

# MARIJUANA ADDICTION

What is marijuana?

- Marijuana refers to the dried leaves, flowers, stems, and seeds from the hemp plant, *Cannabis sativa*. The plant contains the mind-altering chemical delta-9-tetrahydrocannabinol (THC) and other related compounds. Extracts with high amounts of THC can also be made from the cannabis plant (see "[Marijuana Extracts](#)").
- Marijuana is the most commonly used illicit drug in the United States (SAMHSA, 2014). Its use is widespread among young people. According to a yearly survey of middle and high school students, rates of marijuana use have steadied in the past few years after several years of increase. However, the number of young people who believe marijuana use is risky is decreasing (Johnston, 2014).
- Legalization of marijuana for medical use or adult recreational use in a growing number of states may affect these views. Read more about marijuana as medicine in "DrugFacts: Is Marijuana Medicine?" at [Drug Abuse](#)

How do people use marijuana?

- People smoke marijuana in hand-rolled cigarettes (joints) or in pipes or water pipes (bongs). They also smoke it in blunts -- emptied cigars that have been partly or completely refilled with marijuana. To avoid inhaling smoke, more people are using vaporizers. These devices pull the active ingredients (including THC) from the marijuana and collect their vapor in a storage unit. A person then inhales the vapor, not the smoke.
- Users can mix marijuana in food (edibles), such as brownies, cookies, or candy, or brew it as a tea. A newly popular method of use is smoking or eating different forms of THC-rich resins (see "[Marijuana Extracts](#)").

Marijuana Extracts

Smoking THC-rich resins extracted from the marijuana plant is on the rise. Users call this practice dabbing. People are using various forms of these extracts, such as:

- hash oil or honey oil -- a gooey liquid
- wax or budder -- a soft solid with a texture like lip balm
- shatter -- a hard, amber-colored solid
- These extracts can deliver extremely large amounts of THC to users, and their use has sent some people to the emergency room. Another danger is in preparing these extracts, which usually involves butane (lighter fluid). A number of people who have

used butane to make extracts at home have caused fires and explosions and have been seriously burned.

How does marijuana affect the brain?

- Marijuana has both short- and long-term effects on the brain.
- Image of a cross section of the brain with marked areas that are affected by THC. THC acts on numerous areas (in yellow) in the brain.

Short-term effects

- When a person smokes marijuana, THC quickly passes from the lungs into the bloodstream. The blood carries the chemical to the brain and other organs throughout the body. The body absorbs THC more slowly when the person eats or drinks it. In that case, the user generally feels the effects after 30 minutes to 1 hour.
- THC acts on specific brain cell receptors that ordinarily react to natural THC-like chemicals in the brain. These natural chemicals play a role in normal brain development and function.
- Marijuana over activates parts of the brain that contain the highest number of these receptors. This causes the "high" that users feel. Other effects include:
  - altered senses (for example, seeing brighter colors)
  - altered sense of time
  - changes in mood
  - impaired body movement
  - difficulty with thinking and problem-solving
  - impaired memory

Long-term effects

- Marijuana also affects brain development. When marijuana users begin using as teenagers, the drug may reduce thinking, memory, and learning functions and affect how the brain builds connections between the areas necessary for these functions.
- Marijuana's effects on these abilities may last a long time or even be permanent.
- For example, a study showed that people who started smoking marijuana heavily in their teens and had an ongoing cannabis use disorder lost an average of eight IQ points between ages 13 and 38. The lost mental abilities did not fully return in those who quit marijuana as adults. Those who started smoking marijuana as adults did not show notable IQ declines (Meier, 2012).