

The Basics About Marijuana

1. What is marijuana?

Marijuana, which can also be known as weed, pot, dope, or cannabis, is the dried flowers and leaves of the cannabis plant. It contains mind-altering (e.g., psychoactive) compounds like tetrahydrocannabinol, or THC, as well as other active compounds like cannabidiol, or CBD, that are not mind-altering.

2. How is marijuana used?

There are many ways of using marijuana, and each one affects users differently. Marijuana can be rolled up and smoked like a cigarette (a joint) or a cigar (a blunt). Marijuana can also be smoked in a pipe. Sometimes people mix it in food and eat it or brew it as a tea (edibles). Smoking oils, concentrates, and extracts from the marijuana plant are on the rise. People who use this practice call it “dabbing.”

3. What determines how marijuana affects a person?

Like any other drug, marijuana’s effects on a person depends on a number of factors, including the person’s previous experience with the drug or other drugs, biology (e.g., genes), gender, how the drug is taken, and how strong it is.

4. Is marijuana a medicine?

The marijuana plant has chemicals that may help symptoms for some health problems. More and more states are making it legal to use the plant as medicine for certain conditions. But there isn’t enough research to show that the whole plant works to treat or cure these conditions. Also, the U.S. Food and Drug Administration (FDA) has not recognized or approved the marijuana plant as medicine.

Because marijuana is often smoked, it can damage your lungs and cardiovascular system (e.g., heart and blood vessels). These and other damaging effects on the brain and body could make marijuana more harmful than helpful as a medicine. Another problem with marijuana as a medicine is that the ingredients aren’t exactly the same from plant to plant. There’s no way to know what kind and how much of a chemical you’re getting.

Two medicines have been made as pills from a chemical that’s like THC, one of the chemicals found in the marijuana plant that makes people feel “high.” These two medicines can treat nausea if you have cancer and make you hungry if you have AIDS and don’t feel like eating. But the chemical used to make these medicines affects the brain also, so it can do things to your body other than just working as medicine.

Another marijuana chemical that scientists are studying, called cannabidiol (CBD), doesn’t make you high because it acts on different parts of the nervous system than THC. Scientists think this chemical might help children who have a lot of seizures (when your body starts twitching and jerking uncontrollably) that can’t be controlled with other medicines. Some studies have started to see whether it can help.

5. Is it possible for someone to become addicted to marijuana?

Yes, about 1 in 10 marijuana users will become addicted. For people who begin using younger than 18, that number rises to 1 in 6. Some people who are addicted need to smoke more and more marijuana to get the same high. It is also important to be aware that the amount of tetrahydrocannabinol (THC) in marijuana (i.e., marijuana potency or strength) has increased over the past few decades. The higher the

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THC content, the stronger the effects on the brain. In addition, some methods of using marijuana (e.g., dabbing, edibles) may deliver very high levels of THC to the user. Researchers do not yet know the full extent of the consequences when the body and brain (especially the developing brain) are exposed to high concentrations of THC or how recent increases in potency affect the risk of someone becoming addicted.

6. How do I know if I'm addicted?

Some of the signs that someone might be addicted to marijuana include:

- Trying, but failing to quit using marijuana.
- Giving up important activities with friends and family in favor of using marijuana.
- Using marijuana even when it is known that it causes problems at home, school, or work.

Compared to marijuana users who are not addicted, people who are addicted to marijuana are at a higher risk of the negative consequences of using the drug, such as problems with attention, memory, and learning. For more information visit CDC's section on addiction, please visit, <https://www.cdc.gov/marijuana/health-effects.htm#addiction> or the National Institute on Drug Abuse's pages on addiction science at <https://www.drugabuse.gov/related-topics/addiction-science>.

