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Marijuana: Facts
Parents Need to Know
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Revised

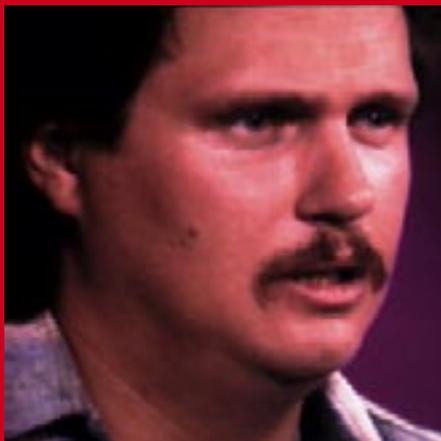
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National Institute on Drug Abuse
National Institutes of Health

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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 everything 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. Since 1991, lifetime marijuana use has almost doubled among 8th- and 10th-grade students, and increased by a third among high school seniors. Our research shows that accompanying this upward pattern of use is a significant erosion in antidrug perceptions and knowledge among young people today. As the number of young people who use marijuana has increased, the number who view the drug as harmful has decreased. Among high school seniors surveyed in 2003, current marijuana use has increased by about 54 percent since 1991. The proportion of those seniors who believe regular use of marijuana is harmful has dropped by about 30 percent since 1991.

These changes in perception and knowledge may be due to a decrease in antidrug messages in the media, an increase in pro-drug 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.

Because many parents of this generation of teenagers used 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—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.

A handwritten signature in black ink, appearing to read 'Nora D. Volkow', with a long horizontal line extending to the left.

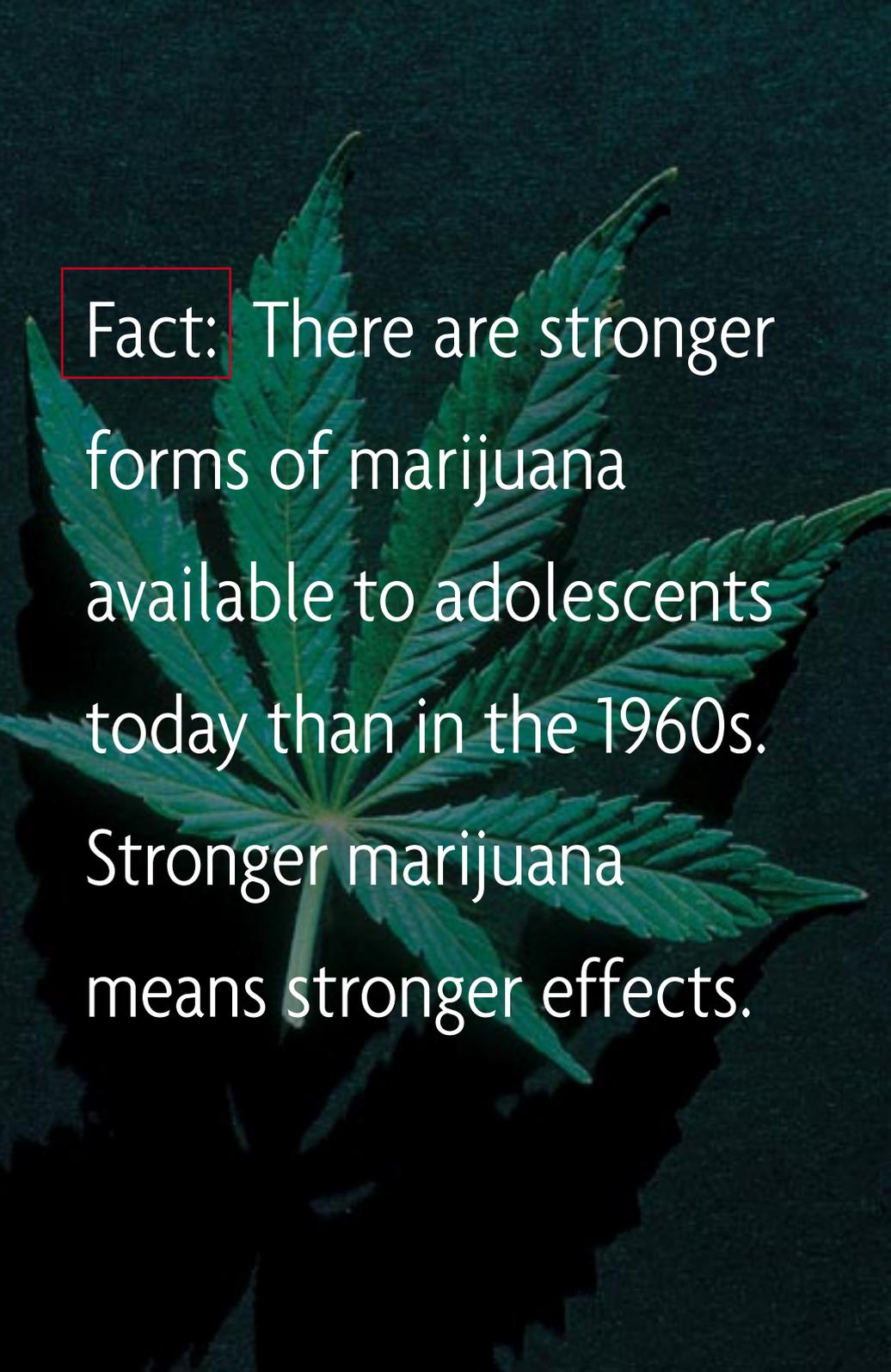
Nora D. Volkow, M.D.

