread of HIV, the virus that causes AIDS.

Under the influence of marijuana, students may find it hard to study and learn. Young athletes could find their performance is off; both timing and coordination are affected by THC.

Some of the more long-range effects of marijuana use are described later in this booklet.

Q *How does marijuana affect driving?*

A Marijuana has adverse effects on many of the skills needed for driving a car. These effects may include difficulty in judging distances and delayed reactions to sights and sounds that drivers need to notice.

There are data showing that marijuana plays a role in crashes. When users combine marijuana with alcohol, as they often

Fact: Marijuana has
adverse effects on many
of the skills for driving a
car. Driving while high
leads to car accidents.

do, the hazards of driving can be more severe than with either drug alone.

A study of patients in a shock-trauma unit who had been in traffic accidents revealed that 15 percent of those who had been driving a car or motorcycle had been smoking marijuana, and another 17 percent had both THC and alcohol in their blood.

In Memphis, Tennessee, researchers found that, of 150 reckless drivers who were tested for drugs at the arrest scene, 33 percent showed signs of marijuana use, and 12 percent tested positive for both marijuana and cocaine.

Q *What are the long-term effects of marijuana?*

A While all of the long-term effects of marijuana use are not yet known, there are studies showing serious health concerns. For example, a group of scientists in California examined the health status of 450 daily smokers of marijuana but not tobacco. They found that the marijuana smokers had more sick days and more doctor visits for respiratory problems and other types of illness than did a similar group who did not smoke either substance.

Findings so far show that the regular use of marijuana or THC may play a role in cancer and problems in the respiratory, immune, and reproductive systems.

Cancer

It is hard to find out whether marijuana alone causes cancer because many people who smoke marijuana also smoke ciga-

rettes and use other drugs. Marijuana smoke contains some of the same cancer-causing compounds as tobacco, sometimes in higher concentrations. Studies show that someone who smokes five joints per week may be taking in as many cancer-causing chemicals as someone who smokes a full pack of cigarettes every day.

Tobacco smoke and marijuana smoke may work together to change the tissues lining the respiratory tract. Marijuana smoking could contribute to early development of head and neck cancer in some people.

Reproductive system

Heavy marijuana use can affect hormones in both males and females, so it can affect sexual characteristics and reproductive function. Heavy doses of the drug may delay the onset of puberty in young men. Marijuana also can have adverse effects on sperm production.

Among women, regular marijuana use can disrupt the normal monthly menstrual cycle and inhibit the discharge of eggs from the ovaries (ovulation).

Immune system

The immune system protects the body from many agents that cause disease. It is not certain whether marijuana damages the immune system of people. But both animal and human studies have shown that marijuana impairs the ability of T-cells in the lungs' immune defense system to fight off some infections. People with HIV and others whose immune system is impaired should avoid marijuana use.



Fact: Marijuana users may have many of the same respiratory problems that tobacco smokers have, such as chronic bronchitis and inflamed sinuses.

Respiratory system

Someone who smokes marijuana regularly may have many of the same respiratory problems that tobacco smokers have. They have symptoms of daily cough and phlegm (chronic bronchitis) and more frequent chest colds. Continuing marijuana smoking can lead to abnormal function of the lungs and airways. Scientists have found signs of lung tissue injured or destroyed by marijuana smoke.

Q *What about pregnancy: Will smoking marijuana hurt the baby?*

A Doctors advise pregnant women not to use any drugs because they might harm the growing fetus.

Some scientific studies have found that babies born to marijuana users were shorter, weighed less, and had smaller head sizes than those born to mothers who did not use the drug. Smaller babies are more likely to develop health problems. Other scientists have found effects of marijuana that resemble the features of fetal alcohol syndrome. There are also research findings that show nervous system problems in children of mothers who smoked marijuana.

Researchers are not certain whether a newborn baby's health problems, if they are caused by marijuana, will continue as the child grows.

Q *What happens if a nursing mother uses marijuana?*

A When a nursing mother uses marijuana, some of the THC is passed to the baby in her breast milk. This is a matter for

Fact: Marijuana smoking affects the brain and leads to impaired short-term memory, perception, judgment and motor skills.

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concern, since the THC in the mother's milk is much more concentrated than that in the mother's blood. One study has shown that the use of marijuana by a mother during the first month of breastfeeding can impair the infant's motor development (control of muscle movement).

Q *How does marijuana affect the brain?*

A THC disrupts the nerve cells in the part of the brain where memories are formed. This makes it hard for the user to recall recent events (such as what happened a few minutes ago), and so it is hard to learn while high. A working short-term memory is required for learning and performing tasks that call for more than one or two steps.

Some studies show that when people have smoked large amounts of marijuana for many years, the drug takes its toll on mental functions. Among a group of long-time heavy marijuana users in Costa Rica, researchers found that the people had great trouble when asked to recall a short list of words (a standard test of memory). People in that study group also found it very hard to focus their attention on the tests given to them.

It may be that marijuana kills some brain cells. In laboratory research, some scientists found that high doses of THC given to young rats caused a loss of brain cells such as that seen with aging. At 11 or 12 months of age (about half their normal life span), the rats' brains looked like those of animals in old age.

Researchers are still learning about the many ways that marijuana could affect the brain.





Q *Can the drug cause mental illness?*

A Scientists do not yet know how the use of marijuana relates to mental illness. Some researchers in Sweden report that regular, long-term intake of THC (from cannabis) can increase the risk of developing certain mental diseases, such as schizophrenia.

Still others maintain that regular marijuana use can lead to chronic anxiety, personality disturbances, and depression.

