  
**Cannabis  
Marijuana  
Marihuana**  
Introduction to Chemical Addictions  
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**Biology**

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- Family : Cannabaceae
- Genus : Cannabis
- Species : sativa; indica; ruderalis

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**Marijuana**

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- Most commonly used illicit drug in the world
- Grows throughout the world
- Past, generally grew in most temperate and tropical regions.
- Today can be grown anywhere
- Major psychoactive ingredient is THC (delta-9-tetrahydrocannabinol)
- There are 400 other active chemicals.

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**Other Derivatives of Cannabis**

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- Sinsemilla
- Hashish ("hash") and Charas
- Hash oil

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**Sinsemilla**

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- Made from just the buds and flowering tops of female plants that are not pollinated.
- Average = 7.5 % THC
  - Can range as high as 24% THC
  - Canadian Bud


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**Hashish**

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- The sticky resin from the female plant flowers. Collected by shaking over a fine screen has an average of 3.6 % THC, with a range as high as 28%



A flowering bud or cola of a female cannabis plant


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**Hash oil**

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- Tar-like liquid distilled from hashish, has an average of 16% THC with a range and high as 43%



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**Charas**

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- Has been used for thousands of years, for medicinal and religious ceremonies.
- Cannabis grown in high altitude conditions
  - ultraviolet radiation is strong
  - produces substantially more THC
- Known to be particularly strong.
- Are made by rubbing one's hands through the flowers
- The resin sticks to one's palms and by the end of the day one has harvested perhaps 8 or 9 grams of charas.
- The faster one works, the lower the quality
- To make 'cream' it is necessary to go very slowly and it is only possible to make a few grams a day.
- Generally smoked in clay pipes
- Still is used in India as part of certain religious ceremonies

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**Common Slang Terms**

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Aunt Mary	Kif
Boom	Mary Jane
Chronic (Marijuana alone or with crack)	Pot
Dope	Reefer
Ganja	Sinsemilla
Grass	Skunk
Hash	Weed.
Herb	Gangster
Indo	Bud
	Hydro

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**Drug Slang Directory**

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- <http://parentingteens.about.com/cs/drugsofabuse/l/blsldicindex.htm>
- <http://www.marijuanadictionary.com/c-marijuana/marijuana.html>
  - Look at the bottom of the page for the index
- [http://www.drugfree.org/Portal/drug\\_guide/BySlang](http://www.drugfree.org/Portal/drug_guide/BySlang)
- <http://www.urbandictionary.com/>

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**Current Statistics**

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- Widest used illicit substance among all age groups
  - 48% of middle aged adults 26-34 have tried marijuana and inhaled
  - Current use is highest among young adults 18-25 years of age.
- Adolescent use has quadrupled since 1994
  - 12-35+ yr. 32% report using in life time
  - decreases in rates of past year use among most surveyed age groups--including the primary users (18 to 25)--in 2003, 2004, and 2005.

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**More Statistics**

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- In 2004, 14.6 million Americans age 12 and older used marijuana at least once in the month prior to being surveyed.
  - About 6,000 people a day in 2004 used marijuana for the first time—2.1 million Americans.
  - 63.8 percent were under age 18.

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**Potency Levels**

- Past - THC levels were 2 or 3 percent
- Present - Achieving 8 to 12 percent THC levels through improved cultivation methods
  - BC Bud
- Average potency of all tested samples has increased 52.4 percent (from 5.34 percent THC to 8.14 percent) within the past 5 years (DEA.gov).

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Average percentage of THC in samples of seized marijuana, 1985-2005.

The University of Mississippi Potency Monitoring Project. (DEA.GOV).

Year	Percentage of THC
1985	3.44
1986	2.90
1987	3.20
1988	3.10
1989	3.78
1990	3.12
1991	3.16
1992	3.65
1993	3.15
1994	3.86
1995	4.50
1996	5.01
1997	4.91
1998	4.69
1999	5.10
2000	5.34
2001	6.10
2002	7.14
2003	7.20
2004	8.10
2005	8.14

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**Survey On Kids**

- Response Differences
  - 18% of parents say kids use
  - 54% of kids say they have used
  - drugs #1 self-reported problem in life of teens
- Parent talk impacts
- 7.1% of kids use if known parent disapproval
  - hands on parent
- 31% of kids use with a hands off parent
  - no talk/no disapproval

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**Why is it important**

- Considered a Gateway Drug
  - Is correlated with other drug use
  - Is correlated with earlier sexual activity
  - Is correlated with poorer academics
  - Is correlated with other problems
- Problem
  - Correlation does not imply causation
  - Other legal drugs also correlated with the above problems too
  - Other social problems are also correlated with above

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**Regardless**

- Is illegal
- Costs to society are large
  - enforcement/ corrections
  - School
  - dropouts
- Is related to a lot of problems
- Potency relates to increased addictive properties
- Changes developing brain tissue in adolescents