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 leaves, stems, seeds, and flowers 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.

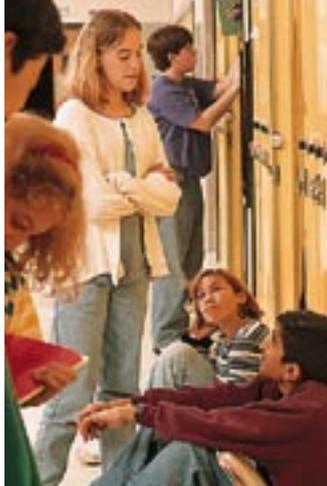
Cannabis is a term that refers to marijuana and other drugs made from the same plant. Strong forms of cannabis include sinsemilla (sin-seh-me-yah), hashish (“hash” for short), and hash oil.

All forms of cannabis are mind-altering (psychoactive) drugs; they all contain THC (delta-9-tetrahydrocannabinol), the main active chemical in marijuana. They also contain more than 400 other chemicals.

Marijuana’s effect on the user depends on the strength or potency of the THC it contains. THC potency has increased since the 1970s and continues to increase still. The strength of the drug is measured by the average amount of THC in test samples confiscated by law enforcement agencies. For the year 2003:

- Most ordinary marijuana contained, on average, 5 percent THC.
- Sinsemilla (made from just the buds and flowering tops of female plants) contained, on average, 12 percent THC, ranging from less than one percent to 27 percent.





- Hashish (the sticky resin from the female plant's flowers) had an average of 10 percent THC, ranging from one percent to 26 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.” One 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) or smoke it 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. Another method is to slice open a cigar and replace the tobacco with marijuana, making what's called a blunt. When the blunt is smoked with a 40 oz. bottle of malt liquor, it is called a "B-40."

Lately, marijuana cigarettes or blunts often include crack cocaine, a combination known by various street names, such as "primos" or "woolies." Joints and blunts sometimes are dipped in PCP and are called "happy sticks," "wicky sticks," "love boat," or "tical."

Q *How many people smoke marijuana? At what age do children generally start?*

A A recent government survey tells us:

- Marijuana is the most frequently used illegal drug in the United States. Nearly 95 million Americans over the age of 12 have tried marijuana at least once.
- Over 14 million had used the drug in the month before the survey.



The Monitoring the Future Survey, which is conducted yearly, includes students from 8th, 10th, and 12th grades. In 2003, the survey showed that 18 percent of 8th-graders have tried marijuana at least once, and by 10th grade, 17 percent are “current” users (that is, used within the past month). Among 12th-graders, 46 percent have tried marijuana/hash at least once, and about 21 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 declines in later years.

