

Part 5: Pharmacology of The Streets-2015"



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Overview

- Statistics
- Neurobiology of the Brain
- Neurotransmitters
- "Street Drugs"
- What to do if your kid is on "Street Drugs"

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Statistics

In 2009, about 28 million Americans were current users of illicit drugs, meaning they used an illicit drug at least once during the month prior to being interviewed for the latest National Household Survey on Drug Abuse, 40 million persons are prescription drug abusers, and 100 million persons abuse alcohol! an annual nationwide survey among Americans age 12 and older. About 17 million were dependent on illicit drugs; an additional 28 million were dependent on alcohol. In the state of Georgia, it is estimated that there are over 850,000 addicts and alcoholics, 85% of these individuals will never seek help.

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Statistics

Among juvenile arrestees in 2009, marijuana was the most commonly used drug by both males and females. More than half the juvenile males and nearly 40 percent of the females tested positive for marijuana. Marijuana's THC potency has increased from 3-4% in 1990 to 8-10% in 2009. In Clarke county, the average potency of marijuana is about 7% THC.

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Statistics

Abuse of Ecstasy, or MDMA (methylenedioxymethamphetamine), in 2009 became more widespread in 17 CEWG areas: Atlanta, Baltimore, Boston, Chicago, Denver, Detroit, Miami, Minneapolis/St. Paul, New Orleans, New York, Philadelphia, San Diego, San Francisco, Seattle, St. Louis, Texas, and Washington, D.C. In Boston, MDMA was the most frequently mentioned drug in telephone calls to the Poison Control Center during the first three quarters of 2000. Ecstasy is one of drugs that is involved with "date rape". A recent report indicated that this drug was used in 17% of first sexual experiences of females under 18 years old.

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Costs To Society

A study prepared by The Lewin Group for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism estimated the total economic cost of alcohol and drug abuse to be \$345.7 billion for 2008. Of this cost, \$197.7 billion* was due to drug abuse. This estimate includes substance abuse treatment and prevention costs as well as other healthcare costs, costs associated with reduced job productivity or lost earnings, and other costs to society such as crime and social welfare. The study also determined that these costs are borne primarily by governments (46 percent), followed by those who abuse drugs and members of their households (44 percent).

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"Street Drugs"-2015

- Absinthe
- Alcohol
- Bath Salts
- Caffeine
- Cannabis
- Cocaine
- DXM
- GHB
- Heroin
- Inhalants
- Ketamine
- LSD
- MDMA
- Mescaline
- Meth
- Mushrooms
- Nutmeg
- Opiates
- Peyote
- Salvia
- Spice
- Tobacco

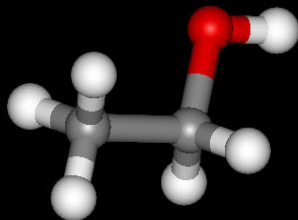
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Alcohol

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Ethyl Alcohol (C₂H₅O)



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Alcohol Effects by Erowid

| | |
|---------------|---------------|
| Onset | 15-30 minutes |
| Coming Up | 15-20 minutes |
| Plateau | 30-90 minutes |
| Coming Down | 45-60 minutes |
| After Effects | 1-2 hours |

ALCOHOL

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Alcohol

- Number 1 Street Drug
- 22,000 DUI Deaths in 2009
- 10 million underage users in last month

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Absinthe Basics

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DESCRIPTION

Absinthe is a green liquor, made by soaking wormwood (*Artemisia absinthium*) and other herbs in grain alcohol. Its psychoactive effects are the result of both a high alcohol content and the presence of thujone, the primary active ingredient in wormwood. The drink was popular in Europe and America in the 19th century before many countries outlawed it due to concerns about the health effects of thujone.

Because of the bitter taste of Absinthe, it is traditionally served poured over a perforated spoon full of sugar and then diluted with water. Another traditional method includes dipping the spoonful of sugar in the absinthe then lighting it on fire, the melting sugar drips into the Absinthe, lighting it on fire, only to be put out by adding water.

Price

Wormwood which contains thujone is difficult to find for sale inside the United States, but is available from suppliers in other countries, many of whom are willing to ship into the U.S. Prices depend on the brand and the thujone content, and can range from \$10 a bottle to over \$200 per bottle.

Law

Absinthe containing thujone is illegal to sell for human consumption in the United States. Some brands of absinthe are sold in the U.S. which contain no thujone and other absinthes are imported into the U.S. despite FDA regulations. It is not illegal to possess Absinthe, even if it contains thujone.

History

Elixirs resembling absinthe have existed for thousands of years. Pythagoras and Hippocrates both recommended Wormwood and Wormwood tinctures for a variety of ailments. Legend has it that the modern recipe for Absinthe was developed in 1792 by a French doctor named Pierre Ordinaire. A few years later, it made its way into the hands of Major Dubied and his nephew Henri-Louis Pernod, who developed several distilleries and were the first to produce modern Absinthe on a large scale.

Slang

The Substance: Green Fairy, Green Goddess, La Feé Verte

WHAT IS ABSINTHE?

Absinthe is strong alcoholic liqueur made with an herbal extract including wormwood (*Artemisia absinthium*). It is an emerald green drink (due to the presence of chlorophyll) which is very bitter (due to the presence of absinthin, which has a bitterness threshold of 1:70,000) and is therefore traditionally diluted with cold water which is poured over a perforated spoonful of sugar into a glass containing a shot of absinthe. The drink then turns into an opaque white as the essential oils precipitate out of the alcoholic solution, forming a colloidal suspension. Absinthe was once popular among artists and writers and was used by Van Gogh, Baudelaire, and Verlaine, to name a few. It appears to have been believed to stimulate creativity and to act as a curative and aphrodisiac.

HOW WAS/IS ABSINTHE MADE?

There were two general ways in which absinthe was made. The first method, which was more traditional, is described in some detail below. This was the method used by more established and larger absinthe producers. The second method involved flavouring industrially produced (and often impure) ethanol with essential oils extracted from the plants listed below. This second method probably came into practice later and seems to have been used mainly by smaller manufacturers.

Simon and Schuler's Guide to Herbs and Spices tells us that Henri-Louis Pernod used aniseed, fennel, hyssop, and lemonbalm along with lesser amounts of angelica, star anise, dittany, juniper, nutmeg, and veronica. These ingredients were macerated together with wormwood plants. After leaving the mixture to sit, water was added and the mixture was distilled. Dried herbs, including more wormwood, were added to the distillate, which was then diluted with alcohol to give a concentration of about 75% alcohol by volume (Simonetti 1990). Different absinthe manufacturers used slightly different ingredients, sometimes using nutmeg and calamus, both of which have been purported to have psychoactive effects.

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HOW IS ABSINTHE consumed?

Although absinthe was sometimes drunk straight or in a variety of mixed drinks, the classic method of drinking it involves pouring cold water over a slotted spoon which contains sugar into a glass containing a shot of absinthe. As the water hits the absinthe, the oils precipitate out, and the drink changes from a clear emerald colour to an opaque, milky white.



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WHAT INGREDIENT(S) IN ABSINTHE ARE PSYCHOACTIVE?

ETHANOL

Ethanol (normal drinking alcohol) is definitely one main active component. Undiluted absinthe was anywhere from 60% to 85% ethanol. Although some, such as Alfred Jarry, were known to have drunk it straight, it was usually substantially diluted. Still, dilution could not change the fact that absinthe contained a lot of ethanol in comparison to its other ingredients.

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THUJONE

Another candidate is the monoterpene, thujone, which is considered a psychoactive convulsant. The sources of thujone in absinthe are the herbs wormwood (*Artemisia absinthium*) and Roman wormwood (*Artemisia pontica*). There is good evidence that both thujone and wormwood have psychoactive properties. Some have suggested that this effect is due to thujone binding at the cannabinoid receptor, at which the active components in marijuana act (delCastillo et al 1974). This seems unlikely. Furthermore, it is not even clear that thujone is present in sufficient quantities to play a role in absinthe intoxication. However, it is possible that thujone accumulates in the body and plays a role in the psychoactivity and toxicity of chronic absinthe use.

Thujone is named after the plant from which it was first extracted, thuja (*Thuja occidentalis*). Since thujone was also extracted from other plants before its structure was identified, it is also known as absinthol, tanacetone, and salviol. According to IUPAC (International Union of Pure and Applied Chemists) nomenclature, it is officially called 3 thujamone or 3 sabinone (Albert-Puleo 1978). There are two stereoisomers of thujone: (-)-3-isothujone (or - or l-thujone) and (+)-3-thujone (or + or d-thujone). Thujone is the major component of wormwood oil and accounts for up to 90% of the oil's weight (Simonsen 1949).

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Bath Salts

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Methylenedioxypropylamphetamine (MDPV)

- Street names: Bath Salts, Ivory Wave, Plant Fertilizer, Plant Food, Vanilla Sky, Energy-1
- Designer drug developed to get around drug control laws



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MDPV – “Bath Salts”

- Effects: similar to cocaine, amphetamine, or MDMA
 - Positive: mental and physical stimulation, euphoria, creativity, feelings of empathy, increased sociability and productivity, sexual arousal
 - Negative: tightened jaw muscles, grinding teeth, loss of appetite, disturbed sleep patterns, involuntary body movements, confusion, GI disturbance, muscle tension, headache, harsh comedown effects, tachycardia, hypertension, vasoconstriction, psychotic behavior, residual depression, anxiousness/paranoia

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MDPV – “Bath Salts”

- Routes of Administration: most often insufflated (snorted), but can be smoked, injected, or ingested orally; usual amounts 5 mg or less (active ingredient)
- Duration of action: 3 to 4 hours for subjective effects, 6 to 8 hours for side effects
- Legal status: Not federally controlled, several states have banned either bath salts or chemicals used to make MDPV. Georgia has proposed a bill to ban sale of bath salts, but they have been commonly available in convenience stores and head shops

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MDPV – “Bath Salts”

- Prevalence of use: Information is currently very limited, data is not yet reported by any national drug study programs due to relative newness of drug
- Used predominantly in youth population
- Increasingly cases are being reported of overdose on MDPV leading to death – 2 men in Pennsylvania and 1 woman in Illinois in April 2011, and 1 man in Michigan in May 2011


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MDPV – “Bath Salts”

- Chemistry and Pharmacology
 - Related in chemical structure to MDMA and cathinone
 - MDPV administered to mice increased dopamine levels 60 minutes after administration, though not as markedly as increases induced by methamphetamine or MDMA
 - Has a “cousin” mephedrone: also found in bath salts with same effects and dangers

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MDPV – “Bath Salts”



- Availability: Typically sold in smoke shops or convenience stores as a “bath salt” under the product names Ivory Wave or Vanilla Sky. It is marked “for novelty use only” and has no instructions on dosing. Also sold online as “Energy 1” on UK based websites or as “Plant Food”

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MDPV – “Bath Salts”

- Addiction Potential: No studies have shown addiction potential as of yet, but self-report from users indicate the high is so addictive they can not stop using.
 - Intense cravings have been reported
 - Some users have sought professional help after only one month of abuse
- No information available on withdrawal or tolerance

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MDPV – “Bath Salts”

- Long-term effects: Unknown – Bath salts have only come into spotlight within last 2 years, so no studies are available
- Toxicity and overdose:
 - Severe and life-threatening toxic effects that do not respond to conventional medical treatment
 - Usually non-responsive to sedatives
 - When users present with psychosis, psychotic state returns when sedatives and antipsychotics withheld, even after days
 - Toxic and lethal doses are unknown

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MDPV – “Bath Salts”

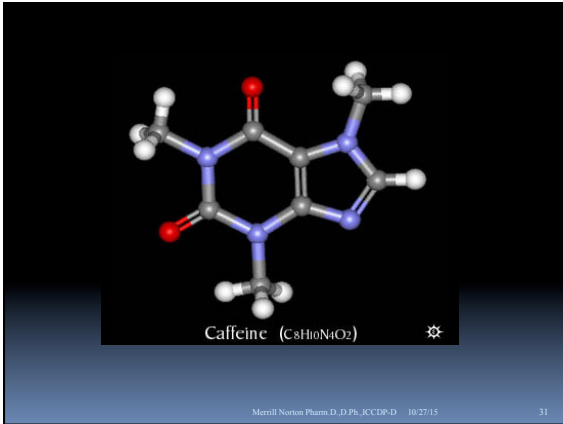
- Drug Testing
 - Not commonly tested for in standard and extended drug screens
 - Redwood Toxicology Lab has a 2-panel urine drug screen that tests for MDPV and mephedrone, as well as an extended 14-panel screen that includes these drugs

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Caffeine

(C₈H₁₀N₄O₂)

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What are the short term effects of caffeine on the body?