7. What are the health risks of using marijuana?

a. Brain Health

Marijuana use directly affects the brain — specifically the parts of the brain responsible for memory, learning, attention, decision making, coordination, emotions, and reaction time.

b. Cancer

Marijuana and cannabinoids (the active chemicals in marijuana that cause drug-like effects throughout the body, including the central nervous system and the immune system). The main active cannabinoid in marijuana is delta-9-THC. Another active cannabinoid is cannabidiol (CBD), which may relieve pain and lower inflammation without causing the “high” of delta-9-THC. Although marijuana and cannabinoids have been studied with respect to managing side effects of cancer and cancer therapies, there are no ongoing clinical trials of marijuana or cannabinoids in treating cancer in people. Studies so far have not shown that cannabinoids help control or cure the disease. And like many other drugs, marijuana can cause side effects and complications.

c. Chronic Pain

Even though pain management is one of the most common reasons people use medical marijuana in the U.S., there is limited evidence that marijuana works to treat most types of chronic pain. A few studies have found that marijuana can be helpful in treating neuropathic pain (pain caused by damaged nerves). However, more research is needed to know if marijuana is any better or any worse than other options for managing chronic pain.

d. Heart Health

Using marijuana makes the heart beat faster. It could also lead to increased risk of stroke and heart disease. However, most of the scientific studies linking marijuana to heart attacks and strokes are based on reports from people who smoked it. Smoked marijuana delivers THC and other cannabinoids to the

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body, but it also delivers harmful substances to users and those close by, including many of the same substances found in tobacco smoke, which are harmful to the lungs and cardiovascular system. So it's hard to separate the effects of the compounds in marijuana on the cardiovascular system from the hazards posed by the irritants and other chemicals contained in the smoke. More research is needed to understand the full impact of marijuana use on the circulatory system to determine if marijuana use leads to higher risk of death from these causes.

e. Lung Health

How marijuana affects lung health is determined by how it's consumed. In many cases, marijuana is smoked in the form hand-rolled cigarettes (joints), in pipes or water pipes (bongs), in bowls, or in blunts—emptied cigars that have been partly or completely refilled with marijuana. Smoked marijuana, in any form, can harm lung tissues and cause scarring and damage to small blood vessels. Smoke from marijuana contains many of the same toxins, irritants, and carcinogens as tobacco smoke. Smoking marijuana can also lead to a greater risk of bronchitis, cough, and phlegm production. These symptoms generally improve when marijuana smokers quit.

Secondhand marijuana smoke and Children

The known health risks of secondhand exposure to cigarette smoke—to the heart or lungs, for instance—raise questions about whether secondhand exposure to marijuana smoke poses similar health risks. While there is very little data on the health consequences of breathing secondhand marijuana smoke, there is concern that it could cause harmful health effects, including among children.

Recent studies have found strong associations between those who said there was someone in the home who used marijuana or a caretaker who used marijuana and the child having detectable levels of THC — the psychoactive ingredient in marijuana. Children exposed to the psychoactive compounds in marijuana are potentially at risk for negative health effects, including developmental problems for babies whose mothers used marijuana while pregnant. Other research shows that marijuana use during adolescence can impact the developing teenage brain and cause problems with attention, motivation, and memory.

f. Mental Health

Marijuana use, especially frequent (daily or near daily) use and use in high doses, can cause disorientation, and sometimes cause unpleasant thoughts or feelings of anxiety and paranoia. Marijuana users are significantly more likely than nonusers to develop temporary psychosis (not knowing what is real, hallucinations and paranoia) and long-lasting mental disorders, including schizophrenia (a type of mental illness where people might see or hear things that aren't really there).

g. Poisoning

Edibles, or food and drink products infused with marijuana and eaten, have some different risks than smoking marijuana, including a greater risk of poisoning. Unlike smoked marijuana, edibles can:

- Take from 30 minutes to 2 hours to take effect. So some people eat too much, which can lead to poisoning and/or serious injury.
- Cause effects that last longer than expected depending on the amount, the last food eaten, and medications or alcohol used at the same time.

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- Be very difficult to measure. The amount of THC, the active ingredient in marijuana, is very difficult to measure and is often unknown in edible products. Many users can be caught off-guard by the strength and long-lasting effects of edibles.

8. Is it possible to “overdose” or have a “bad reaction” to marijuana?

A fatal overdose is unlikely, but that doesn’t mean marijuana is harmless. The signs of using too much marijuana are similar to the typical effects of using marijuana, but more severe. These signs may include extreme confusion, anxiety, paranoia, panic, fast heart rate, delusions or hallucinations, increased blood pressure, and severe nausea or vomiting. In some cases, these reactions can lead to unintentional injury such as a motor vehicle crash, fall, or poisoning.