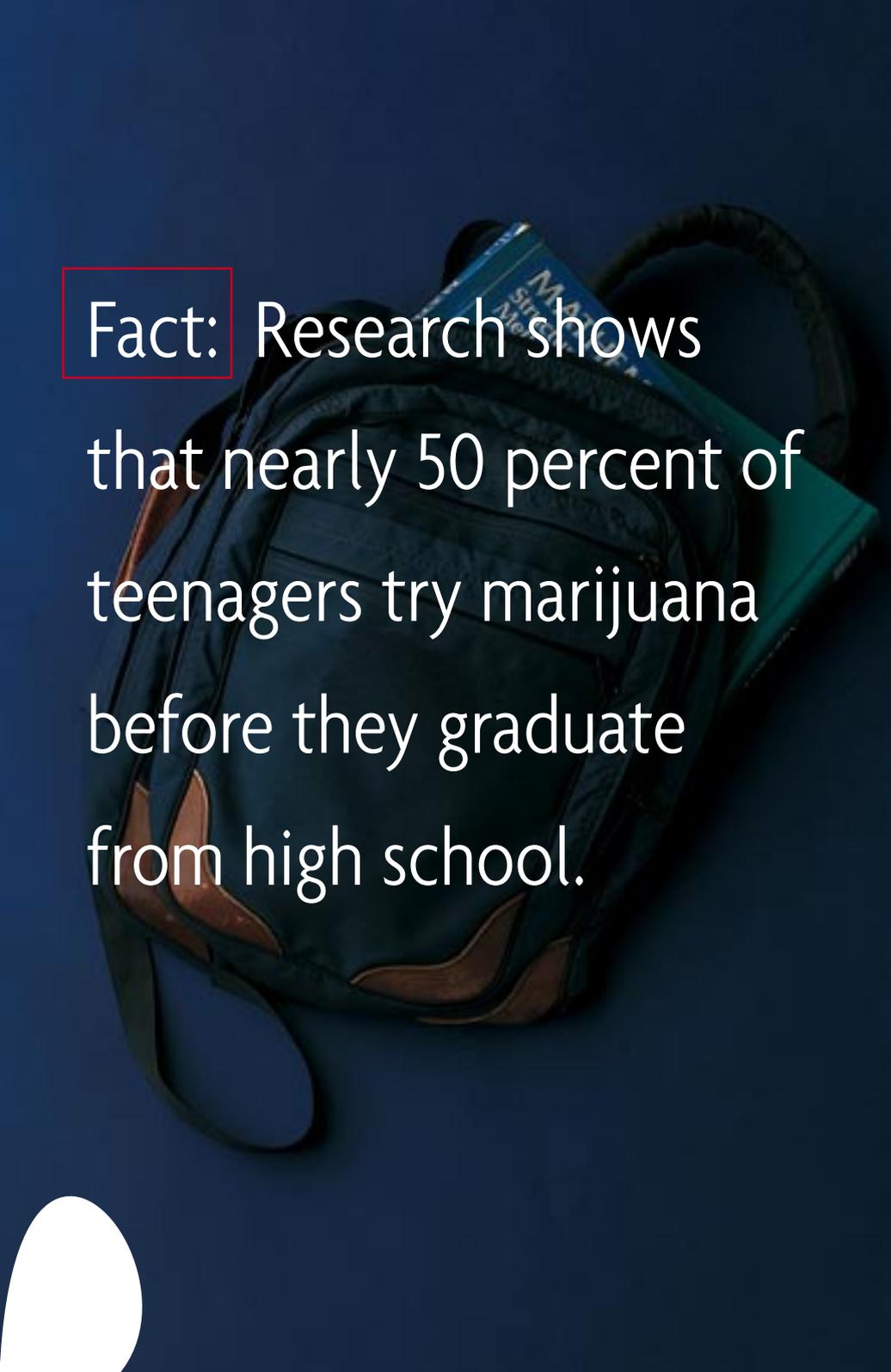
Q *How can I tell if my child has been using marijuana?*

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.