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**Plant Comparisons**

- Both male and female plants produce lots of fiber
  - Can be used for clothing, paper, rope, etc.
- Both male and female plants produce psychoactive substances
  - Female plant produces the best cannabinoids
  - Has better psychoactive properties (Buds)

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Types of Cannabis/Marijuana

- C. Sativa
  - Is the most widespread variety,
  - Is usually tall, laxly branched, has narrower leaflets
  - Found in warm lowland regions.
- C. Indica
  - Are shorter, bushier plants.
  - Have adapted to cooler climates and highland environments
  - Has poorer fiber quality than C. Sativa but has more intoxicating properties
  - Widely promoted for the manufacture of medicinal preparations.

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C. Ruderalis

- Are shorter plants
- Grow wild in Europe and central Asia.
- Are conical in shape, branchless, have relatively wide leaflets

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Quality

- Depends on the species type for intoxicating effects.
  - C. Sativa has many strains desired by smokers
    - Includes Acapulco Gold and Durban Poison
  - C. Indica considered the most potent species
  - C. Ruderalis low quality

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Pictures of Marijuana Plants



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Pictures of Marijuana Plants



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More Pictures of Marijuana Plants

- <http://marijuanagirls.com/budpics.html>

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**Brief History**

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- Hemp has been used in history for about 10,000 years
- Used as a food in China about 6000 years BC
- Described in the oldest pharmacopoeia (The Pên-ts'ao Ching, 2000 B.C.)
  - Prescribes marijuana preparations for "malaria, beriberi, constipation, rheumatic pains, absent-mindedness, and female disorders" (Schultes, R. E. 1967. Man and Marijuana. Nat. Hist. 82: 59-63, 80, 82).
- Mention was made of the intoxicating properties, but the medicinal value was considered more important.

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**The Swallow and the Other Birds by Aesop's Fables**

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- It happened that a Countryman was sowing some hemp seeds in a field where a Swallow and some other birds were hopping about picking up their food. "Beware of that man," quoth the Swallow. "Why, what is he doing?" said the others. "That is hemp seed he is sowing; be careful to pick up every one of the seeds, or else you will repent it." The birds paid no heed to the Swallow's words, and by and by the hemp grew up and was made into cord, and of the cords nets were made, and many a bird that had despised the Swallow's advice was caught in nets made out of that very hemp. "What did I tell you?" said the Swallow.
- Destroy the seed of evil, or it will grow up to your ruin.

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**Other Countries**

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- In India was used recreationally.
- The Muslims used it recreationally since alcohol consumption was banned by the Koran.
- Introduced Hashish
  - Popularity spread quickly throughout 12th century Persia (Iran) and North Africa.

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**Until the 1930's**


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**Was Used in Products**

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**Was Used in Medicines**


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Was Used for Intoxication



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History Continued

- 1937 Cannabis Sativa was banned, despite other opiate-based medications being available through prescriptions.
- Hemp fibers were used by the military in WWII.
- 1940's Anti- marijuana campaign from media
  - Hearst publications used Spanish slang term "marijuana", to make cannabis sound more foreign and menacing.
- 1950's heavy use in "jazz" culture.
- 1960's sex, drugs, rock and roll, hippie counterculture.

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History Continued

- 1970's introduction of more diverse drug culture
- 1980's revolution in manufacturing
  - Internal watering and growing systems
- 1980-present
  - medical controversy
  - Production changes
  - THC levels increase
  - Crack
- 1990's competition from club drugs.
- Present
  - eradication efforts.
  - More consolidation by drug organizations
  - Higher potency techniques continue

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Medical Marijuana

- Advocates
  - Appetite- HIV, eating disorder, wasting syndrome.
  - Nausea & Vomiting- cancer treatment side effect relief
  - Neurological & Movement Disorders, MS, Epilepsy, Parkinson's, seizures, convulsions.
  - Analgesia
  - Glaucoma

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Problems

- Contains over 400 chemicals and 60 different cannabinoids
- Other drugs can be used for same diseases without the high
- Other drugs do not need to be used as often
- May control nausea but decreases immunological functioning
- Others

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More Medical Controversy

- Testing problems
  - Application / dosage differences
  - No consistent dosage
- Natural THC vs. man made Dronabinol
  - Not advocated by most professional organizations
- Benefits verses risks
- Toxicity levels not known

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### Currently

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- Is a Multi-billion dollar business.
- Has numerous web-sites
- International market place
- Hemp vs. Marijuana
- Clothing, export/import issues
- Social, medical, political implications
- NORML (National Organization Reform Marijuana Legislation)

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### Conclusions

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- Has been around a long time
- Use remains controversial
- Is becoming extremely more potent
  - Has implications for addiction
  - Early use in adolescents will create problems in many areas

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