

# Effects of Marijuana Usage

## **Effects of marijuana (cannabis) on the Brain**

Scientists have learned a great deal about how THC acts in the brain to produce its many effects. When someone smokes marijuana, THC rapidly passes from the lungs into the bloodstream, which carries the chemical to organs throughout the body, including the brain.

In the brain, THC connects to specific sites called cannabinoid receptors on nerve cells and influences the activity of those cells. Some brain areas have many cannabinoid receptors; others have few or none. Many cannabinoid receptors are found in the parts of the brain that influence pleasure, memory, thought, concentration, sensory and time perception, and coordinated movement.

The short-term effects of marijuana can include problems with memory and learning; distorted perception; difficulty in thinking and problem solving; loss of coordination; and increased heart rate. Research findings for long-term marijuana abuse indicate some changes in the brain similar to those seen after long-term abuse of other major drugs. For example, cannabinoid (THC or synthetic forms of THC) withdrawal in chronically exposed animals leads to an increase in the activation of the stress-response system and changes in the activity of nerve cells containing dopamine. Dopamine neurons are involved in the regulation of motivation and reward, and are directly or indirectly affected by all drugs of abuse.

## **Effects of marijuana (cannabis) on the Heart**

One study has indicated that an abuser's risk of heart attack more than quadruples in the first hour after smoking marijuana. The researchers suggest that such an effect might occur from marijuana's effects on blood pressure and heart rate and reduced oxygen-carrying capacity of blood.

## **Effects of marijuana (cannabis) on the Lungs**

A study of 450 individuals found that people who smoke marijuana frequently but do not smoke tobacco have more health problems and miss more days of work than nonsmokers. Many of the extra sick days among the marijuana smokers in the study were for respiratory illnesses.

Even infrequent abuse can cause burning and stinging of the mouth and throat, often accompanied by a heavy cough. Someone who smokes marijuana regularly may have many of the same respiratory problems that tobacco smokers do, such as daily cough and phlegm production, more frequent acute chest illness, a heightened risk of lung infections, and a greater tendency to obstructed airways. Smoking marijuana possibly increases the likelihood of developing cancer of the head or neck. A study comparing 173 cancer patients and 176 healthy individuals produced evidence that marijuana smoking doubled or tripled the risk of these cancers.

## **Effects of Heavy Marijuana (cannabis) Use on Learning and Social Behavior**

Research clearly demonstrates that marijuana has the potential to cause problems in daily life or make a person's existing problems worse. Depression, anxiety, and personality disturbances have been associated with chronic marijuana use. Because marijuana compromises the ability to learn and remember information, the more a person uses marijuana the more he or she is likely to fall behind in accumulating intellectual, job, or social skills. Moreover, research has shown that marijuana's adverse impact on memory and learning can last for days or weeks after the acute effects of the drug wear off.

Source: <http://www.medic8.com/healthguide/articles/marijuana.html>

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Students who smoke marijuana get lower grades and are less likely to graduate from high school, compared with their nonsmoking peers. A study of 129 college students found that, among those who smoked the drug at least 27 of the 30 days prior to being surveyed, critical skills related to attention, memory, and learning were significantly impaired, even after the students had not taken the drug for at least 24 hours. These "heavy" marijuana abusers had more trouble sustaining and shifting their attention and in registering, organizing, and using information than did the study participants who had abused marijuana no more than 3 of the previous 30 days. As a result, someone who smokes marijuana every day may be functioning at a reduced intellectual level all of the time.

More recently, the same researchers showed that the ability of a group of long-term heavy marijuana abusers to recall words from a list remained impaired for a week after quitting, but returned to normal within 4 weeks. Thus, some cognitive abilities may be restored in individuals who quit smoking marijuana, even after long-term heavy use.

Workers who smoke marijuana are more likely than their coworkers to have problems on the job. Several studies associate workers' marijuana smoking with increased absences, tardiness, accidents, workers' compensation claims, and job turnover. A study among postal workers found that employees who tested positive for marijuana on a pre-employment urine drug test had 55 percent more industrial accidents, 85 percent more injuries, and a 75-percent increase in absenteeism compared with those who tested negative for marijuana use. In another study, heavy marijuana abusers reported that the drug impaired several important measures of life achievement including cognitive abilities, career status, social life, and physical and mental health.

### **Addictive Potential of marijuana (cannabis)**

Long-term marijuana abuse can lead to addiction for some people; that is, they abuse the drug compulsively even though it interferes with family, school, work, and recreational activities. Drug craving and withdrawal symptoms can make it hard for long-term marijuana smokers to stop abusing the drug. People trying to quit report irritability, sleeplessness, and anxiety. They also display increased aggression on psychological tests, peaking approximately one week after the last use of the drug.