When the early effects fade, 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



Fact: Research shows that nearly 50 percent of teenagers try marijuana before they graduate from high school.

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; and
- 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 increased risk for marijuana use.

Also, our 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, making it difficult for them to quit. 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.

Researchers have found that children and teens (both male and female) who are physically and sexually abused are at greater risk than other young people of using marijuana and other drugs and of beginning drug use at an early age.

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 drugs without first trying marijuana, alcohol, or tobacco. Though few young people use cocaine, for example, the risk of doing so is much greater for youth who have tried marijuana than for those who have never tried it. While research has not fully explained this association, growing evidence suggests a combination of biological, social, and psychological factors are involved.





Researchers are examining the possibility that long-term marijuana use may create changes in the brain that make a person more at risk of becoming addicted to other drugs, such as alcohol or cocaine. While many young people who use marijuana do not go on to use other drugs, further research is needed to determine who will be at greatest risk.

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
- use of other drugs and/or alcohol.

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

It is 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 slower 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 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 readily 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 sexual behaviors, which could lead to 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; timing, movements, and coordination are all 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 affects many skills required for safe driving: alertness, concentration, coordination, and reaction time. Marijuana use can make it difficult to judge distances and react to signals and sounds on the road.



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

There are data showing that marijuana can play a role in crashes. Studies show that approximately 6–11 percent of fatal accident victims tested positive for THC. In many of these cases, alcohol was detected as well. When users combine marijuana with alcohol, as they often do, the hazards of driving can be more severe than with either drug alone. In a study conducted by the National Highway Traffic Safety Administration, a moderate dose of marijuana alone was shown to impair driving performance; however, the effects of even a low dose of marijuana combined with alcohol were markedly greater than for either drug alone.

In one study conducted in Memphis, TN, researchers found that, of 150 reckless drivers who were tested for drugs at the arrest scene, 33 percent tested positive for marijuana, and 12 percent tested positive for both marijuana and cocaine. Data also show that while smoking marijuana, people display the same lack of coordination on standard “drunk driver” tests as do people who have had too much to drink.

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 may play a role in cancer and problems of the respiratory and immune systems.

Cancer

It is hard to find out whether marijuana alone causes cancer because many people who smoke marijuana also smoke cigarettes 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 day 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.

