

fatty tissues. Consequently very little THC remains in the blood by the time the THC has worked its way through the blood-brain barrier to reach the brain.

Pot appears to be mild because so little of the THC reaches the brain when pot is smoked. Nevertheless, THC is extremely potent.

The THC stored in fat is fed back slowly into the blood over many weeks. The blood-brain barrier does not protect the brain from THC released from fat, because the THC is released continuously. The slow release of THC into the blood causes strong sedation, even though the THC blood level is low, because the concentration of THC in the brain blood is the same as in the main blood supply.

When marijuana is smoked regularly, a large supply of THC builds up in body fat. The release of this THC into the blood causes continual sedation.

### *Effect of Marijuana on Arab Society*

Franz Lowenthal, Professor of Near Eastern Literature at Yale University, studied historical Arab literature relating to marijuana [2] (pp. 739-745). The Arabs have struggled for centuries against the devastating effects of marijuana (or in their words, hashish). Since Mohammed outlawed alcohol, many Arabs turned to hashish (which was not used in Mohammad's day), with tragic results. A thirteenth century religious leader, Sheikh Ali al-Hariri, gave the following advice to a hashish user:

*"He must give it up for 40 days, until his body is free of it, and for 40 more days until he has rested from it after becoming free."*

Since the very slow action of marijuana on the body was obvious to Arabs 700 years ago, it should be obvious to us today.

### *References*

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**Eagle Forum Education & Legal Defense Fund**  
7800 Bonhomme Avenue  
St. Louis, MO 63105  
314-721-1213 • fax: 314-721-3373

**Anti-Drug Abuse Education Fund**  
P.O. Box 460410  
St. Louis, MO 63146  
314-432-7600 • fax: 314-432-7602

# Major Scientific Evidence against



## Brain Damage from Marijuana

Marijuana (also called pot) severely damages the brain, the chromosomes, the sex and reproductive organs, the hormones, the lungs, and the immune system. [1, 2] The intoxicating chemical in marijuana is THC. Marijuana today has about ten times the THC content of 1970, because new varieties have been developed.

The serious brain damage from pot was proven by Dr. Robert Heath of Tulane Medical School, who performed extensive studies of the effect of marijuana on the monkey brain in the 1970s. [3, 4] In a typical experiment, monkeys smoked pot for 6 months. The dose was equivalent to a teenager smoking 2 joints per day, 5 days per week, of marijuana having 2.5% THC.

Brain waves of the monkeys were observed from electrodes embedded in the brain. The brain waves became severely distorted in 2 months, and remained severely distorted 6 months after pot smoking stopped. Then the monkeys were killed, and their brain cells examined under an electron microscope.

**All of the brain cells from the limbic portion of the brain showed strong structural changes.** The limbic system is a deep portion of the brain, which is the center of emotion. Brain wave distortion was much greater from electrodes embedded in this region. The synaptic vesicles of the limbic brain cells showed dramatic clumping. The synaptic gap was widened and clogged with abnormal deposits. Inclusion bodies, which are clots in the nuclei, were found in 30% of limbic brain cells.

Since typical street pot today contains 12% THC, a teenager could receive this brain damage by smoking only 2 joints of pot per week. The

primary brain damage occurs in the emotional center of the brain, and so a pot smoker can suffer severe emotional harm before damage to the intellectual functions becomes apparent.

Dr. Heath was Chairman of the Departments of Neurology and Psychiatry at Tulane Medical School and at 5 hospitals in the New Orleans area. He performed his experiments after observing many pot-smoking patients with psychiatric symptoms, who improved greatly when they stopped smoking pot. The pot smokers displayed lack of motivation, abrupt mood swings, hostility, and paranoia.

In 1981, this extremely important research was cancelled by the National Institute on Drug Abuse (NIDA), despite strong objections by Dr. Heath.

### Incompetence of NIDA

In 1988 the *White House Conference for a Drug Free America* was sponsored by the U. S. government to discuss means of improving our effectiveness in fighting drug abuse. As shown in Ref. [5] (p. 146), an important finding of this conference was:

*“Recommendation 7: An independent evaluation of the National Institute on Drug Abuse [NIDA] should be conducted.”*

No action was ever taken on this recommendation.

### Chromosome Damage from Pot

As reported in Ref. [1] (p. 163), Dr. Susan Dalterio, of the University of Texas Health Science Center, studied the effect of marijuana on reproduction in mice. She gave doses of THC to male mice equivalent to a human smoking 1 to 3 joints of pot per day containing 2.5% THC. The mice were given this dose 3 days a week for 5 weeks. These males were mated with normal females.

Many of the female mice did not conceive, and there were appreciable prenatal and postnatal deaths.

When the male babies matured, they were mated with normal females. These sons did not receive any marijuana. The mates of 25% of these sons did not achieve a normal pregnancy. Babies from two of the sons showed severe deformities: one had no skull, and another had an open spine and intestines outside the body.

Dr. Dalterio reported, “Of the thousands of fetuses I have examined over the past 10 years, from mice exposed to alcohol and other drugs, I have never seen this severe a birth defect before. And here I found two in one week, among mice exposed to THC only through their grandfathers.”

In 1982, this highly significant research was cancelled by NIDA.

### Very Slow Action of Pot in the Body

THC dissolves readily in fat, but cannot dissolve in water or in the blood. Consequently THC acts very slowly over many weeks. The effect of THC in the dog was measured by Garrett and Hunt. [6] They showed that THC is slowly released from fat into the blood with a half-life of one week, which means that THC drops to half every week. It takes one week for THC stored in fat to drop to 1/2, two weeks to drop to 1/4,

three weeks to 1/8, etc. From humans, Hunt, et. al. [7] measured an 8-day half life of THC release from fat into the blood.

Garrett [8] (p. 106) reported that less than one percent of the THC absorbed by the lungs reaches the brain at the time of the “high.” The reason is that the transmission of THC to the brain is slowed by the blood-brain barrier, which is a sieve-like structure that helps to protect the brain from toxins. Since THC cannot dissolve in the blood, it is carried ineffectively by the blood and leaves the blood rapidly to be stored in

