

## Marijuana

Clinical name: marijuana

Brand name: none

Street name(s): weed, smoke, Mary Jane, cheeba, bud, kind-bud, ganja, green goddess, homegrown, indo, dope, chronic, hemp, hash (usually an oil-based, more potent version)<sup>1-3</sup>

### **Miscellaneous:**

- Marijuana is scientifically known as *Cannabis sativa L.*, *Cannabis ruderalis* or *Cannabis indica* (Indian hemp).
- This well recognized herb has been identified since 1000 A.D., the first year that it was listed by definition.<sup>1</sup>
- Though it has historically been used as a phytomedicinal agent, the over-abuse of cannabis for recreational purposes in the past century has led to this hallucinogen's placement in the Schedule I category of drugs (designated as such in 1937).
- In colonial times, cannabis was cultivated specifically as an abundant and cost-effective paper source. In fact, the 1776 United States Declaration of Independence was drafted on hemp paper.<sup>1</sup>

### **Pharmaceutical Properties:**

The herb has a green, bushy form with distinct fan-like leaves that resemble those of a fern, but are shorter in length. Most compounds found within this plant are lipophilic. The seeds of the plant are actually much more potent with regard to hallucinogenic effects than the leaves or stalk of marijuana, and the dealers/users that realize this utilize the seeds to make an oil-based dosage form referred to as "hash."<sup>1-2</sup>

### **Uses:**

Hallucinogen, antiemetic, appetite stimulant, analgesic, anticonvulsive, sedative and to decrease intraocular pressure (by  $\approx 45\%$ ).<sup>1-5</sup>

\*9-tetrahydrocannabinol (THC), the primary active constituent of cannabis, has also demonstrated *in vitro* tumor inhibition.

\*These properties have made marijuana a logical therapeutic candidate for the treatment of patients with glaucoma, epilepsy, insomnia, AIDS and those undergoing chemotherapy.<sup>1-3</sup>

### **Administration:**

Inhalation, oral ingestion, insufflation (rare).<sup>1-5</sup>

**Mechanism/Pharmacology:**

The previously mentioned THC is largely responsible for the euphoria produced when this herb is used, though the mechanism of this action has not yet been defined. When stored too long, THC can degrade to the primarily inactive compound, cannabinol (CBN).<sup>1-5</sup> The second therapeutically significant compound found within marijuana is cannabidiol (CBD). This constituent is responsible for the analgesic and sedative effects produced by administration of the drug.

**Side effects:**

Psychological: Intensified emotions, euphoria and anxiety.

Physical: Tachycardia (marijuana presents a documented increase in heart rate from 20-40 BPM) and pulmonary/tracheal damage (the tar and particulate composition of cannabis is considerably higher than that of regular tobacco cigarettes) are the predominant side effects of concern.<sup>1-5</sup>

\* A pre-existing cardiac/cardiovascular condition could precipitate events including myocardial infarction.

**Testing:**

Current testing is performed through hair, urine, or blood analysis. Marijuana can be detected in any of a few forms of cannabinoid metabolites in the urine for 2-7 days with occasional use and for up to 30 days.<sup>6</sup>

**Treatment:**

Symptomatic. There is no indication for treatment of overdose due to its impracticality.

**Synthesis:**

Naturally grown herb. Dosage forms are usually comprised of chopped and dried leaves/stalk. The seeds may also be used by themselves. The aforementioned oil-based version is acquired by leaching out the lipophilic active constituents and utilizing the consequent mixture/solution.<sup>1</sup>

**User Identification:**

Physical: Users will display tachycardia, droopy eyelids, inflamed eyes, loss of balance, sleepiness, uncontrollable laughter and may carry an odor distinct to the smoke produced by burnt marijuana.<sup>1-5</sup>

**Citation References:**

1. Olendorf D, Jeryan C, Boyden K. The Gale Encyclopedia of Medicine. 2<sup>nd</sup> Edition. Detroit (MI): Gale Research;2002. p. 2119-22.
2. Office of National Drug Control Policy. Drug facts: marijuana. (Updated 12/3/2002). Retrieved December 4, 2002, from [http://www.whitehousedrugpolicy.gov/drugfact/marijuana/marijuana\\_b.html](http://www.whitehousedrugpolicy.gov/drugfact/marijuana/marijuana_b.html)
3. U.S. Department of Justice. Drug Enforcement Administration. Exposing the myth of medical marijuana: Marijuana: the facts. (1999). Retrieved November 4, 2002, from <http://www.usdoj.gov/dea/ongoing/marijuana.html>
4. O'Brien CP. Drug addiction and drug abuse. In: Goodman Gilman A, Hardman JG, Limbird LE, editors. Goodman & Gilman's: The pharmacological basis of therapeutics. 10<sup>th</sup> ed. New York (NY): McGraw Hill;2001. p. 636-638.
5. Balster RL. Drug Abuse. In: Brody TM, Larner J, Minneman KP, editors. Human pharmacology: Molecular to clinical. 3<sup>rd</sup> ed. St. Louis (MO): Mosby-Year Book, Inc. p. 451.

6. Lacy CF, Armstrong LL, Goldman MP, Lance LL. Lexi-Comp Drug Information Handbook. 9<sup>th</sup> ed. Hudson (OH): Lexi-Comp, Inc;2001. p.1556.

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1. Olendorf D, Jeryan C, Boyden K. The Gale Encyclopedia of Medicine. 2<sup>nd</sup> Edition. Detroit (MI): Gale Research;2002. p. 2119-22.
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7. Katzung BG. Basic & Clinical Pharmacology. 8<sup>th</sup> ed. New York (NY): McGraw Hill;2001. p.542-44.