The physiological effects of caffeine can begin as early as 15-45 minutes after ingestion. Its maximum central nervous system effects are reached in about 30-60 minutes. Caffeine increases heartbeat, respiration, basal metabolic rate, and the production of stomach acid and urine; and it relaxes smooth muscles, notably the bronchial muscle. All of these changes vary considerably among people and may depend upon the individual's sensitivity to this drug, his/her metabolism, or upon whether the consumer habitually uses or rarely uses caffeine. How long caffeine's effects last is influenced by the person's hormonal status, whether he/she smokes or takes medications, or has a disease that impairs liver functioning.

Subjectively people report that caffeine gives them a "lift." They feel less drowsy, less fatigued, more capable of rapid and sustained intellectual effort. They also report improved performance of some manual tasks such as driving. However, caffeine may restore only those abilities or feelings the person had before fatigue or boredom set in. Studies have also shown that caffeine decreases reaction time to both visual and auditory stimuli; it does not significantly alter numerical reasoning (arithmetic skills) or short-term memory; and it can diminish performance of manual tasks that involve delicate muscular coordination and accurate timing.

When caffeine is taken in high doses it can cause many unwanted side effects. To learn more about these, please read "What are the symptoms of caffeine overdose?"

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Caffeine and Health Problems

HEARTBURN - In some people, coffee has been shown to relax the sphincter muscles at the lower end of the esophagus, allowing the stomach contents to "back up" into the esophagus; this is called heartburn. Caffeine alone has no effect on the sphincter muscles, so other substances in coffee apparently cause the heartburn.

ULCERS - Caffeine can increase the secretion of both acid and pepsin in the stomach, which could exacerbate an existing ulcer. However, since both "regular" and decaffeinated coffees have also been shown to stimulate the gastric mucosa and increase stomach acid secretion, caffeine is probably not the only component of coffee responsible.

FIBROCYSTIC BREAST DISEASE - In the late '70's and '80's, several well-publicized studies linked caffeine consumption with benign fibrocystic breast disease (FBD). More recent investigations, however, have not supported these findings. Individual women may notice a decrease in palpable breast lumps, the symptoms of FBD, when they limit their caffeine intake, although research has not shown a direct association.

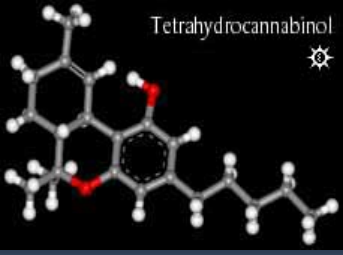
HEART PROBLEMS - Caffeine has been shown to cause cardiac arrhythmias (irregular heartbeats) in certain individuals; often persons with heart disease are told to avoid caffeine altogether. However, no evidence shows that caffeine is a causative factor in the development of heart disease. Also see "Has coffee drinking been linked to heart disease?" in this section.

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Cannabis-Tetrahydrocannabinols

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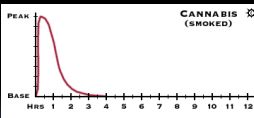
Tetrahydrocannabinol



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Cannabis Effects by Erowid

| | |
|---------------|---------------|
| Onset | 0-10 minutes |
| Coming Up | 5-10 minutes |
| Plateau | 15-30 minutes |
| Coming Down | 45-60 minutes |
| After Effects | 30-60 minutes |



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The effects of smoking Cannabis are usually lighter than those of many other recreational psychoactive substances. People are generally capable of carrying out normal actions and activities while high.

POSITIVE

- mood lift
- relaxation, stress reduction
- creative, philosophical or deep thinking ... ideas flow more easily
- increased appreciation of music. More aware of, deeper connection to music.
- increased awareness of senses. (eating, drinking, smell)
- change in experience of muscle fatigue. Pleasant body feel. Increase in body/mind connection.
- pain relief (headaches, cramps)
- reduced nausea (used medically for this)

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•NEUTRAL

- general change in consciousness (as with many psychoactives)
- increased appetite, snacky-ness
- slowness (slow driving, talking)
- tiredness
- blood shot eyes (more common with certain varieties of cannabis and inexperienced users)
- mouth dryness
- interrupts linear memory. Difficulty following a train of thought.
- cheek, jaw, facial tension (less commonly reported)

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•NEGATIVE

- nausea
- coughing, asthma, upper respiratory problems
- difficulty with short term memory during effects and during periods of frequent use
- racing heart, agitation,tenseness
- mild to severe anxiety
- panic attacks at very high doses (usually oral) or in sensitive users
- headaches
- dizziness, confusion
- paranoid & anxious thoughts more frequent
- possible psychological dependence on cannabis
- "mild" withdrawal symptoms occur after daily use in some users. These may last for 1-6 weeks after cessation of use and can include anxiety, anhedonia (reduced experience of pleasure), headaches, general unease/discomfort, difficulty sleeping, and a desire to smoke pot.

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SMOKED CANNABIS
 Cannabis dosage is fairly easy to manage. A good method for determining your dose is to smoke a small amount (1-2 "hits"), wait 5-15 minutes, repeat as desired. A single intake of smoke from a pipe, water pipe, or joint is generally called a hit. An average size hit from a pipe or water pipe weighs somewhere on the order of 1/20th of a gram. With reasonably high potency Cannabis buds, a small number of hits (1-3) is generally enough. The lower the potency the more hits people will need to achieve the desired effects.

Below is a chart with very approximate dosages for dry, smoked, high potency cannabis. These numbers will vary greatly depending on individual reaction, potency, and smoking method. Generally, brown leafy cannabis is not as strong as green, gold, purple sticky buds. There does exist "One Hit Shit" that can surprise even the veteran smoker with it's strength. Pay attention to your body's reaction when you first try a new type or a new smoking method, and be careful when introducing others to cannabis. Everyone reacts differently to different doses.

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| High Potency Smoked Cannabis Dosages | |
|--------------------------------------|-------------|
| Light | 1/30th gram |
| Medium | 2/30th gram |
| High | 3/30th gram |

MARINOL

| Synthetic THC Dosages | |
|-----------------------|-----------------|
| Appetite Stimulant | 2.5 mg |
| Chemotherapy Dose | 5 mg (3x daily) |

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Medical Marijuana



Marijuana has many possible medical uses. Positive effects are claimed for ailments such as cancer, aids, and glaucoma. Aids can cause a loss of appetite known as the "wasting syndrome" which can lead to drastic weight loss and weakness. Chemotherapy used in the treatment of cancer causes nausea resulting in an inability to keep down food. Marijuana's healing nature for these two illnesses is a result of it's ability to increase a person's appetite as well as relieving nausea allowing a patient to regain weight. Marijuana reportedly helps glaucoma patients by reducing ocular pressure which can cause damage to the eye.

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Cannabis Chemistry by Erowid

| | |
|------------------|--|
| NAME : | Tetrahydrocannabinols |
| CHEMICAL NAME : | Tetrahydro-6,6,9-trimethyl-3-pentyl-6H-dibenzo[b,d]pyran-1-ol |
| CHEMICAL FORMULA | C ₂₁ H ₃₀ O ₂ |
| MOLECULAR WEIGHT | 314.47 |
| BOILING POINT | 200° |
| LD50 | 1270 mg/kg (male rats), 730 mg/kg (female rats) oral in sesame oil |
| LD50 | 42 mg/kg (rats) inhalation |

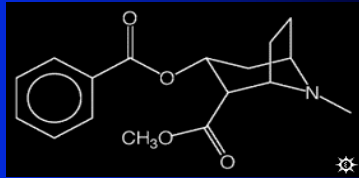
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Cocaine & Crack (C₁₇H₂₁NO₄)



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Cocaine Basics by Erowid



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DESCRIPTION

Cocaine is a naturally derived CNS (central nervous system) stimulant extracted and refined from the **Coca** plant grown primarily in the Andean region of South America. Cocaine is typically a white-ish powder with a bitter, numbing taste. It is most often insufflated (snorted), though it can also be injected and used orally.

While powder cocaine can be smoked to some effect (despite common belief otherwise), it is a very inefficient method of ingestion. Because of the high temperatures present when smoking, powder cocaine tends to burn rather than vaporizing. For this reason, freebase cocaine, also known as crack, is created from powder cocaine for smoking. Freebase cocaine vaporizes at smoking temperatures providing more effect with less material, as well as faster onset and a more intense high than powder cocaine..

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EFFECTS

Onset

Onset varies depending on method of ingestion. Snorting cocaine will produce effects within a minute. Smoking freebase cocaine produces effects almost immediately...often before exhaling. Injected cocaine also produces effects within a few seconds.

Duration

The effects of snorted cocaine are quite short with the primary high lasting only 20-40 minutes. This is one of the reasons leading to problems with addiction. As the effects wear off, more is often snorted. This pattern of repeated use can quickly move in the direction of addiction. A hit of smoked Crack (freebase cocaine) will typically produce effects lasting 5-15 minutes.

The Experience

As with many substances, the effects of cocaine depend greatly on the person and the dose. Possible effects include feelings of well-being, decreased appetite, stimulation, sexual arousal, and increased focus. Negative effects can include increased body temperature and heart rate, agitation and anxiety, paranoia, dizziness, nausea/vomiting, violent behavior, kidney failure, seizure, stroke, and heart attack.

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**Coca and Drug Tests
by Erowid**

| | |
|---|------------------|
| Tested for in Standard Drug Tests? | YES |
| Detection Period in Urine | 48-72 hrs |

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Test Information

The standard tests are "a one step rapid, qualitative immunoassay for the detection of beanzoylcegonine, a hydrolytic degradation product, in urine. The cutoff concentration for the immunoassay test is 300 ng/ml, as recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA) (NIDA). The cutoff for GC-MS is 250 ng/ml.

Cocaine is one of the "NIDA 5". The five drugs tested for in the standard NIDA approved drug test.

Substances or Conditions which can cause false positives

Kidney infection (kidney disease)

Liver infection (liver disease)

Diabetes

Amoxicillin, tonic water

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"Crack"-Home of the Fifteen Minute Orgasm



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Freebase: mix about 1 g of coke in 10 ml of water in a small vial. Slowly add drops of ammonia to the solution. A white milky precipitate will form. Stop adding ammonia when additional drops no longer result in precipitation. Add 5 ml of ethyl ether, close vial, and shake. The precipitate (freebase) will dissolve in the ether. Siphon off the ether with a pipette (ether and water don't mix), and slowly drip it on a plate. As the ether evaporates, white crystals will form. This is the evil freebase. Crush the crystals and put under a heat lamp for at least 24 hrs to let the solvent evaporate. **ETHYL ETHER IS EXTREMELY FLAMMABLE. IN THE PRESENCE OF AIR IT CAN FORM PEROXIDES WHICH WILL SPONTANEOUSLY EXPLODE! ALSO, ETHER CAN "CRAWL" FROM AN OPEN BOTTLE AND TRIGGER AN EXPLOSION MANY FEET AWAY.**

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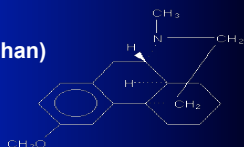
Crack: Mix 2 parts ok coke HCL for 1 part baking soda in 20 ml of water. Heat solution gently until white precipitates form, and stop heating when precipitation stops. Filter and keep precipitate. wash precipitate once with water (this procedure usually omitted in street product). Dry 24 hours under heat lamp. Voila. The product is much less pure (there is lots of baking soda left) but the procedure is safer.

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**DMX(dextromethorphan)
(C₁₈H₂₅NO)**



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DMX(Dextromethorphan)

POSITIVE

- mood lift
- dissociation of mind from body
- creative dreamlike experiences

NEUTRAL

- pupil dilation
- visual and aural hallucinations
- decreased sexual functioning (difficulty achieving orgasm)

NEGATIVE

- upset stomach, vomiting
- body itching
- rash, red blotchy skin
- diarrhea
- fever
- tachycardia (racing, pounding heart)

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6 What's the DXM Trip Like?

Well, that depends on how much you take. There are four different kinds of experiences, based on the dosage; these are called *plateaus*. The first plateau is a mild stimulant effect with a little bit of a buzz, and has been compared to MDA. The second plateau is more intoxicating and has been compared to being drunk and stoned at the same time. The third plateau is dissociative, like a lower dose of ketamine. The fourth plateau is fully dissociative like a higher dose of ketamine.

You should not attempt higher plateau doses unless you have someone with you who can take care of you in case you get sick or freak out. It happens on DXM. Many things can happen unexpectedly on upper plateaus, such as spontaneous memory recall, complex delusions, hallucinations, out-of-body experiences, near-death experiences, and perceived contact with spiritual or alien entities. You need to be pretty stable and grounded before you can handle these things.