9. What are the effects of mixing marijuana with alcohol, tobacco, & prescription drugs?

Using alcohol and marijuana at the same time is likely to result in greater impairment than when using either one alone. Using marijuana and tobacco at the same time may also lead to increased exposure to harmful chemicals, causing greater risks to the lungs, and the cardiovascular system. Also, be aware that marijuana may change how prescription drugs work. Always talk with your doctor about any medications you are taking or thinking about taking and possible side effects when mixed with other things like marijuana.

10. Does marijuana use lead to other drug use?

The concept of marijuana as a “gateway drug”—where using marijuana leads a person to use other drugs—generates a lot of disagreement. Researchers haven’t found a definite answer yet. However, most people who use marijuana do not go on to use other, “harder” drugs.

It is important to remember that people of any age, sex, or economic status can become addicted to marijuana or other drugs. Things that can affect the likelihood of substance use include:

- Family history
- Having another mental health illness (such as anxiety or depression)
- Peer pressure
- Loneliness or social isolation.
- Lack of family involvement
- Drug availability
- Socioeconomic status

11. How harmful is K2/Spice (synthetic marijuana or synthetic cannabinoids)?

Synthetic cannabinoids (e.g., synthetic marijuana, K2, Spice, Spike)—or plants sprayed with unknown chemicals—are dangerous and unpredictable. Synthetic cannabinoids are not marijuana, but like THC, they bind to the same cannabinoid receptors in the brain and other organs.

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Research shows that synthetic cannabinoids affect the brain much more powerfully than marijuana creating unpredictable and, in some cases, life-threatening effects including nausea, anxiety, paranoia, brain swelling, seizures, hallucinations, aggression, heart palpitations, and chest pains. For additional questions around synthetic cannabinoids, visit CDC's National Center for Environmental Health page on synthetic marijuana (https://www.cdc.gov/nceh/hsb/synthetic_marijuana.htm) or the National Institute on Drug Abuse (<https://www.drugabuse.gov/publications/drugfacts/synthetic-cannabinoids-k2spice>) page on synthetic marijuana.

12. Can secondhand marijuana smoke affect nonsmokers, including children?

Secondhand marijuana smoke contains tetrahydrocannabinol (THC), the chemical responsible for most of marijuana's psychological effects, and many of the same toxic chemicals in smoked tobacco.

Smoked marijuana has many of the same cancer-causing substances as smoked tobacco, but there are still a lot of unanswered questions around secondhand marijuana smoke exposure and its impact on chronic diseases such as heart disease, cancer, and lung diseases.

13. How is eating and drinking foods that contain marijuana (edibles) different from smoking marijuana?

Because marijuana contains tetrahydrocannabinol (THC), there are health risks associated with using marijuana regardless of the how it is used. Some of these negative effects include having difficulty thinking and problem-solving, having problems with memory, learning and maintaining attention and demonstrating impaired coordination. However, some risks may differ by the way it is used.

Smoke from marijuana contains many of the same toxins, irritants, and carcinogens as tobacco smoke. Smoking marijuana can lead to a greater risk of bronchitis, cough, and phlegm production. Whereas, edibles, which take longer to digest, take longer to produce an effect. Therefore, people may consume more to feel the effects faster. This may lead to people consuming very high doses and result in negative effects like anxiety, paranoia and, in rare cases, an extreme psychotic reaction (e.g. delusions, hallucinations, talking incoherently, and agitation).

14. It's legal in many states, so doesn't that mean marijuana is safe?

The fact that it's legal does not mean that it is safe.

- Heavy marijuana use (daily or near-daily) can do damage to memory, learning, and attention, which can last a week or more after the last time someone used.
- Using marijuana during pregnancy or while breastfeeding may harm the baby, just like alcohol or tobacco.
- Marijuana use has been linked to anxiety, depression, and schizophrenia, but scientists don't yet know whether it directly causes these diseases.
- Smoking any product, including marijuana, can damage your lungs and cardiovascular system.



* Questions and answers are sourced from the Center for Disease Control and Prevention -- [cdc.gov/marijuana](https://www.cdc.gov/marijuana)

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