**The Strange Things Found in Cocaine and Other Weirdness**

***Cocaine Adulterants***



**CREATED FOR ANKORS BY SSW PRACTICUM STUDENTS**

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*****This booklet is to serve as a guide regarding information on adulterants used in Cocaine and contains a comprehensive selection of information sourced from various user experiences and general pharmaceutical and illicit drug use knowledge. The information obtained in this booklet is an in-depth search of available information on the web and associated literature compiled for ease of use and inquiry. This information may not be entirely reliable due to speculation and is subject to change.*

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**COCAINE CUTS**

*The effects of additives on a human body range from respiratory tract irritation to stroke and heart attack. So, awareness regarding cocaine abuse and additives should be given to cocaine users on every level. Cocaine is a medically prescribed drug in certain scenarios, but it is far more popular recreational due to its addictive nature. It has its own side effects when it is abused, however, a phenomenon called cocaine cutting has doubled the risk of health problems. Cutting cocaine simply means adding impurities or additives in the sample. It is being cut with substances such as Boric acid, Levamisole, Benzocaine, caffeine, etc., some of which only make the sample heavier while others enhance the euphoric sensation produced by cocaine.*

*Since cocaine is almost exclusively used recreationally and has a large illicit market, the vast majority of it will contain impurities or be “cut” with other substances.*

*These may be added to change or intensify the effects of the drug or to allow dealers to sell less of the actual cocaine for more money. These cutting agents can change the texture, form, and/or color of the drug, and make it easier to smoke, snort, or inject. Pure cocaine comes in a salt form. It is then neutralized with a solvent to make a white powder. Typical additives can make this powder appear light pink or off-white. Some of these additives can also be dangerous and have led to overdose or poisoning deaths.*

# TYPES OF COCAINE

**Following are the different types of cocaine sold:**

***Hydrochloride Salt –*** It is produced by reacting cocaine with an acid solvent and producing a powdered hydrochloride salt which can be dissolved in water and used as an IV injectable, or the powder can be snorted as it is.

***Freebase cocaine –*** This is a comparatively authentic form, it uses ammonia and ether in its manufacturing process. The powder is available to be smoked, snorted, etc. it has a stronger impact on the brain as it can readily cross blood brain barrier.

***Crack Coke Cut –*** It is called “crack” because it produces a cracking sound when it is heated and smoked. It is also the form in which the maximum additives are added. Additives are added to the cocaine before hydrochloride’s mixes with ammonia, or baking soda is heated to evaporate hydrochloride. It is in the form of hard crystals which are dry and hard.

# COCAINE GENERAL INFORMATION

*From Wikipedia, the free encyclopedia*

Cocaine, also known as coke, is a strong stimulant mostly used as a recreational drug. It is commonly snorted, inhaled as smoke, or as a solution injected into a vein. Mental effects may include loss of contact with reality, an intense feeling of happiness, or agitation. Physical symptoms may include a fast heart rate, sweating, and large pupils. High doses can result in very high blood pressure or body temperature. Effects begin within seconds to minutes of use and last between five and ninety minutes. Cocaine has a small number of accepted medical uses such as numbing and decreasing bleeding during nasal surgery.

Cocaine is addictive due to its effect on the reward pathway in the brain. After a short period of use, there is a high risk that dependence will occur. Its use also increases the risk of stroke, myocardial infarction, lung problems in those who smoke it, blood infections, and sudden cardiac death. Cocaine sold on the street is commonly mixed with local anesthetics, cornstarch, quinine, or sugar which can result in additional toxicity. Following repeated doses a person may have decreased ability to feel pleasure and be very physically tired.

Cocaine acts by inhibiting the reuptake of serotonin, norepinephrine, and dopamine. This results in greater concentrations of these three neurotransmitters in the brain. It can easily cross the blood–brain barrier and may lead to the breakdown of the barrier. Cocaine is made from the leaves of the coca plant which are mostly grown in South America. In 2013, 419 kilograms were produced legally. It is estimated that the illegal market for cocaine is 100 to 500 billion USD each year. With further processing crack cocaine can be produced from cocaine.

After cannabis, cocaine is the most frequently used illegal drug globally. Between 14 and 21 million people use the drug each year. Use is highest in North America followed by Europe and South America. Between one and three percent of people in the developed world have used cocaine at some point in their life. In 2013 cocaine use directly resulted in 4,300 deaths, up from 2,400 in 1990. The leaves of the coca plant have been used by Peruvians since ancient times. Cocaine was first isolated from the leaves in 1860. Since 1961 the international Single Convention on Narcotic Drugs has required countries to make recreational use of cocaine a crime.

*Recreational:* Cocaine is a powerful nervous system stimulant. Its effects can last from fifteen or thirty minutes to an hour. The duration of cocaine's effects depends on the amount taken and the route of administration. Cocaine can be in the form of fine white powder, bitter to the taste. When inhaled or injected, it causes a numbing effect. Crack cocaine is a smokeable form of cocaine made into small "rocks" by processing cocaine with sodium bicarbonate (baking soda) and water.

Cocaine increases alertness, feelings of well-being and euphoria, energy and motor activity, feelings of competence and sexuality. Cocaine's stimulant effects are similar to that of amphetamine, however, these effects tend to be much shorter lasting and more prominent.