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Normal

Former Ecstasy User



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Defining Ecstasy

A derivative of amphetamine



MDMA, XTC, E, essence, Adam

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What we know:
Ecstasy has short-term & long-term effects on the brain

Short term:
changes brain chemistry, behavior

Long term:
changes brain structure, behavior

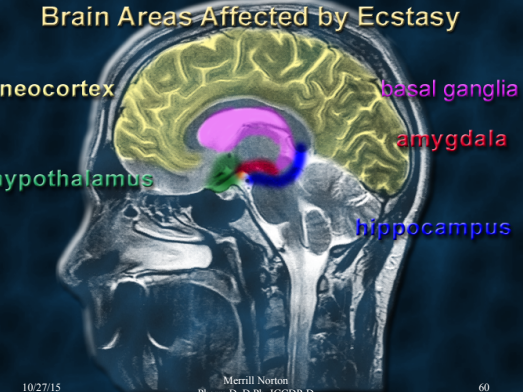
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How Do We Know ?
Scientific research in animals and humans



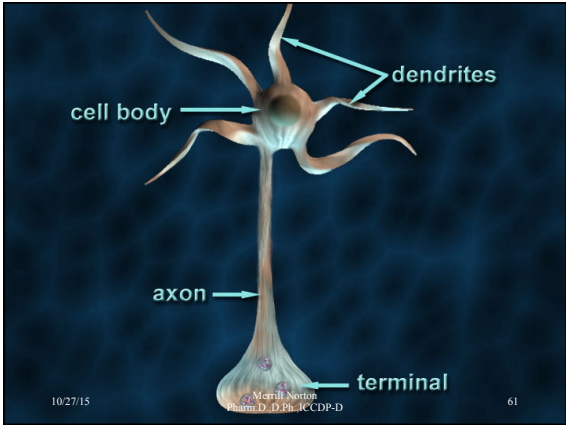
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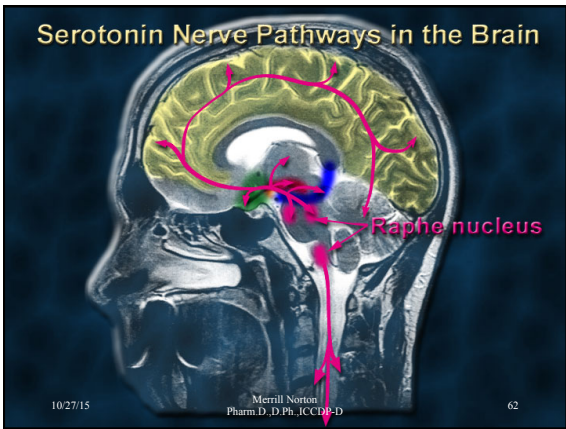
Brain Areas Affected by Ecstasy

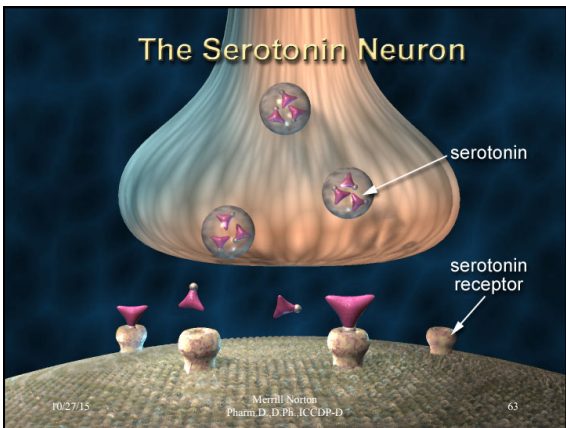


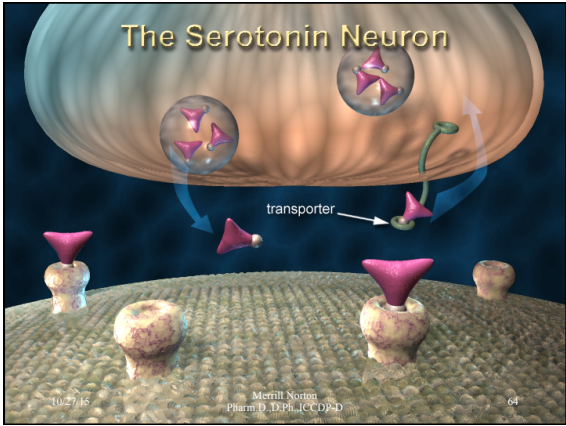
neocortex basal ganglia
hypothalamus amygdala
hippocampus

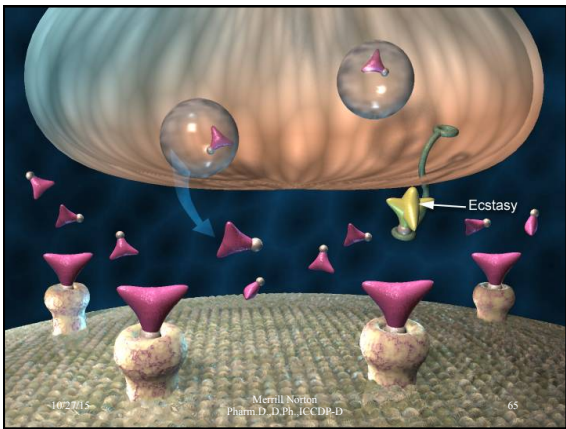
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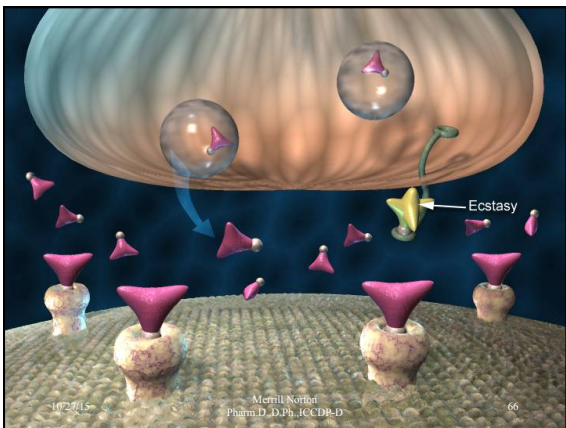


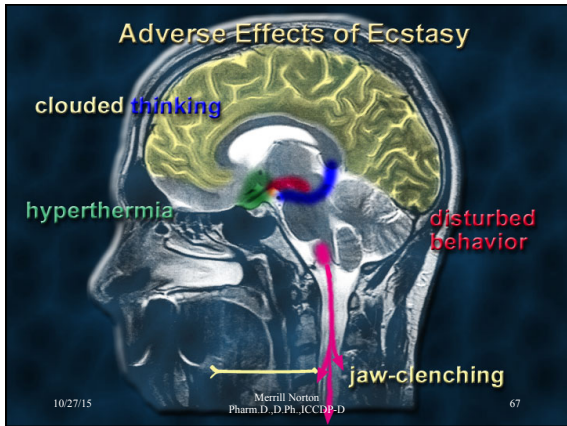


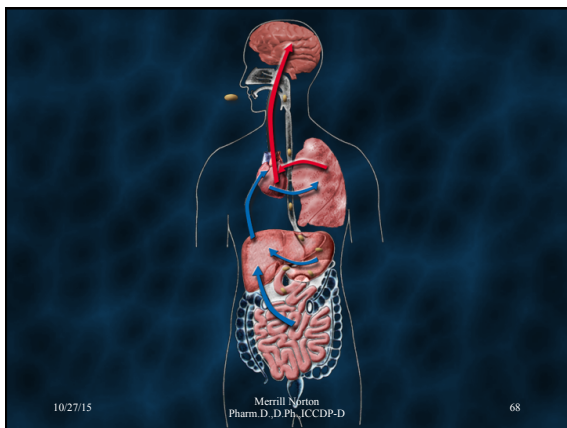


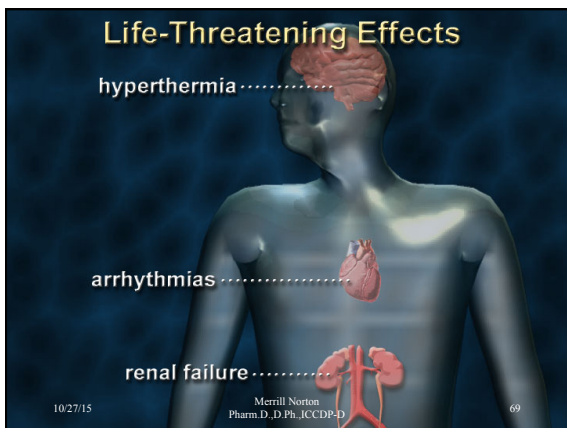


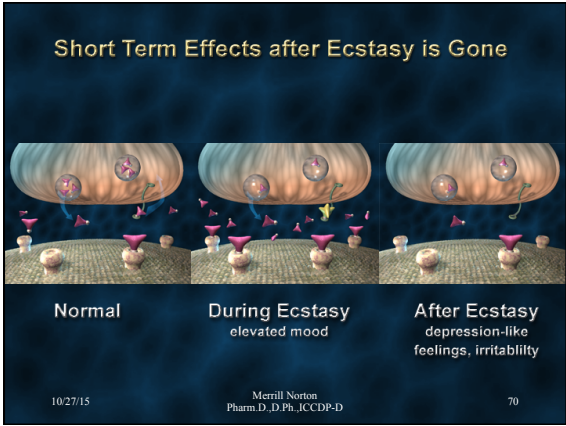


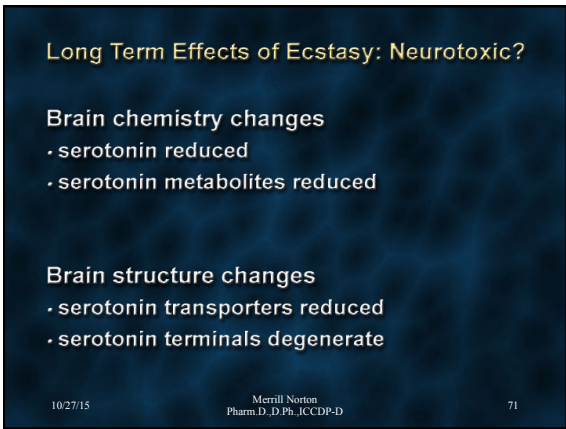


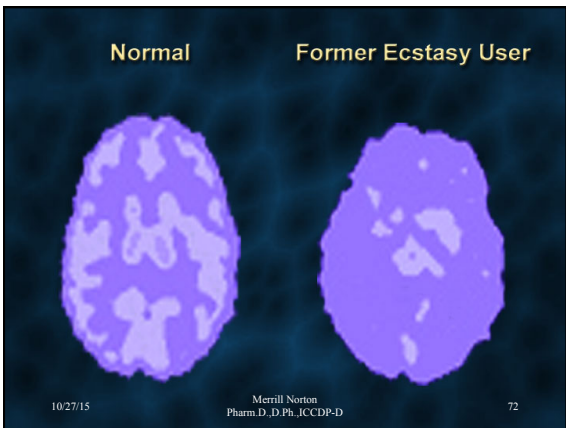


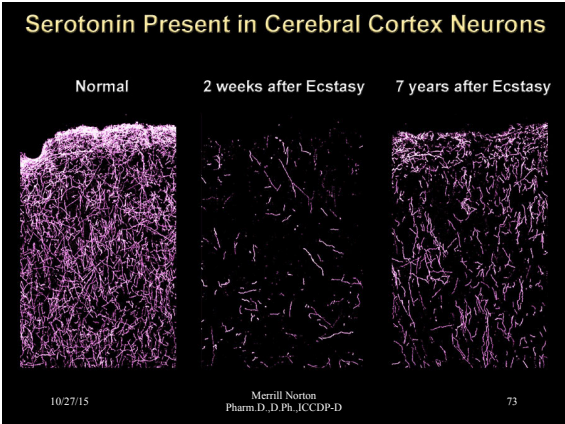




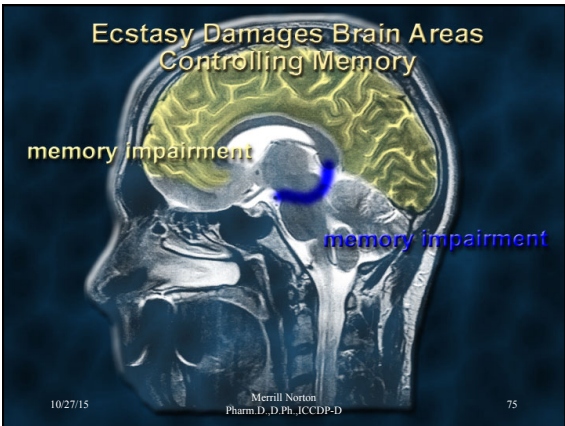




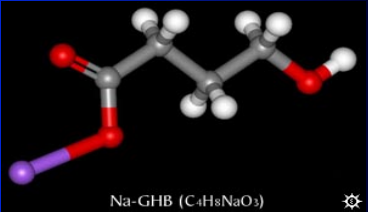








GHB(gamma-hydroxybutyrate)
(NaGHB, KGHB Georgia Home Boy)

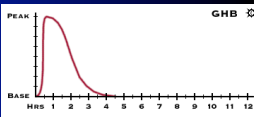


Na-GHB (C₄H₈NaO₃)

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GHB Effects by Erowid

| | |
|---------------|----------------------|
| Onset | 10-20 minutes |
| Coming Up | 15-30 minutes |
| Plateau | 45 min - 1 1/2 hours |
| Coming Down | 15-30 minutes |
| After Effects | 2-4 hours |



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GHB (gamma-hydroxy butyrate) is an intoxicating chemical with medical, recreational, and potentially **antidepressant** uses. GHB affects the release of dopamine in the brain, usually causing effects ranging from relaxation to sleep at low doses. Overall, the effect characterization is extremely similar to alcohol, with the duration slightly longer, the hangover effects (for most people) slightly less, and the unpleasant and dangerous overdose effect of possibly causing temporarily unrousable sleep (coma) at doses just over those that some people enjoy ingesting.

