

## Marijuana

There has been a lot of confusion about marijuana. In the 1950's stories about the drug's bizarre effects, including tales of violence, amnesia, and sexual frenzies began to circulate widely. When scientists found little evidence to confirm these stories, many people began to reject reports of any bad effects from marijuana. The 1950's myth of reefer madness was replaced with the 1970's myth of harmless marijuana. During the 1960's and 70's marijuana was thought by many to be safe or non-addictive. Many young people argued smoking pot was less harmful than smoking cigarettes or using alcohol. There were few studies to dispute these claims. Gradually, in the face of ignorance about the health hazards of marijuana, usage expanded to mainstream America. Popular music, movies, and TV shows portrayed marijuana use as socially acceptable.

By the 1980's over sixty percent of American teenagers had experimented with marijuana, with forty percent becoming regular users. The economic profits from marijuana trade were just under those of General Motors and Exxon. Despite the widespread myth of marijuana's harmlessness and multi-billion dollar drug culture, increased numbers of Americans recognized the drug's harmful effect on our children. Most researchers now agree that marijuana can be addictive and affects its users mentally, emotionally, and physically.

### What are the chemicals contained in marijuana?

Despite the 1970's image of marijuana as a natural organic product, the cannabis sativa plant is a complex chemical factory. The crude drug marijuana, which is made from its dried leaves and flowering tops, contains 426 chemicals. These chemicals are transformed into 2000 chemicals when smoked. More than 70 of these 426 chemicals are called cannabinoids and are found in no other plant. All cannabinoids tested to date are biologically active. This means that

each cannabinoid will alter some normal function of a living organism. These alterations may not be visible since they occur at the cellular level, but they can be documented in research laboratories. One of these cannabinoids is *delta-9-tetrahydrocannabinol*. This is the psychoactive or mind-altering cannabinoid that causes the familiar high or state of intoxication. THC stands for the many chemicals in the tetrahydrocannabinol class contained in marijuana. THC are the chemicals that have been researched the most since they pose the greatest threat to marijuana smokers. The potency of marijuana is determined by the amount of THC it contains. The higher the THC content the more intoxicating and harmful it becomes.

### What are the effects of cannabinoids on the body's cells?

All cannabinoids have one important factor in common: They react on all types of living cells by interfering with the cell's ability to manufacture pivotal molecules.

Pivotal molecules contain substances required for the proper division of cells, which is necessary for the continuation of our bodily functions. These substances are DNA, RNA, and proteins. DNA is the basic chemical contained in the core of all the cells and it carries the genetic code for heredity.

All cannabinoids are fat soluble. This means that they do not mix with water, but they do mix with fat. The body is rich in fat and fat-like material called lipids. The brain, lungs, and sex organs are especially loaded with lipids. Every cell in the body is covered by a fatty membrane, which makes the fat volume of these membranes alone very huge. Once cannabinoids are stored in the fatty tissues they are released slowly into the bloodstream. Cannabinoids are similar to DDT in the way that they accumulate in the fatty tissue. The chemical half-life of THC is three to seven days (half-life is the time it takes the body to break

down and get rid of half the drug taken into the body). The remaining half is released into the bloodstream slowly and can be traced in urine seven to ten days after smoking a single joint.

However, if someone is a regular smoker (two joints per week for six months) the fatty areas of the body can be completely saturated with the drug. Traces of THC can be found in the body after several months have passed. Cannabinoids are very busy once they enter the fatty tissues. Seeping through the membrane walls of the cells and into their core they create havoc with the chemical process of cell division. This creates a slow down or interference with the production of DNA, RNA, and protein replacement within the cell. Cellular activity decreases. This interference can eventually stop cellular activity causing the cells to die. When this happens, every function in the body depends on how long and how much is present within the cells.

### The effects of marijuana on the body.

**Brain** – Marijuana changes brain chemistry. It can affect thinking, learning abilities, and short-term memory. It can also produce panic, anxiety, flashbacks and toxic psychosis, depending on the potency of the drug and the susceptibility of the user. Long-term use can cause tissue damage.

**Lungs** – The smoke of marijuana produces all the harmful effects of tobacco. Fifty percent more of the cancer causing chemicals benzopyrene and benzanthracene are found in marijuana smoke. Marijuana reduces the ability of the lungs to defend against infection. Other effects associated with smoking marijuana are bronchitis, pharyngitis, and sinusitis. Marijuana causes more blockages to larger airways and the upper respiratory tract than does tobacco smoke.

**Heart** – Marijuana use increases the heart rate as much as fifty percent. Smoking marijuana can be especially harmful to people with heart conditions.

**Reproductive System (Male)** – Smoking marijuana decreases testosterone levels. Heavy and prolonged use can alter male hormones enough to cause deficient pubertal development in teenage boys. Heavy use can lead to lowered sperm count, mobility, and to increased abnormalities in sperm.

**Reproductive System Females** – Cannabinoids are absorbed into the female reproductive organs. Changes in brain signals may lead to impaired ovulation and decreased fertility. Cannabinoids can be toxic to the developing fetus, causing increases in miscarriage, still births, and early post-natal deaths. A Fetal Marijuana Syndrome characterized by lower birth weight and developmental abnormalities is reported five times more often than Fetal Alcohol Syndrome. Cannabinoids are transferred through the mother's milk to the nursing infant.

**Motor Skills** – Marijuana can interfere with driving and other skills involving mental and physical coordination. Marijuana delays a person's response to sights and sounds. The ability to perform sequential tasks can also be affected. The drug also affects depth perception. Users tend to walk, talk, and even sit in peculiar or unaccustomed manners. Marijuana reduces motor skills such as those needed for safe driving.

### Hashish

Hashish (hash) is a green, dark brown, or black resin extracted from the cannabis sativa plant. In the past, hashish, which averages two percent THC, contained more THC than marijuana. However, with the increased potency of marijuana on the streets, it is now frequently stronger than hashish.

Hash Oil is an extract of the cannabis sativa plant. It may contain up to thirty percent THC. Hash Oil is a tar like substance usually smoked in small amounts on tobacco, marijuana cigarettes, or in a small glass pipe.

Ten years of national surveys now reinforces the public's perception that marijuana is the gateway into further illegal drug usage. Certainly many causal experimenters do not try other drugs. But among habitual pot smokers, a shocking sixty percent do progress to other drugs.



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