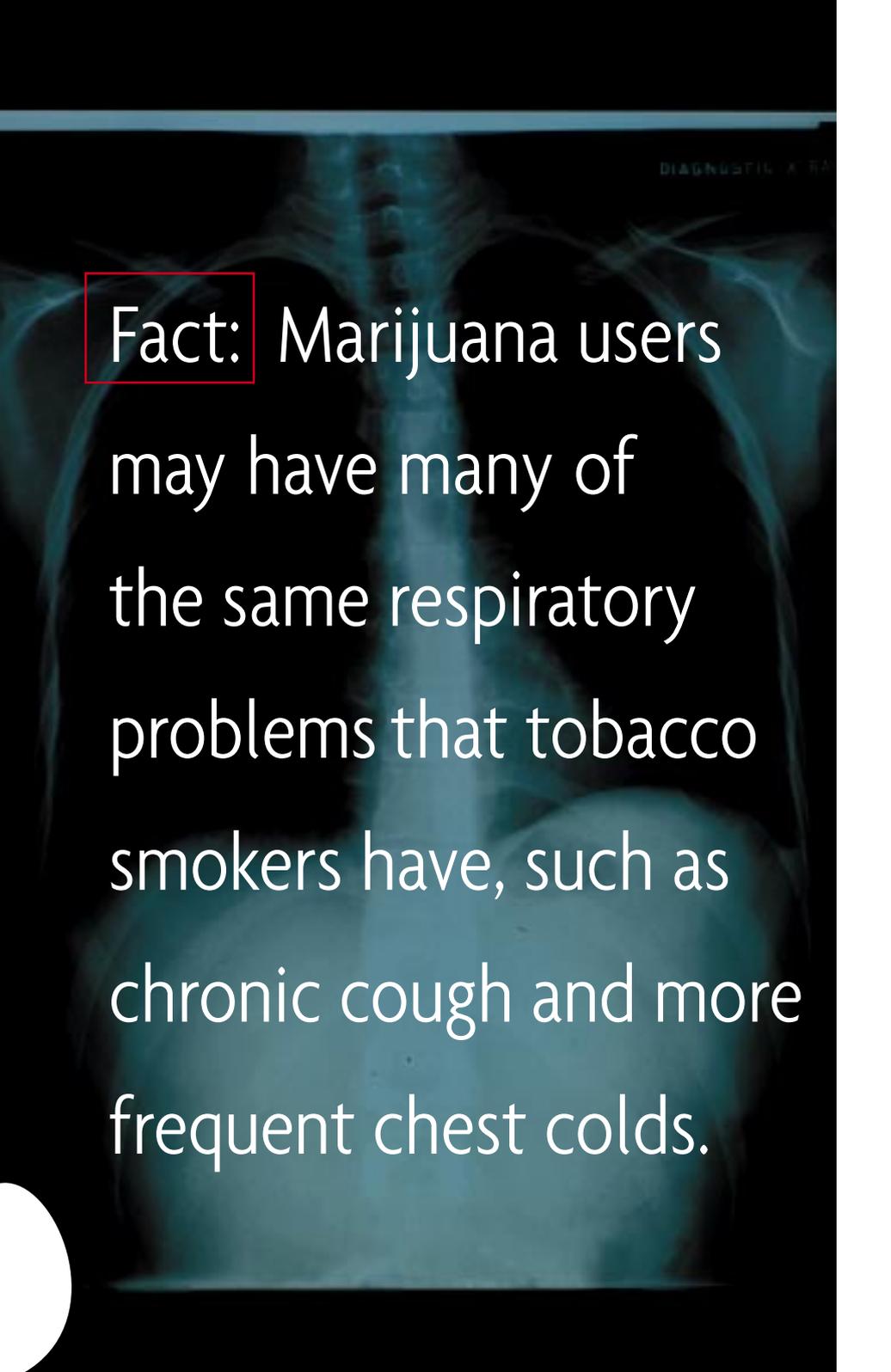
Immune system

Our 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.

Lungs and airways

People who smoke marijuana regularly may develop many of the same breathing problems that tobacco smokers have, such as daily cough and phlegm production, more frequent chest colds, a heightened risk of lung infections, and a greater tendency toward obstructed airways. Cancer of the respiratory tract and lungs may also be promoted by marijuana smoke, since it contains irritants and carcinogens. Marijuana smokers





Fact: Marijuana users may have many of the same respiratory problems that tobacco smokers have, such as chronic cough and more frequent chest colds.

usually inhale more deeply and hold their breath longer, which increases the lungs' exposure to carcinogenic smoke. Thus, puff for puff, smoking marijuana may increase the risk of cancer more than smoking tobacco does.

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. Although one animal study has linked marijuana use to loss of the fetus very early in pregnancy, two studies in humans found no association between marijuana use and early pregnancy loss. More research is necessary to fully understand the effects of marijuana use on pregnancy outcomes.