The effects of GHB are heavily affected by one's body weight, interactions with other chemicals, and one's individual reaction. Some people find GHB to be useful for treating insomnia, others use it as part of the process of breaking alcohol addiction, some find it a pleasant alcohol replacement. Many people who try GHB don't like it somewhat drowsy, slightly dizzy, alcohol-like character.

Warning : GHB use can be extremely dangerous. Please read the warnings on the **GHB Health Page**. GHB normally tastes very salty and most like baking soda. Improperly manufactured GHB can also contain contaminants which may be slightly toxic and add a slightly more 'chemical' or 'caustic' flavor to the material. Be safe. Know your source.

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EFFECTS DESCRIPTION
Setting GHB dosage is sometimes tricky and improper dosage can have unpleasant, unhealthy, and monetarily costly side effects. See the [dosage page](#) for more information.

Low Dose:
A low dose of GHB (usually from .5 to 1.5 gms) often causes effects similar to those of 1-3 drinks of alcohol. Users can feel a mild relaxation, increased sociability, slightly decreased motor skills, sometimes mild dizziness, and other effects similar to mild alcohol intoxication. Even at low doses it is improper for GHB users to drive or operate heavy machinery.

Medium Dose:
A medium dose of GHB (usually from 1 to 2.5 grams) increases the relaxing effects and the physical disequilibrium experienced. Some people report an increased appreciation for music, dancing, or talking. Many people report positive mood changes. Some slurring of speech, silliness, and slight incoherency are also common. Others report increased feelings of nausea and grogginess. Some users of GHB report pro-sexual effects: an increase in tactile sensitivity, relaxation, increased male erectile capacity, and heightened experience of orgasm. Some women report that GHB makes orgasms harder to achieve.

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Heavy Dose:
A heavy dose of GHB (from 2.5 + grams) can increase feelings of disequilibrium in many people to point of feeling quite ill. Many people accidentally move from Medium Dose to Over Dose, only passing through Heavy Dose for a few minutes. One reason that GHB has gained notoriety as a Club Drug is that some people experience extremely positive feelings on Heavy Doses of GHB. Reports of euphoria, feeling music deeply, joyous dancing, and other very positive effects are common among aficionados. People who report these effects also describe how difficult finding one's personal dose range can be to achieve these effects. An extra quarter (.25) gram can be the difference between euphoria and vomiting.

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Overdose:
The Overdose range for GHB can be as little as 2 grams, based on body weight and individual sensitivity. One major problem with GHB as an underground recreational substance is that it has a sharp dose-response curve, which can be difficult to manage with the various non-standard preparations available to the uninformed buyer. Another major problem is that uninformed users often mix GHB with alcohol, which drastically increases the chance of vomiting and unconsciousness. An overdose can consist of mild to extreme nausea and dizziness, and vomiting. It can also be characterized by a strong drowsy feeling followed by a temporarily unrousable sleep (sometimes characterized as a type of coma) for 1-4 hours. Some Overdoses of GHB mix vomiting with unconsciousness which is an extremely dangerous combination for obvious reasons. When using GHB (or any substance), it is important to remember to let someone who is with you know what you're doing, so if you experience Overdose effects, they can react appropriately and let any health professionals who become involved know what substance was involved.

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Poisoning:

We're defining a level dosage above Overdose in order to highlight the effects of extreme overdoses. While many Overdoses consist mainly of heavy sleep, some are life-threatening. GHB Poisonings are characterized by very low breathing, convulsions or twitching, vomiting, complete non-responsive even to 'deep pain', fixed pupils, etc. GHB poisoning victims should receive medical care immediately.

After Effects:

Some people feel drowsy, sleepy, or groggy after the effects wear off or the next day after ingestion. The hangover from low and medium doses of GHB is usually mild or non-existent, although some people report feeling slightly 'fuzzy headed' the next day. Some people also report feeling refreshed, happier, and more alert the day after use. For some people, using GHB more than once a week causes significantly increased negative after effects.

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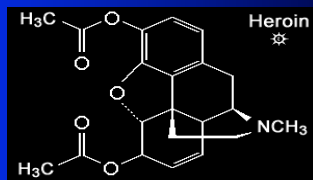


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Heroin(diacetylmorphine)
(C₂₁H₂₃NO₅)
(dope, junk, smack)



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Inhalants

- Nitrous Oxide
- Organic Solvents-
Butane, fluorocarbons, gasoline, toluene, acetone
- Trichloroethylene
- Volatile nitrites-amyl nitrites, butyl nitrites (Room Deodorizers, Lockerroom, Rush)
- Chloroform

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Nitrous Basics by Erowid

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DESCRIPTION

Nitrous Oxide (N₂O) is a simple gas that, when inhaled, causes rapid analgesia (pain relief), euphoria, mild sedation, and sometimes psychedelic dissociation. It has been used in dentistry since the mid 1800's and recreationally since the late 1700's when it earned the name 'laughing gas' because of its tendency to cause laughter in those who inhale.

Dose

Nitrous is most frequently used in the form of whipped cream chargers, small metal cartridges which are 'cracked' either into a whipped cream canister or with a special 'cracker' into a balloon for inhalation. A single cartridge is between one and three lung fulls of gas. One or two lung fulls is generally enough for a short nitrous experience although many people choose to use many cartridges throughout the course of a night

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EFFECTS

Onset
When inhaled, Nitrous generally reaches full effects within a few seconds.

Duration
Effects from a single inhalation of Nitrous Oxide last a few minutes. Most recreational Nitrous use consists of multiple inhalations over a period of time.

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PROBLEMS

Although generally considered quite safe when used medically and sparingly, it has some negative health consequences when used chronically. Heavy Nitrous use can lead to a depletion of vitamin B₁₂. This can cause numbing of fine nerve endings, especially noticeable in the fingers and toes. Supplements of B₁₂ may reduce the chances of this occurring in heavy users. Shots of B₁₂ are given as a treatment for advanced depletion. If left untreated B₁₂ deficiency can lead to long-term damage.

Most of the acute dangers associated with Nitrous Oxide are related to accidents during ingestion. In medical applications, Nitrous is dispensed in combination with Oxygen. Inhaling Nitrous alone is not required to get full effects, the effects are the result of the nitrous in the system, not of oxygen deprivation. It is important for users to take breaths of air between hits.

A handful of people also suffocate each year while using nitrous in the US when the balloon, garbage bag, or mask used to inhale the nitrous stays on the person's face as they fade from consciousness. Some tank-users also suffocate when the valve is left open in a confined space such as a car or small room.

Addiction Potential
Nitrous has gained the nickname 'hippy-crack' in some circles because it lends itself to repeated and compulsive use for some people. It is not unheard of to find individuals who use Nitrous many times a day, every day.

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Ketamine Basics
by Erowid

DESCRIPTION

Ketamine is a dissociative anaesthetic, developed in the mid 1960's, used primarily for veterinary anaesthesiology. Although Ketamine is not used medically on humans much because it induces psychedelic episodes in patients, it is still used for some limited human applications because it does not depress breathing or circulation. Ketamine is used recreationally primarily as a snorted white powder and for therapeutic and psychedelic use it is often injected intra-muscularly (IM). Its effects range (at lower doses) from mild inebriation, dreamy thinking, stumbling, clumsy, or 'robotic' movement, delayed or reduced sensations, vertigo, sometimes erotic feelings, increased sociability, and an interesting sense of seeing the world differently to (at higher doses) extreme difficulty moving, nausea, complete dissociation, entering complete other realities, classic Near Death Experiences (NDEs), compelling visions, black outs, etc. Ketamine is also known for being more psychologically addictive / compelling than most psychedelics and it is not uncommon to hear of users who take it once or more daily.

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Dose

Depending on the concentration, form, and method of administration, recreational doses of ketamine range from 30 - 300 mg. The dosage range for insufflated (snorted) ketamine varies widely from about 15-200 mg. With doses higher than about 50 mg it is advisable to be lying down. I.M. (intra-muscular injections) ketamine dosages are generally between 25-125 mg. Oral use usually requires more material, ranging from 75-300 mg.

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Price

sold for 25-50\$ per gram at parties & events, sold for 15-25 USD per gram for larger purchases, and 10-20 for wholesale or family purchases.

Law

Ketamine is illegal to possess in the United States without a prescription or license. It was made a schedule III substance in August, 1999. Prior to that time sales were regulated by the FDA but possession was legal. Ketamine is controlled in many countries although it is still sold over the counter in Mexico.

Active Ingredients

Ketamine hydrochloride is a synthetic chemical in the 'dissociative anaesthetic' class.

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EFFECTS

Onset

I.M. (intra-muscular injection) Ketamine generally takes 1-5 minutes to take effect. Snorted ketamine takes a little longer at 5-15 minutes. Depending on how much and how recently one has eaten, oral ketamine can take between 5 and 30 minutes to take effect.

Duration

The primary effects of ketamine last approximately an 30-45 minutes if injected, 45-60 minutes when snorted, and 1-2 hours if used orally.

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Ketamine Chemistry by Erowid

| | |
|------------------|---|
| NAME : | Ketamine |
| CHEMICAL NAME : | (±)-2-(2-Chlorophenyl)-2-(methylamino)cyclohexanone |
| CHEMICAL FORMULA | C ₁₃ H ₁₆ ClNO |
| MOLECULAR WEIGHT | 237.73 |
| MELTING POINT | 262-263° C (Hydrochloride) |
| LD50 | 224±4 mg/kg (adult mice) |
| LD50 | 229±5 mg/kg (rats) |

From the [Merck Index, 13th Edition](#)

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PSYCHEDELIC INDICATIONS :

Ketamine does not treat music so well. Expect a narrowing of your auditory bandwidth. Music will sound neat but not correct and not transcending. You will selectively lose frequencies. Use mellow music with a psychedelic flavor, and keep the volume less than loud because your perception of overall volume will increase. Visual hallucinations are most notable in low light. Touch is exceptional. Smells and tastes will be nulled. Do not expect to talk, although you may. Expect general reflection but not exceptional emotionality.

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ORAL DOSE :

A Line Dose is about 1.0 mg/lb. body mass. Anaesthetic doses are above 4.0 mg/lb. A maximum oral dose of 3 mg/lb. should be set for adequate recovery. Above line dose, increasing doses yield little psychedelic advantage except for greater temporary memory loss. A good first dose is 300-350 mg for average weight woman, and 350-375 mg for average weight men. A minimum dose of 150-175 mg will give a good psychedelic experience.

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IM DOSE :
Intramuscular doses begin at perhaps .4 mg/lb. for a Line Dose. Anaesthetic doses to IM are about 1 mg/lb. Two injections should be made instead of one. Sterility of the bottle and needle are imperative. 100 mg seems to be a good IM dose for everyone. Expect soreness in the injection region for several days or weeks.

IV DOSE :
I do not recommend IV doses but have read reports of successful IV dosing. In the IV case you will probably lose motor control before you finish injecting so beware

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NASAL DOSE :
Nasal doses are highly unlinear next to oral and IM doses. The effects are quite different as well at low doses. At Line Doses, oral consumption is probably a better bet than nasal doses. A Line Dose nasally would again be about 1.0 mg/lb. A minimum dose nasally would be about .25 mg/lb, but will be short and much different from a comparable oral dose. 75-100 mg would be a good starter for most weights. Ketamine is relatively comfortable in the nasal region.

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THE TRIP :
Before reaching the first line, fragmentation will occur- the world will begin to spin, but it won't be dizzying. Music will become fragmented. Chaos will ensue. At some point, you will find yourself complete removed from your surroundings and your body. Descriptions of the post-line experience vary substantially, but most include talk of alternate planes of existence, oneness, past and future revelations, and strange fabrics of all sorts. It will be very difficult to communicate at this point, and you probably will not be able to see or hear others in the room. Some revelations will be extremely heavy and some scary, but that fear does not seem to come back with you and is therefore difficult to describe as scary. You will probably find yourself coming back across the line again visibly, attempting to put an object in focus or define it. It is at this point that you will likely want to get in touch with your co-trippers. This is the "Wow" period. It is very important here that you do not try to move for awhile. The trip will continue mildly for an hour or so after this, with more conventional focuses.