Q *Do marijuana users lose their motivation?*

A Some frequent, long-term marijuana users show signs of a lack of motivation (amotivational syndrome). Their problems include not caring about what happens in their lives; no desire to work regularly; fatigue; and lack of concern about how they look. As a result of these symptoms, most users tend to perform poorly in school or at work. Scientists are still studying these problems.

Q *Can a person become addicted to marijuana?*

A Yes. While not everyone who uses marijuana becomes addicted, when a user begins to feel that he or she needs to take the drug to feel well, that person is said to be dependent on the drug or addicted to it. In 1993, over 100,000 people entering drug treatment programs reported marijuana as their primary

drug of abuse, showing they need help to stop using.

Some heavy users of marijuana show signs of dependence because when they do not use the drug, they develop withdrawal symptoms. Some subjects in an experiment on marijuana withdrawal had such symptoms as restlessness, loss of appetite, trouble with sleeping, weight loss, and shaky hands.

Q *What is "tolerance" for marijuana?*

A "Tolerance" means that the user needs increasingly larger doses of the drug to get the same desired results that he or she previously got from smaller amounts. Some frequent, heavy users of marijuana may develop tolerance for it.

Q *Are there treatments to help marijuana users?*

A Up until a few years ago, it was hard to find treatment programs specifically for marijuana users. Treatments for marijuana dependence were much the same as therapies for other drug abuse problems. These include detoxification, behavioral therapies, and regular attendance at meetings of support groups, such as Narcotics Anonymous.



Recently, researchers have been testing different ways to attract marijuana users to treatment and help them abstain from drug use. There are currently no medications for treating marijuana dependence. Treatment programs focus on counseling and group support systems. From these studies, drug treatment professionals are learning what characteristics of users are predictors of success in treatment and which approaches to treatment can be most helpful.

Further progress in treatment to help marijuana users includes a number of programs set up to help adolescents in particular. Some of these programs are in university research centers, where most of the young clients report marijuana as their drug of choice. Others are in independent adolescent treatment facilities. Family physicians are also a good source for information and help in dealing with adolescent marijuana problems.

Q *Can marijuana be used as medicine?*

A No. Under U.S. law since 1970, marijuana is a Schedule I controlled substance. This means that the drug, at least in its smoked form, has no commonly accepted medical use in this country.

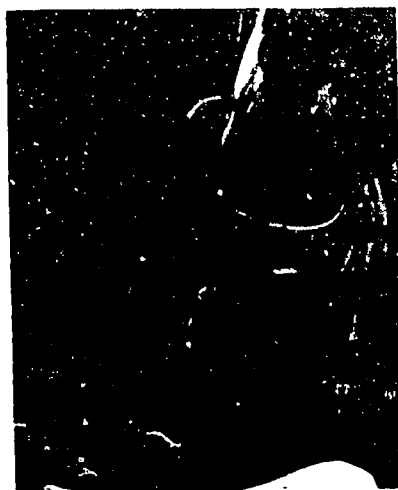
In considering possible medical uses of marijuana, it is important to distinguish between whole marijuana and pure THC or other specific chemicals derived from cannabis. Whole marijuana contains hundreds of chemicals, some of which are clearly harmful to health.

THC, manufactured into a pill that is taken by mouth, not smoked, can be used for treating the nausea and vomiting that go along with certain cancer treatments. Another chemical related to THC (nabilone) has also been approved by the Food and Drug Administration for treating cancer patients who suffer nausea. The oral THC is also used to help AIDS patients eat more to keep up their weight.

Scientists are studying whether THC and related chemicals in marijuana (called cannabinoids) may have other medical uses. Some think that these chemicals could be useful for treating severe pain. But further research is needed before such compounds can be recommended for treatment of medical problems.

Q *How can I prevent my child from getting involved with marijuana?*

A There is no magic bullet for preventing teenage drug use. But parents can be influential by talking to their children about the dangers in using marijuana and other drugs, and remain actively engaged in their children's lives. Even after teenage children enter high school, parents can stay involved in schoolwork, recreation, and social activities with their children's friends. Research shows that appropriate parental monitoring can reduce future drug use, even among those adolescents who may be prone to marijuana use, such as those who are rebellious, cannot control their emotions, and experience internal distress.



Talking to your children about marijuana

As this booklet has shown, marijuana is clearly a dangerous drug which poses a particular threat to the health and well-being of children and adolescents at a critical point in their lives — when they are growing, learning, maturing, and laying the foundation for their adult years. As a parent, your children look to you for help and guidance in working out problems and in making decisions, including the decision not to use drugs. As a role model, your decision to *not* use marijuana and other illegal drugs will reinforce your message to your children.

There are numerous resources, many right in your own community, to obtain information so that you can talk to your children about drugs. To find these, you can consult your local library, school, or community service organization.

The National Clearinghouse for Alcohol and Drug Information (NCADI) offers an extensive collection of publications, videotapes, and educational materials to help parents talk to their children about drug use. For more information on marijuana and other drugs, contact: **National Clearinghouse on Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20847, 1-800-729-6686.**

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- *Be a good listener*
- *Give clear no-use messages about drugs and alcohol*
- *Help your child deal with peer pressure to use drugs*
- *Get to know your child's friends and parents*
- *Monitor your child's whereabouts*
- *Supervise teen activities.*
- *Maintain an open and honest dialogue with your child.*

Fact: Nearly 40% of teenagers try marijuana before they graduate high school.

Fact: The average age for the first use of marijuana is 13.5 years old.

Fact: There are stronger forms of marijuana available today than in the 1960's.

Fact: Marijuana smoking affects the brain and leads to impaired short-term memory, perception, judgment, and motor skills.

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