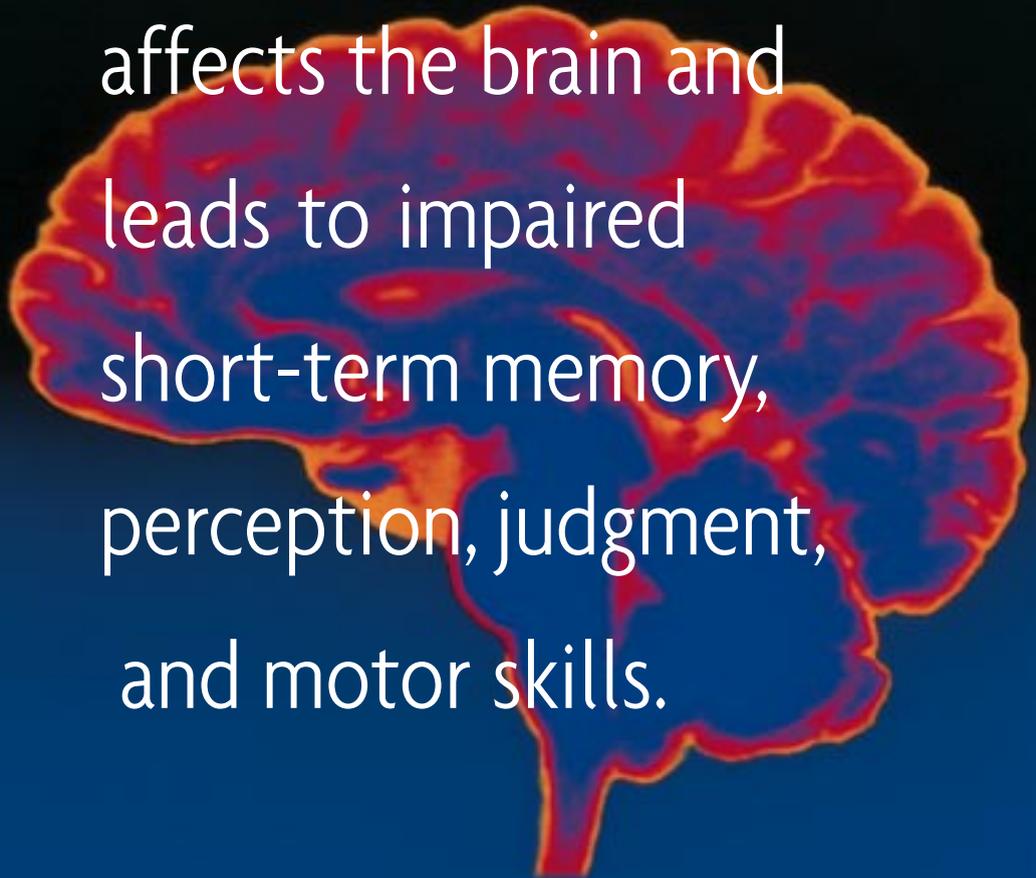
Some scientific studies have found that babies born to women who used marijuana during their pregnancy display altered responses to visual stimulation, increased tremors, and a high pitched cry, which may indicate problems with nervous system development. During pre- and early school years, marijuana-exposed children have been reported to have more behavioral problems and difficulties with sustained attention and memory than nonexposed children.

Researchers are not certain whether any effects of marijuana during pregnancy persist as the child grows up; however, because some parts of the brain continue to develop into adolescence, it is also possible that certain kinds of problems will become more evident as the child matures.

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 concern, since the THC in the mother's milk is much more concentrated

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



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). This work has not been replicated, although similar anecdotal reports exist. Further research is needed to determine whether THC transmitted in breast milk has harmful effects on development.

Q *How does marijuana affect the brain?*

A THC affects 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). 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.

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.

As people age, they normally lose nerve cells in a region of the brain that is important for remembering events. Chronic exposure to THC may hasten the age-related loss of these nerve cells. In one study, researchers found that rats exposed to THC every day for 8 months (about 1/3 of their lifespan), showed a loss of brain cells comparable to rats that were twice





their age. It is not known whether a similar effect occurs in humans. 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. Among the difficulties in this kind of research are determining whether drug use precedes or follows mental health problems; whether one causes the other; and/or whether both are due to other factors such as genetics or environmental conditions. High doses of marijuana can induce psychosis (disturbed perceptions and thoughts), and marijuana use can worsen psychotic symptoms in people who have schizophrenia. There is also evidence of increased rates of depression, anxiety, and suicidal thinking in chronic marijuana users. However, it is not yet clear whether marijuana is being used in an attempt to self-medicate an already present but otherwise untreated mental health problem, or whether marijuana use leads to mental disorders (or both).

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 a lack of concern about how they look. As a result of these symptoms, some 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 seek out and take the drug compulsively, that person is said to be dependent on the drug or addicted to it. In 2002, over 280,000 people entering drug treatment programs reported marijuana as their primary drug of abuse, showing they needed help to stop using.