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PRECAUTIONS :

An overdose of Ketamine will knock you out as if in an operating room. This would prove to be a waste of a tripping experience, and will probably make you ill to your stomach. The danger dosage is much higher however, at 10 mg/lb. Interactively, Ketamine should not be used with respiratory depressants, primarily alcohol, barbituates, and Valium. Ketamine has been used with no ill interactive effects with dope, acid, nitrous, dextromethorphan, and MDMA, although no combinations are recommended and are highly unnecessary given the totality of ketamine. It does not have a build-on effect with halucinagins and will generally overpower other drugs. Nitrous in the up and down periods can be effective. Unpracticed trippers may be overpowered by the awesome revelations of Ketamine and may be somewhat overwhelmed, although in general fear seems to be unable to compound here (such as in an LSD trip or with other drug paranoias) and will probably be only episodic. Food should not be consumed within an hour and one-half before the trip, and should be avoided for longer periods of time if possible. A peculiar sort of loneliness can occur over the line, so it is a good idea to stay in close quarters with people you are close with, and best to have a sober monitor or experienced Ketter at hand.

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LSD-Lysergic Acid Diethylamide

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LSD Basics by Erowid

DESCRIPTION

LSD is one of the most commonly used 'psychedelic' or 'hallucinogenic' substance. It comes in a variety of forms, but is virtually always taken orally. Today, LSD is most commonly found in the form of small squares of paper called blotter (full sheets of paper are decorated with **graphics or drawings**, perforated, then soaked in liquid LSD solution and dried). Other forms include, pills, gelatin sheets or shapes (pyramids, cubes, etc), liquid, liquid sugar cubes, and powder. Blotter is most common because it is easily produced, easily concealable and the format allows for few adulterant chemicals.

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LSD Effects by Erowid

| | |
|---------------|---------------|
| Onset | 20-60 minutes |
| Coming Up | 15-30 minutes |
| Plateau | 2-6 hours |
| Coming Down | 3-5 hours |
| After Effects | 2-5 hours |

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POSITIVE

- increase in energy (stimulation)
- increase in associative & creative thinking
- mood lift
- increased awareness & appreciation of music
- increased awareness of senses. (eating, drinking, smell)
- closed and open eye visuals
- profound life-changing spiritual experiences

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•NEUTRAL

- general change in consciousness (as with most psychoactives)
- pupil dilation
- difficulty focusing
- increased salivation and mucus production (causes coughing in some people)
- unusual body sensations (facial flushing, chills, goosebumps, body energy)
- unusual thoughts and speech
- change in perception of time
- quickly changing emotions (happiness, fear, giddiness, anxiety, anger, joy, irritation)
- slight increase in body temperature
- slight increase in heart rate

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- NEGATIVE**
- anxiety
- tension, jaw tension
- increased perspiration
- nausea
- dizziness, confusion
- megalomania
- over-awareness & over-sensitization to music and noise
- paranoia, fear, and panic
- unwanted and overwhelming feelings
- unwanted life-changing spiritual experiences
- flashbacks

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Mescaline
(C11H17NO3)
(3,4,5-trimethoxy-β-phenethylamine)

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MESCALINE Dosage
by Erowid

| Dosage for Mescaline hydrochloride | |
|------------------------------------|--------------|
| threshold | 100 mg |
| light | 100-200ng |
| moderate | 200 - 300 mg |
| strong | 300 - 500 mg |
| heavy | 500 - 700 mg |
| rodent LD-50 (lethal dose) | 370 mg/kg |

Onset : 45 - 60 minutes

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FORMS of Mescaline :

If an acid extraction is performed on mescaline containing plant material, different forms of mescaline are produced, depending on the acid used. If hydrochloric acid is used the result is mescaline hydrochloride. If sulphuric acid is used, the result is mescaline sulfate. If citric acid is used, the result is mescaline citrate. And if acetic acid (vinegar) is used, the result is mescaline acetate. Each of these forms has a different molecular weight and therefore dosage...as well as having a different level of solubility in water (the more soluble it is in water, the more mescaline will be extracted from the plant material in an aqueous extraction).

The two most commonly produced synthetic forms of mescaline are mescaline hydrochloride and mescaline sulfate which have very similar dosages. Mescaline sulfate is 11% heavier than mescaline hydrochloride, meaning it takes 11% more mescaline sulfate by weight to get the same effects as a certain amount of mescaline hydrochloride.

If an acid-base-solvent extraction is done on the plant material the result is freebase mescaline. Freebase mescaline is 15% lighter than mescaline hydrochloride (and 25% lighter than mescaline sulfate), thereby requiring 15% less material by weight for the same dose as mescaline hydrochloride.

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**Methamphetamine
(meth, speed, crystal, glass, crank, yaba)**

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DESCRIPTION

Methamphetamine is a synthetic stimulant commonly used as a recreational drug. It is legally prescribed as a treatment for ADD under the brand name Desoxyn, for both children and adults. On the street, it is generally found as an odorless, white or off-white, bitter-tasting powder, though it is also found in pills, capsules and larger crystals. It is frequently snorted, but is also used orally, smoked, and injected.

Methamphetamine production is a relatively simple process, especially when compared to many other recreational drugs. It is frequently reported on in the media when home meth-producing labs are busted.

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Methamphetamine is Schedule II in the United States, meaning that it is illegal to buy, sell, or possess without a prescription. It is legally controlled in most countries, although it has medical uses, so it is also available by prescription in many places.

Chemistry

Powder methamphetamine is the hydrochloride salt form. The HCl salt is smokable as is. Crystal meth "Crystal Meth" or "Ice" refer to methamphetamine grown into crystals. Though many people believe that Crystal Meth is the freebase form of methamphetamine HCl, this is not true. Methamphetamine is smokable in its normal HCL form, but taking the time to grow it into crystals makes it easier to smoke. Meth in visible crystals (rather than powder) is likely to be relatively pure as it is difficult to grow crystals from impure material. Methamphetamine freebase is an oil and is uncommon on the street.

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Onset

Oral use takes about half an hour to produce effects. When smoked, effects are almost instantaneous, and nearly as quick when snorted.

Duration

4-8 hours when smoked.

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The Experience

PROBLEMS

Methamphetamine use generally increases the heart rate, blood pressure, body temperature, and rate of breathing of the user. Chronic use can lead to what is called 'Amphetamine Psychosis', resulting in paranoia, auditory and visual hallucinations, self-absorption, irritability, aggressive and erratic behavior, and picking at the skin. This can be magnified by lack of sleep which often accompanies heavy use of meth.

Methamphetamine is an anorexant, meaning it causes most people to lose interest in food. This is considered a benefit for many light users, but in regular or heavy users can lead to malnutrition. Methamphetamine is also believed to be neurotoxic.

Addiction Potential

Methamphetamine causes significant tolerance, as well as psychological dependence. This combination can be particularly bad because the user is likely to have strong cravings for more meth, while at the same time being unable to reach a satisfactory high. Withdrawal from high doses can produce severe depression.

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Contraindications

oDo not take Methamphetamine if you are currently taking an MAOI. MAOIs are most commonly found in the prescription anti-depressants Nardil (phenelzine), Parnate (tranylcypromine), Marplan (isocarboxazid), Eldepryl (l-deprenyl), and Aurorex or Manerix (moclobemide). Ayahuasca also contains MAOIs (harmine and harmaline). MAOIs and Methamphetamine are a potentially dangerous combination. Check with your doctor if you are not sure whether your prescription medication is an MAOI.

oIndividuals with heart disease (i.e. arteriosclerosis, hypertension) should be extremely careful as Methamphetamine use can be hard on the heart.

oResearch shows that amphetamines used during pregnancy may decrease the birthweight of the baby as well as increasing the likelihood of cardiac abnormalities (heart problems) and possibly other birth defects.

oMethamphetamine is believed to be transferred through breast milk, so use while breast feeding is a bad idea.

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**Methamphetamine Effects
by Erowid**

Positive Meth Effects

- increased energy and alertness
- Decreased need for sleep
- Euphoria

Neutral Meth Effects

- excessive talking
- weight loss
- sweating
- visual & auditory hallucinations (hearing voices)

Negative Meth Effects

- disturbed sleep patterns
- dis-interest in friends, sex, or food
- itching, welts on skin
- nausea, vomiting, diarrhea
- excessive excitation, hyperactivity
- shortness of breath
- moodiness & irritability
- anxiousness & nervousness
- aggressiveness

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Withdrawal Symptoms

Amphetamines have the potential to produce tolerance, which means that increased amounts of the drug are needed to achieve the desired effects. Withdrawal symptoms can occur when use of amphetamines is stopped abruptly. Users may experience fatigue; long, disturbed periods of sleep; irritability; intense hunger, and moderate to severe depression. The length and severity of the depression is related to how much and how often amphetamines were used.

- craving
- exhaustion
- depression
- mental confusion
- restlessness and insomnia
- deep or disturbed sleep lasting up to 48 hours
- extreme hunger
- psychotic reaction
- anxiety reactions

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Treatment

Medical treatments include the use of antidepressant agents such as imipramine, desipramine, amitriptyline, doxepin, trazodone, or fluoxetine (Prozac). These affect serotonin, the neurotransmitter in the brain that deals with both depression and drug craving.

Sedatives such as Dalmane, chloral hydrate, Librium, phenobarbital, or even Valium are used, very carefully, on a short-term basis to treat anxiety or sleep disturbance problems. Antipsychotic medications such as Haldol, **Therapsin**, and others are also used to buffer the effects of unbalanced dopamine, the neurotransmitter that moderates paranoia and pleasurable sensation.

In addition to treating the physical and psychological aspects of craving, treatment providers should stress group counseling and peer pressure for compulsive amphetamine users, as these forms of therapy work well for this population.

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EFFECTS OF USE DURING PREGNANCY

It is possible for babies of mothers who use amphetamines to be born with:

- cardiac defects
- cleft palate
- birth defects
- addiction and withdrawal

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Sacred Mushrooms
Psilocybin - (C₁₂H₁₇N₂O₄P)

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Mushroom Basics
by Erowid

DESCRIPTION
There are dozens of species of psilocybin or 'magic mushrooms' belonging primarily to the genera psilocybe, panaeolus, and copelandia (unrelated to [psychoactive amanita](#) species). The effects of their ingestion resemble a shorter acting LSD trip, producing significant physical, visual, and perceptual changes.

Nearly all of the psilocybin containing mushrooms are small brown or tan mushrooms easily mistakable for any number of non-psychoactive, inedible, or poisonous mushrooms in the wild. This makes them somewhat difficult, and potentially hazardous, to identify. The primary distinguishable feature of most psilocybin containing mushrooms is that they bruise blue when handled.
[\[View Mushroom Vault\]](#)



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Recreational doses range from 1-5 grams of dry mushrooms depending on the species and individual strength of the specimens. Dosages for wet mushrooms will be approximately 10 times higher (10-50 grams). Because different species vary in size, the number of mushrooms per gram will also vary.

Price
\$20-\$40 per 1/8 ounce. \$100 - \$250 per ounce.

Law
Psilocybin mushrooms are illegal in the United States because they contain psilocybin and psilocin which are specifically listed as illegal (Schedule I).

Active Ingredients
The primary effects of mushrooms come from several active alkaloids they contain; the most common are psilocybin, psilocin, and baeocystin. Psilocybin is a more stable compound than psilocin, but is broken down into psilocin after ingestion.

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Production
Psilocybin containing mushrooms grow wild across the United States and in many countries around the world. There are also several species which are easily cultivated with a fairly simple and inexpensive setup. Most recreationally used mushrooms are cultivated rather than picked wild.

History
Psilocybe mushrooms have been used for thousands of years by Native Americans in Central and South America. The first european record of their use showed up in the 16th century writings of a Spanish priest who wrote about the Aztec's use of both mushrooms and peyote. In 1957, Wasson became the first in modern times to document and publish a description of his own experience (Life Magazine). The active ingredient of the mushrooms, psilocybin, was soon isolated and by the mid 60's mushrooms were being both studied and used recreationally. In 1968 possession of psilocybin mushrooms was made illegal in the United States.

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Slang
mushrooms, magic mushrooms, mushies, shrooms, psilocybes, cubes (p. cubensis), liberty caps

EFFECTS

Onset
Depending on how much and how recently one has eaten, Mushrooms generally takes 30-60 minutes (though sometimes as long as 2 hrs) to take effect.

Duration
The primary effects of magic mushrooms last for 4-6 hours when taken orally. For many people there is an additional period of time (2-6 hrs) where it is difficult to go to sleep and there is definitely a noticeable difference from everyday reality, but which is not strong enough to be considered 'tripping'.

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The Experience
In the beginning stages of onset, Mushrooms are likely to cause a sort of undefineable feeling similar to anticipation or anxiety. There may be a feeling of energy in the body, and the sense that things are different than usual. As the effects intensify, a wide variety of perceptual changes may occur; pupil dilation, visuals, mental stimulation, new perspectives, feelings of insight, quickly changing emotions (lots of laughter), possible paranoia and confusion. More advanced users may seek spiritual awareness or a sense of universal understanding through their use of mushrooms. Closed-eye visuals are extremely common with psilocybin mushrooms. Open-eye visuals are common for some people and are more likely at higher doses.

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PROBLEMS
Many people experience nausea and/or vomiting during mushroom experiences, especially with higher doses. Other possible negative effects include anxiety and unwanted or frightening thoughts and visions. Mushrooms, though perhaps to a lesser degree than LSD, can precipitate strong, temporary changes in an individual's experience of life and reality. It can be a powerful psychoactive experience, especially at higher doses, which is significantly affected by experiences, set and setting. Recent experiences, especially strong ones, can have a substantial effect on a trip. Physically or psychologically unsettling events in the days before a Mushroom trip can blossom into more serious distress and trauma while tripping. It is important to be prepared for the possibility of encountering difficult or frightening mental states. The [Psychedelic Crisis FAQ](#) addresses some of the issues involved in dealing with a difficult trip.

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Addiction Potential

Mushrooms are neither physically addicting nor likely to cause psychological dependence. Many people actually find that their desire to use mushrooms goes down for a period of time after use. As with all substances, some people will use them more frequently than they are comfortable with. There is a short period of tolerance after Mushroom use. Using Mushrooms two days in a row is likely to lead to a diminished experience the second day, though spaced 5-7 or more days apart, this effect is nearly non-existent.

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Contraindications

oDo not operate heavy machinery. Do Not Drive.

oTaking psilocybin containing mushrooms while on an MAOI can dramatically increase the effects of the experience. MAOIs are most commonly found in the prescription anti-depressants Nardil (phenelzine), Parnate (tranylcypromine), Marplan (isocarboxazid), Eldepryl (l-deprenyl), and Aurorex or Manerix (moclobemide). Ayahuasca also contains MAOIs (harmine and harmaline). Check with your doctor if you are not sure whether your prescription medication is an MAOI.

oIndividuals currently in the midst of emotional or psychological upheaval in their everyday lives should be careful about choosing to use psychedelics such as mushrooms as they can trigger even more difficulty.

oIndividuals with a family history of schizophrenia or early onset mental illness should be extremely careful because mushrooms have been known to trigger latent psychological and mental problems.

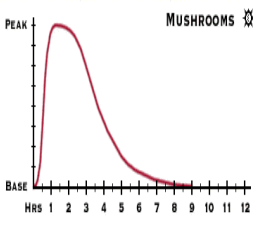
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Mushroom Effects by Erowid

| | |
|---------------|--------------|
| Onset | 5-60 minutes |
| Coming Up | 5-30 minutes |
| Plateau | 1-3 hours |
| Coming Down | .5-3 hours |
| After Effects | 0-6 hours |



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The effects of mushrooms are greatly effected by dose and an individual's sensitivity to psilocybin. For some rare people 1/4 gm of Psilocybe Cubensis (a very small amount) is enough to propel them into full visionary states, with Open Eye Visuals, unpleasant stomach cramps or gas, and other High-Dose effects, while for others the same amount would be barely (if at all) noticeable, possibly causing a slight cold feeling during the first hour and other 'Threshold' effects. It is therefore important to get to know your individual reaction to small amounts of all entheogens. Be safe. The effect-time curve of mushrooms, as with other entheogens, are characterized by a short period between ingestion and 'Coming Up', a short (but often experientially long) Coming Up period, a Plateau period, Coming Down, and then After Effects. Some but not all of the following effects characterize the following effects levels. Please note that the minimum dosage indicated for Medium and High Doses are extremely low and those who reach these states with less than 1.0 gm of Cubensis are rare. You may be one of them, be careful.

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Threshold Effects : (from .25gm - .75gms P. Cubensis)
Slight cold feeling, mild gas or nausea, nervous-feeling, slight pupil-dilation, mild visual changes including lights seeming brighter, lights having a 'starry' look, and noticing movement at the periphery of vision, giddiness, feeling more emotionally sensitive, and many other effects related to a change in neurochemistry.

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Medium Effects : (0.75gm - 2.5gms P. Cubensis)
'Cold' feeling, gas and/or stomach discomfort, nausea, pupil-dilation, open-eye visual effects: lights gain auras, star-pattern effects, rainbowning around lighting, lights seem brighter, often 'more beautiful', notice movement in periphery, sometimes increased ability to focus, sometimes reduced ability to focus, visual field 'distracting', visual field 'entertaining', closed eye 'visuals': normal closed eye 'blobs' take on patterns, shapes, distinct forms, increased ability to visualize creatively, spontaneous detailed images, feelings of time-dilation, feelings of 'coming home again' which is often more pronounced for those who have used mushrooms before, feelings of belonging and connection, increased emotional sensitivity, increased ability to focus on emotional problems or memories, chance of becoming 'caught in a loop' thinking / dwelling on a single thought or feeling (usually negative or painful), realizations about past feelings, realizations about how to live, gain a new perspective on current lifestyle and behaviors, feelings of connection with those around you, noticing things which are normally ignored or taken for granted, feelings of wonder, spirit, joy, sadness, despair, religious awakening, contentment and possibly latent psychological crises can come out

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High Dose Effects : (2.5gm - 10gms)
All of the Medium Effects, usually with a significantly more uncomfortable Coming Up, more pronounced nausea sometimes (rarely) resulting in vomiting, sometimes significant mental discomfort associated with feelings of fear and often times accompanying a "what have I done to myself" or "how far am I going" thought, the unpleasant Coming Up effects usually lessen with familiarity and more knowledge about the safety and character of mushroom effects. High Dose Effects are usually characterized by the closed eye visualizations being significantly more elaborate and enfolding, religious revelation, spiritual awakening, near death experiences, loss of self, talking to seemingly external, autonomous entities, extreme emotional responses, repressed memories coming to life, latent psychological crises can come to the surface, intense feelings of wonder, connection, joy, fear. High Dose Effects can also include extreme time-dilation, with experiences of wall-clock minutes taking an experientially large amount of time, watching clocks or digital counters where the seconds seem to take minutes to count off. One of the most interesting effects is the feeling of awakening for the first time ever from a previous state of sleep, of liberation from what is now seen as a life-long state of bondage. Paradoxically, it is this new awareness which feels normal and natural and the previous fog which is seen to have been unreal all along. The bamushroomed seeker is convinced that, once gained, this awareness is impossible to lose, but inexplicably by the next day it is just a memory.

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General Mycology



*Suspended in the darkness of
The cool and still Boulder Creek
Night
I hear the song of the cricket
And locusts and frogs
And I wonder
Is this the life of a Mushroom
--- Barbara E Hanson*

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NUTMEG

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Nutmeg Basics by Erowid

DESCRIPTION

Nutmeg is the dried kernal of *Myristica fragrans*, a tree native to the Spice Islands, near New Guinea. Now cultivated in many places, the tree grows to about fifty feet high and bears seeds for up to sixty years. Its fruit looks much like a peach and contains a brownish-purple, shiny kernel encased within a bright orange-red or red covering. The covering, or aril, is used for production of mace; the seed, dried in the sun for about two months and turned over each day, becomes nutmeg. Both the kernel and its covering contain psychoactive components within their oils. ([Psychonauts Encyclopedia](#))

Nutmeg is used in the U.S. mainly as a garnish during Christmas festivities. It appears in the Hindu Pharmacopoeia as a treatment for fever, asthma and heart disease. Since the seventh century A.D., Arab physicians have used it for digestive disorders, kidney disease and lymphatic ailments. Yemeni men are said to consume nutmeg to increase and maintain their sexual vigor.

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Law

Nutmeg is legal to possess, sell, or buy in the United States in all forms.

Active Ingredients

The primary effects of nutmeg use come from several active alkaloids they contain including myristicin, safrole, and elemicin .

History

Nutmeg was introduced to the West in the early 16th century and its psychoactive properties were quickly discovered.

EFFECTS

Onset

Effects can take 2-5 hours to come on, depending on how recently the last meal was eaten.

Duration

The primary effects of a full dose of Nutmeg can last up to 24 hours. More minor secondary effects can continue for up to 36 hours.

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PROBLEMS

Many people find the effects of Nutmeg unpleasant. Nausea, vomiting, diarrhea, and severe dry mouth can accompany the psychedelic/sedative effects. Contraindications

oDo not operate heavy machinery. Do Not Drive.

oThere has been some suggestion that Nutmeg should not be taken in combination with an MAOI. We have very little data on this. MAOIs are most commonly found in the prescription anti-depressants Nardil (phenelzine), Parnate (tranylcypromine), Marplan (isocarboxazid), Eldepryl (l-deprenyl), and Aurorex or Manerix (moclobemide). Ayahuasca also contains MAOIs (harmine and harmaline). MDMA and MAOIs are a potentially dangerous combination. Check with your doctor if you are not sure whether your prescription medication is an MAOI.

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Nutmeg Chemistry by Erowid

| | |
|--------------------|---|
| NAME : | Myristicin |
| CHEMICAL NAME : | Methoxysafrole; 4-Methoxy-6-(2-propenyl)-1,3-benzodioxole |
| CHEMICAL NAME : | 5-allyl-1-methoxy-2,3-(methylenedioxy)benzene |
| CHEMICAL FORMULA | C ₁₁ H ₁₂ O ₃ |
| BOILING POINT : | 173° F |
| MOLECULAR WEIGHT : | 192.211 |

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The Pharmacology of Opiates and Opioids

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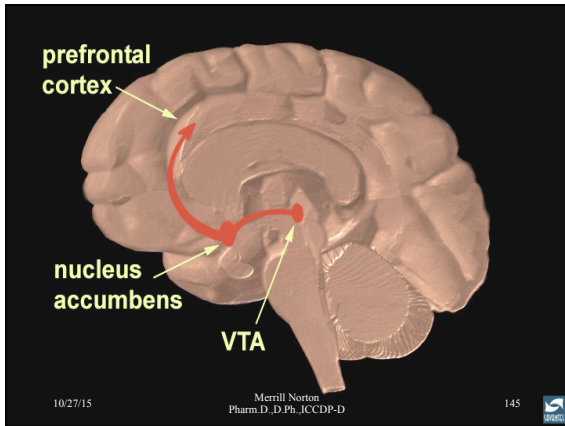
The Central Nervous System

- There are 3 separate and distinct parts of the central nervous system- central, peripheral, and autonomic
- Central- Includes brain and spinal cord
- Peripheral- Includes cranial and spinal nerves
- Autonomic- Includes sympathetic and parasympathetic nervous systems

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| | |
|---|-------------------|
| Tested for in Standard Drug Tests? | YES |
| Detection Periods in Urine | |
| Opium | 24-48 hrs |
| Heroin | 1-4 days |
| Morphine | 84 hrs (at least) |
| Meperidine | 4-24 hrs |

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Test Information
 The standard tests are "a one step rapid qualitative immunoassay for the detection of opiate and opiate metabolites in urine. The cutoff concentration for this test is 300 ng/ml, as recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA) and the U.S. National Institute of Drug Abuse (NIDA)." The cutoff for GC-MS, which detects morphine or codeine, is 150 ng/ml. The US Military uses a cutoff level of 3000 ng/ml in order to try to avoid false positives.

Opiates are one of the "NIDA 5". The five drugs tested for in the standard NIDA approved drug test.