Some heavy users of marijuana show signs of withdrawal when they do not use the drug. They develop symptoms such as restlessness, loss of appetite, trouble sleeping, weight loss, and shaky hands.

According to one study, marijuana use by teenagers who have prior serious antisocial problems can quickly lead to dependence on the drug. That study also found that, for troubled teenagers using tobacco, alcohol, and marijuana, progression from their first use of marijuana to regular use was about as rapid as their progression to regular tobacco use, and more rapid than the progression to regular use of alcohol.



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 behavioral therapies, such as cognitive behavioral therapy; multisystemic therapy; individual and group counseling; 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 can be a good source for information and help in dealing with adolescents' marijuana problems.

Q *Can marijuana be used as medicine?*

A There has been much debate in the media about the possible medical use of marijuana. Under U.S. law since 1970, marijuana has been a Schedule I controlled substance. This means that the drug, at least in its smoked form, has no commonly accepted medical use.

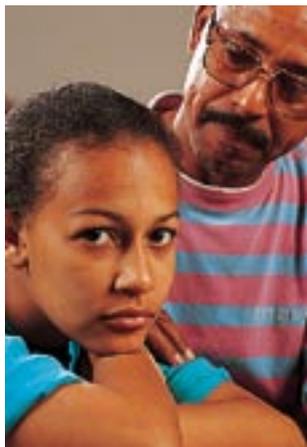
In considering possible medical uses of marijuana, it is important to distinguish between whole marijuana and pure THC or other specific chemicals derived from cannabis. Whole marijuana contains hundreds of chemicals, some of which may be harmful to health.

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 and is available by prescription. 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 marijuana, THC, and related chemicals in marijuana (called cannabinoids) may have other medical uses. According to scientists, more research needs to be done on marijuana's side effects and potential benefits before it can be recommended for medical use. However, because of the adverse effects of smoking marijuana, research on other cannabinoids appears more promising for the development of new medications.

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 of 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. To address the issue of drug abuse in your area, it is important to get involved in drug abuse prevention programs in your community or your child's school. Find out what drug prevention programs you and your children can participate in together.



Talking to your children about marijuana

As this booklet has shown, marijuana can pose 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, where you can obtain information so that you can talk to your children about drugs. To find these resources, 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 for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20847, 1-800-729-6686 (TDD number 1-800-487-4889), and/or visit NIDA's Web site at www.drugabuse.gov, www.marijuana-info.org, and/or www.teens.drugabuse.gov.**

Selected Resources and References

National Institute on Drug Abuse (NIDA)

NIDA's mission is to lead the Nation in bringing the power of science to bear on drug abuse and addiction. It does so by supporting over 85% of the world's research on drug abuse and ensuring the effective dissemination and use of this research to improve drug abuse and addiction prevention, treatment, and policy.

For general inquiries, contact NIDA's public information office at (301) 443-1124 or visit the NIDA Web site at www.drugabuse.gov and www.marijuana-info.org. NIDA publications are available through the National Clearinghouse on Alcohol and Drug Information.

National Clearinghouse on Alcohol and Drug Information (NCADI)

NCADI provides access to educational publications from NIDA and other Federal agencies. Staff provides assistance in English and Spanish and has TDD capability. Call 1-800-729-6686 or visit the NCADI Web site at www.health.org.

Center for Substance Abuse Prevention (CSAP)

CSAP, a part of the Substance Abuse and Mental Health Services Administration, provides national leadership in the development of policies, programs, and services to prevent the onset of illegal drug, alcohol, and tobacco use. CSAP publications are available through the NCADI.

Center for Substance Abuse Treatment (CSAT)

CSAT, a part of the Substance Abuse and Mental Health Services Administration, supports treatment services, research dissemination and adoption, and operates the National Treatment Referral Hotline (1-800-662-HELP). CSAT publications are available through the NCADI.

Feel free to reprint this publication in any quantity you wish.

Tips for Parents

- *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: Marijuana is the most frequently used illegal drug in the United States.

Fact: Nearly 50% of 12th-graders have tried marijuana at least once.

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