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Substances or Conditions which can cause false positives

Puffy Seeds

Tylenol with codeine

Most prescription pain medications

Cough suppressants with Dextromethorphan (DXM)

Nyquil

Kidney infection, Kidney Disease

Diabetes, Liver Disease

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CATEGORY I. STRONG AGONISTS— SEVERE PAIN

~~~~~HYDROMORPHONE (DILAUDID) 2-4 mg. every 4-5 hours  
Schedule II 4-6 hours. narcotic dosages avail: 1,2,3,4,10 mg. tabs Parenteral  
(injection) 1,2,3,4 mg./mL ampules LEVORPHANOL (LEVO-DROMORAN)  
2-3 mg. every 4-5 hours Schedule II 6-8 hours narcotic dosages: 2 mg. tabs;  
injection: 2 mg./mL MEPERIDINE (DEMEROL) 50-150 mg. 2-4 hours  
Schedule II every 3-4 hours narcotic dosages: 50,100 mg. tabs; injection:  
25,50,75,100 mg. vials METHADONE (DOLOPHINE) 40 mg. every 4-6 hours  
Schedule II dosages: 5,10,40 mg. tabs; 24 hours; Narcotic injection: 10 mg./  
mL 2.5-10 mg.injection the oral form is used every 3-4 hours only in  
detoxification programs MORPHINE SULFATE varies: 10-30 mg. 4-5 hours  
Schedule II dosages: 10,15,30 mg. tabs; every 4 hours; Narcotic injection:  
2,4,5,8,10,15 mg/mL 30 mg. controlled release tablets every 8-12 hours  
OXYMORPHONE (NUMORPHON)5 mg. suppository 3-4 hours Schedule II  
dosages: 5 mg. suppos. every 4-6 hours; Narcotic 1, 1.5 mg/mL injection  
1-1.5 mg. injection every 4-6 hours.

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**STRONG AGONISTS FOR INJECTION ONLY: FENTANYL**  
(SUBLIMAZE) 0.05-0.1 mg. 1-1.5 hours Schedule II dosages: 0.05  
mg./mL for repeat in 2 hours Narcotic injection if necessary  
**SUFENTANIL** (SUFENTA) 1-30 micrograms/kg. Schedule II  
dosages: 50 micrograms injected as needed for Narcotic per mL  
in 1,2,5 mL ampules anesthesia **ALFENTANIL** (ALFENTA) 0.5-3  
micrograms/kg./minute Schedule II dosages: 500 micrograms/mL  
IV infusion in balanced anesthesia ampules for injection

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**CATEGORY II – MILD TO MODERATE AGONISTS -  
MODERATE TO SEVERE PAIN**

~~~~~CODEINE SULFATE OR PHOSPHATE 15-60 mg. every 3-4 hours Schedule II dosages: 15,30,60 mg. tablets; 4-6 hours (when combined with 30,60 mg./mL for injection acetaminophen or aspirin it is a Schedule III Narcotic) OXYCODONE (PERCODAN with aspirin) (PERCOET with acetaminophen) dosages: 5 mg. oxycodone per tablet 5 mg. every 3-4 hours (Schedule II Narcotic) OXYCODONE HCl (Oxycontin):dosages 10mg-160mg every 12 hours (Schedule II Narcotic) HYDROCODON VICODIN,LORTAB 5-7 mg. every 3-4 hours Schedule III BITARTRATE (LORCET, HYDROCET) 4-6 hours Narcotic dosages: either 2.5, 5, or 7 mg. hydrocodone with either aspirin or tylenol

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**CATEGORY III – WEAK AGONISTS – MILD TO
MODERATE PAIN**

~~~~~PROPOXYPHENE(DARVON) 50-100 mg. every 4-5 hours(Schedule IV) PROPOXYPHENE 4 hours NAPSYLATE (DARVOCET N-50 & DARVOCET N-100)

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**CATEGORY IV – MIXED AGONISTS/ANTAGONISTS –  
MODERATE TO SEVERE PAIN**

~~~~~PENTAZOCINE (TALWIN-NX)50-100 mg. 3 hours Schedule IV dosages: 50 mg. tablets; every 3-4 hours; Narcotic 30 mg./mL in 1 and 2 mL 30 mg. injection (Pentazocine is mixed ampules for injection every 3-4 hours with Naxalone [an opiate antagonist] to prevent crushing of tabs. for intravenous injection)

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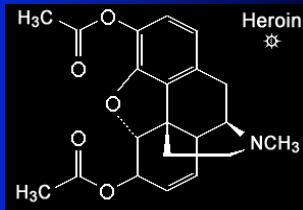
OTHER MIXED AGONIST-ANTAGONISTS:
BUPRENORPHINE(BUPRENEX) Schedule V dosage: 0.3 mg./mL ampules for injection. **BUTORPHANOL (STADOL)** dosage: 1 and 2 mg./mL vials and syringes for injection Not a controlled substance because of the strong antagonist efficacy **NALBUPHINE (NUBAIN)** dosage: 10 and 20 mg./mL vials and syringes for injection Not a controlled substance because of the strong antagonist efficacy

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Heroin(diacetylmorphine)
(C₂₁H₂₃NO₅)
 (dope, junk, smack)



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| Heroin I.V. Administration | w/ no tolerance | w/ heavy tolerance |
|----------------------------|-----------------|--------------------|
| Common | 5 - 10 mg | 20 - 40 mg |
| Strong | 8 - 15 mg | 40 - 60 mg |

IV Timing: Onset : 10-20 seconds
 Peak Onset : almost immediate
 Duration : 4-5 hours

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The charts below shows smoked and oral heroin dosages in milligrams (mg) for individuals with little to no tolerance.

| Smoked Heroin(Diacetylmorphine) | |
|---------------------------------|------------|
| Common | 15 - 25 mg |
| Strong | 20 - 30 mg |

Smoked Timing: Onset : 5-10 seconds
 Peak Onset : 10 minutes
 Peak Duration : 5-6 minutes
 Full Duration : 3-5 hours

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Oral Heroin(Diacetylmorphine)

Common 50 - 70 mg

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Heroin Chemistry by Erowid

| | |
|--|---|
| NAME : | Diacetylmorphine |
| CHEMICAL NAME : | (5alpha,6alpha)-7,8-Didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol diacetate (ester) |
| ALTERNATE CHEMICAL NAMES : | heroin, diamorphine, acetomorphine |
| CHEMICAL FORMULA | C21H23NO5 |
| MOLECULAR WEIGHT | 369.42 |
| MELTING POINT | 243-244* (hydrochloride monohydrate-fine crystals) |
| From the Search Index 12th Edition | |



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Opiates/Opioids Potency

- Opiates(Opium Poppy Extracts/Modified Extracts)
- Morphine(Various) = 1.0
- Codeine(Tylenol #3) = 0.4
- Opium(Paregoric) = 0.8
- Diacetylmorphine(Heroin) = 1.5
- Hydrocodone(Vicodin) = 3.0
- Oxycodone(Oxycontin,Percodan) = 4.0
- Hydromorphone(Dilaudid) = 5.0

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Opioids Potency

- Meperidine(Demerol) = 1.0
- Propoxyphene(Darvon) = 0.7
- Pentazocine(Talwin) = 0.5
- L acetyl alpha methadol(LAAM)= 2.0
- Methadone (Dolophine) = 3.0
- Levomethadyl acetate HCl (Orlaam) = 3.0
- Fentanyl(Sublimase) = 50.0
- Sufentanyl(Various) = 100.0
- Alpha Sufentanyl (Various) = 200.0

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PEYOTE

FAMILY : Cactaceae

GENUS : Lophophora

SPECIES : williamsii, diffusa




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Peyote Basics
by Merrill Norton



Lophophora williamsii
Anonymous, © 2001 Erowid.org

Peyote (*Lophophora williamsii*) is a small button shaped cactus 2-5 inches in diameter, which grow in Mexico and the Southwest United States. Peyote is a hallucinogen, producing significant physical, visual, and perceptual changes. It is traditionally dried and eaten in a ritual setting to induce visions, and has been used by natives of Mexico for thousands of years.

DESCRIPTION

Though Peyote is used recreationally by some, it is relatively uncommon on the street. Because a single Peyote button can take 5-15 years to mature, there is some concern about the over-harvesting of Peyote in the wild.

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Lophophora williamsii is one of the few plants specifically named as illegal in the United States. It is a schedule I substance, along with its active ingredient Mescaline, making it illegal to buy, sell, or possess. There is a notable exception to this law which allows the use of Peyote by member of the Native American Church.

Chemistry

The primary effects of Peyote come from it's main active alkaloid: Mescaline

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History

The use of Peyote as a psychoactive was first recorded by Spanish conquistadors when they first arrived in the new world in the late 15th century. Based on historical Chichimeca and Toltec events, estimates are that Peyote has been used by native Mexicans for thousands of years. Use of Peyote spread during the late 19th and early 20th centuries.

Slang

The Substance: Mescal, Buttons, Big Chief, Mescalito

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Peyote Legal Status

United States

| | |
|----------------------------------|--------------|
| U.S. FEDERAL LEGAL STATUS | |
| CLASSIFICATION | Hallucinogen |
| LEGAL STATUS | Controlled |
| SCHEDULE | Schedule 1 |

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Sacred Cactus

Peyote (*Lophophora williamsii*) is a small (less than 12 cm in diameter), round cactus with fuzzy tufts instead of spines. It rarely rises more than an inch or so above the soil surface. The largest part of the cactus is actually underground in the long, carrot-like root. The above ground portion is the "button" which is cut and consumed either fresh or dried. Usually, anywhere from four, to a dozen buttons, are eaten or made into tea. Myths concerning the presence of strychnine in the flesh or fuzz of are often circulated in the common lore, but this substance is completely absent from peyote.

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Peyote is something of an alkaloid factory, producing upwards of 50 chemically related compounds. The effects experienced after consuming this unique medicine range from a feeling of physical energy and well being when taken in small amounts (though this is often preceded by a brief period of lethargy), to actual visionary experience when larger quantities are consumed. Often, individuals may experience stomach discomfort or nausea during the first few hours though this is not always the case. Noticeable psychic effects usually last 10 hours or so after they begin. Experienced peyotists recognize and welcome the feeling of the medicine working with them as a spiritual and physical blessing.

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Rohypnol

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Slang terms

Date-rape drug

Forget-me drug

Forget pill

La Rocha

Lunch money drug

Mexican valium

Mind erasers

Pingus

R-2

Reynolds

Rib

Ro

Roachies

Roopies

Robotal

Rochas dos

Roche

Roofiese

Rope

Rophies

Rophy

Ropies

Row-shay

Ruffies

Ruffles

Trip-and-fall

Wolfies

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Rohypnol contains the controlled ingredient flunitrazepam hydrochloride. "Roofies," as they are known on the street, are sold inexpensively in Mexico. They are smuggled into the United States where they have recently become a problem among American teens. The problem is rapidly spreading from the American southwest to other parts of the United States. Source: DEA

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Use and Effects

Flunitrazepam is ingested orally, frequently in conjunction with alcohol or other drugs, including heroin. The drug's effects begin within 30 minutes, peak within 2 hours, and may persist for up to 8 hours or more, depending upon the dosage. Adverse effects associated with the use of flunitrazepam include decreased blood pressure, memory impairment, drowsiness, visual disturbances, dizziness, confusion, gastrointestinal disturbances, and urinary retention. Paradoxically, although the drug is classified as a depressant, flunitrazepam can induce excitability or aggressive behavior in some users.

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A Dangerous Legal High

SALVIA

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Salvia Divinorum

- Street names: Salvia, Diviner's Sage, Ska Maria Pastora, Seer's Sage, The Sheperdess
- Perennial herb in mint family, native to areas of Sierra Mazateca region of Oaxaca, Mexico



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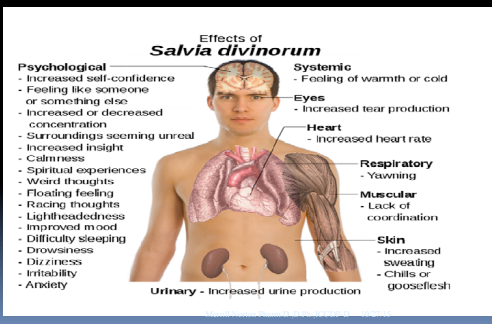
Salvia Divinorum

- Effects: Psychedelic experiences – causes dramatic changes in perception and sometimes frightening hallucinations that often deter users from repeated use
- “20 minute acid trip” – primary effects last 5 to 15 minutes, followed by 20 – 40 minutes of “comedown” period

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Salvia Divinorum



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Salvia Divinorum

- Routes of administration: smoking out of a pipe or bong, vaporization, extracting juices to make a tea, or sublingual consumption by chewing the leaves (much larger doses: ~20 leaves vs. 1 leaf for smoking)
- Legal status: not federally controlled; however 15 states have placed Salvia on Schedule I lists – Georgia and 8 other states restrict its distribution, but it remains legal to possess

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Salvia Divinorum

- Prevalence of use: In 2008, estimated 1.8 million persons aged 12 or older have used Salvia in their lifetime; approx. 750,000 in past year.
- More common among young adults aged 18 to 25 than those over 25, and more common in males than females

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Salvia Divinorum

- Chemistry and Pharmacology:
 - Salvinorin A (or Divinorin A) is compound responsible for hallucinogenic effects
 - Salvinorin A is a potent and selective kappa opioid receptor agonist
 - Other drugs that act at this receptor produce hallucinogenic effects and dysphoria similar to Salvinorin A
 - Does not activate serotonin 2A receptor, which mediates the effects of other Schedule I hallucinogens

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Salvia Divinorum

- Availability: Sold as dried leaf (\$50 - \$100 per ounce), concentrated extracts (\$20 - \$50 per gram), and live plants (prices vary)
- Sold in smoke shops or online



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Salvia Divinorum

- Long-term effects: No overall consensus; studies in rats show "depression-like" effects
 - One report of salvia precipitating psychosis in a patient genetically predisposed to schizophrenia
 - No hangover effects reported by most users
 - Low toxicity
 - Feelings of déjà vu have been reported in long-term

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Salvia Divinorum



- Addiction potential: not currently known to be physically addicting or cause psychological dependence
- Withdrawal effects have not been reported
- Appears to be no tolerance – experience can be extended or amplified with increased dose

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Salvia Divinorum

- Toxicity and Overdose
 - No reports of either toxicity or overdose
 - Danger comes from need for "babysitters" to watch over first time users
 - Can have frightening experiences that mimic psychoses
 - Can also precipitate psychotic episodes in those predisposed to schizophrenia

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Salvia Divinorum

- Drug Testing
 - Salvia is not commonly tested for in standard drug tests or extended drug tests
 - It can be detected by liquid chromatography/mass spectrometry and gas chromatography/mass spectrometry; however these tests are expensive and impractical
 - Elimination half-life of Salvinorin A is very short (less than an hour), so the detection window is likely less than 12 hours

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Spice

A Dangerous Legal High

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Synthetic Cannabinoids

- Street names: K2 and Spice
- Marketed as "herbal incense"; claims to be a blend of traditionally used medicinal herbs but instead is laced with synthetic cannabinoids that are not naturally in the herbs it is labeled to possess



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Spice

- Effects: has marijuana-like psychoactive effects in humans – decreased activity, analgesia, decreased body temperature, euphoria, anxiety, altered perception
- Does not induce “the munchies” in most users
- When used with alcohol, exacerbates hangovers and causes headaches at base of skull that last for hours

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Spice

- Routes of Administration: smoking in pipes, bongs, or joints
- Duration of Action: the high lasts an average of 10 minutes, and no longer than 30 minutes
- Legal status: As of March 1, 2011, synthetic cannabinoids have been temporarily placed in Schedule I federally, but has been illegal on a state level in Georgia since May 2010

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Spice



- Prevalence of use: primary abusers are youth purchasing these substances from Internet sites, gas stations, convenience stores, and smoke shops

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Spice

- Chemistry and Pharmacology
 - The chemical structure of synthetic cannabinoids shares similarities with THC as seen on the next slide, but is not classified as a THC
 - Synthetic cannabinoids bind to the brain cannabinoid receptor CB₁ and peripheral receptor CB₂ with higher affinity than THC, suggesting it would have the same effects as THC in vivo

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Spice

- Comparison of chemical structure of THC (left) and HU-210, a synthetic cannabinoid (right)

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Spice

- Availability: With the temporary Schedule I status federally, it should no longer be possible to purchase these compounds in retail stores; however many websites still operate that sell these drugs
- Cost: More expensive than real marijuana – one gram is sold for about \$25, as opposed to \$14/gram for potent marijuana on the street

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Spice

- Addiction potential: unknown, though based on the similarity to THC in vivo it can be supposed that the addiction potential is likewise similar to marijuana
- No official information available on withdrawal or tolerance, though one case of withdrawal after daily use of Spice Gold for 3 months is reported; physicians treating the user noted his use showed signs associated with addiction

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Spice

- Long-term effects: as yet unknown; still relatively new (Spice first appeared in 2004)
 - As with any smoked product, has detrimental effect on lungs – reported to cause more burning in throat and aching in lungs than marijuana
- Toxicity and overdose:
 - Extremely large doses may cause negative effects in humans that are generally not noted in marijuana users – increased agitation and vomiting
 - Potential for overdose unknown

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Spice

- Drug Testing
 - Spice and the synthetic cannabinoids do not cause a user to test positive for cannabis or other illegal drugs on a standard or extended drug screen, or even with gas or liquid chromatography/mass spectrometry testing
 - Dominion Diagnostics and NMS Labs have developed tests that identify metabolites of some of the synthetic cannabinoids as of September 2010

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Tobacco & Nicotine

(C10H14N2)

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Nicotine Dosage

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Nicotine is one of the major psychoactive constituents of tobacco. It is found in cigarettes, chewing tobacco, rolling tobacco, as well as nicotine patches, nicotine gum, and now nicotine inhalers.

| | |
|---------------------|-----------------------|
| Light | .4 - .6 mg |
| Common | .6 - 1 mg |
| Strong | 1 - 2 mg |
| Heavy | 3 - 4 mg |
| LD50 (Lethal Dose*) | 3-50 mg / kg or ~14 g |

Duration : 6 - 14 hours
 Normal After Effects : up to 24 hours
 * LD50 = dose which will kill 50% of the tested animals, in this case in mice and rats

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Nicotine and Tar Contents of 25 Cigarette Brands

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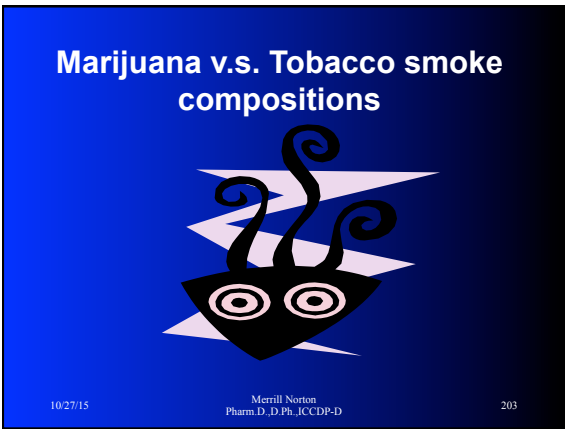
| Brand | Tar | Nicotine | Weight | CO | Nicotine:Tar Ratio |
|---------------|------|----------|--------|------|--------------------|
| name | (mg) | (mg) | (g) | (mg) | (mg/mg) |
| Alpine | 14.1 | 0.86 | 0.9853 | 13.6 | 0.06 |
| Benson&Hedges | 16 | 1.06 | 1.0938 | 16.6 | 0.06625 |
| BullDurham | 29.8 | 2.03 | 1.165 | 23.5 | 0.06625 |
| Camellights | 8 | 0.67 | 0.928 | 10.2 | 0.06812081 |
| Carlton | 4.1 | 0.4 | 0.9462 | 5.4 | 0.08375 |
| Chesterfield | 15 | 1.04 | 0.8885 | 15 | 0.09756098 |
| GoldenLights | 8.8 | 0.76 | 1.0267 | 9 | 0.06933333 |
| Kent | 12.4 | 0.95 | 0.9225 | 12.3 | 0.08636364 |
| Kool | 16.6 | 1.12 | 0.9372 | 16.3 | 0.0766129 |
| L&M | 14.9 | 1.02 | 0.8858 | 15.4 | 0.06746988 |
| Larklights | 13.7 | 1.0 | 0.9643 | 13 | 0.06845638 |

| | | | | | |
|---------------|------|------|--------|------|------------|
| Marlboro | 15.1 | 0.9 | 0.9316 | 14.4 | 0.07372263 |
| Merit | 7.8 | 0.57 | 0.9705 | 10 | 0.05960265 |
| MultiFilter | 11.4 | 0.78 | 1.124 | 10.2 | 0.07307692 |
| NewportLights | 9 | 0.74 | 0.8517 | 9.5 | 0.06842105 |
| Now | 1 | 0.13 | 0.7851 | 1.5 | 0.08222222 |
| OldGold | 17 | 1.26 | 0.9186 | 18.5 | 0.13 |
| PallMallLight | 12.8 | 1.08 | 1.0395 | 12.6 | 0.07411765 |
| Raleigh | 15.8 | 0.96 | 0.9573 | 17.5 | 0.084375 |
| SalemUltra | 4.5 | 0.42 | 0.9106 | 4.9 | 0.06075949 |
| Tareyton | 14.5 | 1.01 | 1.007 | 15.9 | 0.09333333 |
| TRUE | 7.3 | 0.61 | 0.9806 | 8.5 | 0.06965517 |

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| | | | | | |
|------------------|------|------|--------|------|------------|
| ViceroyRichLight | 8.6 | 0.69 | 0.9693 | 10.6 | 0.08356164 |
| VirginiaSlims | 15.2 | 1.02 | 0.9496 | 13.9 | 0.08023256 |
| WinstonLights | 12 | 0.82 | 1.1184 | 14.9 | 0.06710526 |

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Cannabis smoke is similar to tobacco smoke in that it is a mixture of very small particles and a gas-vapor phase. Both the particulate and vapor phases contain many identified and probably some still unidentified constituents that, based on clinical experience with tobacco smoke, must be assumed to be potentially harmful. The amounts of some materials in tobacco cigarette and marijuana cigarette smoke are compared in Table 3. Toxic substances, such as carbon monoxide, hydrogen cyanide, and nitrosamines occur in similar concentrations in tobacco and marijuana smoke; so do the amounts of particulate material known collectively as "tars".

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The cancer risk in the most part comes from the smoke, not from the cannabinoids. This is an artifact of the delivery system, not the drug (it comes from burning the plant material, not the cannabinoids). As many of you know, THC has a lower vaporization temperature than the plant material it is contained in, and as Lester Grinspoos and others often point out, a vaporizer could be designed to vaporize the cannabinoids without burning the plant material and producing smoke filled with tars and other particulate matter. Also, the composition of the plant and its smoke has been known since the 1970's, and this didn't prevent Leo Hollister and the National Academy of Sciences from noting that marijuana has therapeutic potential.]

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A. Cigarettes

| | Units | Marijuana | Tobacco |
|---------------------|-------|-----------|---------|
| | | (85mm) | (85mm) |
| Average Weight | (mg) | 1115 | 1110 |
| Mositure | (%) | 10.3 | 11.1 |
| Pressure Drop | cm | 14.7 | 7.2 |
| Static Burning rate | mg/s | 0.88 | 0.80 |
| Puff Number | | 10.7 | 11.1 |

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B. Mainstream Smoke

| I. Gas Phase | Units | Marijuana | Tobacco |
|-----------------|-------|-----------|---------|
| Carbon Monoxide | % | 3.99 | 4.58 |
| | mg | 17.6 | 20.2 |
| Carbon Dioxide | % | 8.27 | 9.38 |
| | mg | 57.3 | 65.0 |
| Ammonia | mcg | 228 | 199 |
| HCN | mcg | 532 | 498 |


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Tobacco Chemistry

by Erowid



Nicotine (C₁₀H₁₄N₂)

| | |
|----------------------------|--|
| NAME : | Nicotine |
| CHEMICAL NAME : | (S)-3-(1-Methyl-2-pyrrolidinyl)pyridine |
| ALTERNATE CHEMICAL NAMES : | 1-methyl-2-(3-pyridyl)pyrrolidine; 5-pyridyl-alpha-N-methylpyrrolidine |
| ALTERNATE CHEMICAL NAMES : | Habitrol; Nicabato; Nicoderm; Nicolan; Nicopatch; Nicotell TTS; Nicotinel; Tabaxur |
| CHEMICAL FORMULA | C ₁₀ H ₁₄ N ₂ |
| MOLECULAR WEIGHT | 162.23 |
| BOILING POINT _m | 247° C |
| BOILING POINT _c | 123-125° C |
| LD ₅₀ | (mice) 3 mg/kg iv; 9.5 mg/kg i.p.; 230 mg/kg oral |

From the [Book Index: 100-80000](#)

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One study by the US National Cancer Institute showed that 86 per cent of children who smoke prefer the three most heavily advertised brands. And after Camel cigarettes introduced its Joe Camel cartoon character, it hugely increased its market share among the very youngest smokers.

Of course, the tobacco companies will claim that scientific proof that their ads change human behaviour is lacking. But the percentage of young smokers is rising. According to studies by the University of Michigan and the Centers for Disease Control, almost 42 per cent of white teenagers in the US now smoke, the highest percentage for 16 years. Five years ago it was only 25 per cent. In the UK, the same trend is at work.

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Pharmacia & Upjohn Inc.'s new nicotine inhaler has won the backing of a Food and Drug Administration advisory panel to help smokers who want to kick the habit.

The panel's action Friday came after FDA reviewers told the panel they were convinced of the safety and effectiveness of the product as a stop-smoking aid and urged the panel to recommend it for agency approval. The FDA typically follows the advice of its expert committees.

"I think it's effective," said Max Schneider, panel chairman and a doctor practicing in Orange, California. He said he's in favor of "anything I can do to get patients to quit, and I do think this is probably an effective product." In two unanimous votes, the panel said the product is safe and effective enough for marketing as a stop-smoking aid. Panel members said, though, they want the company to package the product carefully so that children can't get hold of the nicotine.

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Tobacco

What is tobacco ?
Tobacco is the dried leaves of a plant that grows in many parts of the world. Tobacco contains a variety of chemicals, including nicotine which is a drug with a mild stimulant effect. Most tobacco is sold in the form of cigarettes, cigars and pipe tobacco (cigar and pipe tobacco is made from stronger darker tobacco). A survey conducted in 1988 showed that 32% of people aged 16 or over in the UK smoked cigarettes.

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Effects of long-term use
The more a person smokes, the more likely they are to suffer from heart disease, blood clots, cancer, strokes, bronchitis, bad circulation and ulcers. Tobacco contributes to around 110,000 premature deaths a year in the UK. Women who smoke during pregnancy are more likely to have smaller babies and run a bigger risk of losing the child before and shortly after childbirth. Tobacco is also likely to cause physical and psychological dependency in a short space of time if it is smoked regularly. People who stop smoking after a period of time are likely to suffer withdrawal symptoms, such as irritability, depression and craving for tobacco.

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“Street Drugs”-2012

- Absinthe
- Alcohol
- Bath Salts
- Caffeine
- Cannabis
- Cocaine
- DXM
- GHB
- Heroin
- Inhalants
- Ketamine
- LSD
- MDMA
- Mescaline
- Meth
- Mushrooms
- Nutmeg
- Opiates
- Peyote
- Salvia
- Spice
- Tobacco

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