## ROUTES OF ADMINISTRATION

*Oral*

Many users rub the powder along the gum line, or onto a cigarette filter which is then smoked, which numbs the gums and teeth – hence the colloquial names of "numbies", "gummers", or "cocoa puffs" for this type of administration. This is mostly done with the small amounts of cocaine remaining on a surface after insufflation (snorting). Another oral method is to wrap up some cocaine in rolling paper and swallow (parachute) it. This is sometimes called a "snow bomb."

*Insufflation*

Nasal insufflation (known colloquially as "snorting", "sniffing", or "blowing") is a common method of ingestion of recreational powdered cocaine. The drug coats and is absorbed through the mucous membranes lining the nasal passages. When insufflating cocaine, absorption through the nasal membranes is approximately 30–60%, with higher doses leading to increased absorption efficiency. Any material not directly absorbed through the mucous membranes is collected in mucus and swallowed (this "drip" is considered pleasant by some and unpleasant by others).

In a study of cocaine users, the average time taken to reach peak subjective effects was 14.6 minutes. Any damage to the inside of the nose is because cocaine highly constricts blood vessels – and therefore blood and oxygen/nutrient flow – to that area. Nosebleeds after cocaine insufflation are due to irritation and damage of mucus membranes by foreign particles and adulterants and not the cocaine itself; as a vasoconstrictor, cocaine acts to reduce bleeding.

Rolled up banknotes, hollowed-out pens, cut straws, pointed ends of keys, specialized spoons, long fingernails, and (clean) tampon applicators are often used to insufflate cocaine. Such devices are often called "tooters" by users. The cocaine typically is poured onto a flat, hard surface (such as a mirror, CD case or book) and divided into "bumps", "lines" or "rails", and then insufflated. The amount of cocaine in a line varies widely from person to person and occasion to occasion (the purity of the cocaine is also a factor), but one line is generally considered to be a single dose and is typically 35 mg (a "bump") to 100 mg (a "rail").[dubious – discuss] As tolerance builds rapidly in the short-term (hours), many lines are often snorted to produce greater effects.[citation needed] A 2001 study reported that the sharing of straws used to "snort" cocaine can spread blood diseases such as hepatitis C.

*Injection*

Drug injection by turning the drug into a solution provides the highest blood levels of drug in the shortest amount of time. Subjective effects not commonly shared with other methods of administration include a ringing in the ears moments after injection (usually when in excess of 120 milligrams) lasting 2 to 5 minutes including tinnitus and audio distortion. This is colloquially referred to as a "bell ringer". In a study of cocaine users, the average time taken to reach peak subjective effects was 3.1 minutes. The euphoria passes quickly. Aside from the toxic effects of cocaine, there is also danger of circulatory emboli from the insoluble substances that may be used to cut the drug. As with all injected illicit substances, there is a risk of the user contracting blood-borne infections if sterile injecting equipment is not available or used. Additionally, because cocaine is a vasoconstrictor, and usage often entails multiple injections within several hours or less, subsequent injections are progressively more difficult to administer, which in turn may lead to more injection attempts and more consequences from improperly performed injection.

An injected mixture of cocaine and heroin, known as "speedball" is a particularly dangerous combination, as the converse effects of the drugs actually complement each other, but may also mask the symptoms of an overdose. It has been responsible for numerous deaths, including celebrities such as comedians/actors John Belushi and Chris Farley, Mitch Hedberg, River Phoenix, grunge singer Layne Staley and actor Philip Seymour Hoffman. Experimentally, cocaine injections can be delivered to animals such as fruit flies to study the mechanisms of cocaine addiction.

*Inhalation*

*See also: Crack cocaine*

Inhalation by smoking cocaine is one of the several ways the drug is consumed. The two main ways cocaine is smoked are freebasing and by using cocaine which has been converted to smokable "crack cocaine". Cocaine is smoked by inhaling the vapor produced when solid cocaine is heated to the point that it sublimates. In a 2000 Brookhaven National Laboratory medical department study, based on self reports of 32 abusers who participated in the study,"peak high" was found at mean of 1.4min +/- 0.5 minutes. Pyrolysis products of cocaine that occur only when heated/smoked have been shown to change the effect profile, i.e. anhydroecgonine methyl ester when co-administered with cocaine increases the dopamine in CPu and NAc brain regions, and has M1- and M3- receptor affinity.

Smoking freebase or crack cocaine is most often accomplished using a pipe made from a small glass tube, often taken from "love roses", small glass tubes with a paper rose that are promoted as romantic gifts. These are sometimes called "stems", "horns", "blasters" and "straight shooters". A small piece of clean heavy copper or occasionally stainless steel scouring pad – often called a "brillo" (actual Brillo Pads contain soap, and are not used) or "chore" (named for Chore Boy brand copper scouring pads) – serves as a reduction base and flow modulator in which the "rock" can be melted and boiled to vapor. Crack smokers also sometimes smoke through a soda can with small holes in the bottom. Crack is smoked by placing it at the end of the pipe; a flame held close to it produces vapor, which is then inhaled by the smoker. The effects, felt almost immediately after smoking, are very intense and do not last long – usually 2 to 10 minutes. When smoked, cocaine is sometimes combined with other drugs, such as cannabis, often rolled into a joint or blunt. Powdered cocaine is also sometimes smoked, though heat destroys much of the chemical; smokers often sprinkle it on cannabis. The language referring to paraphernalia and practices of smoking cocaine vary, as do the packaging methods in the street level sale.

*Suppository*

Another way users consume cocaine is by making it into a suppository which they then insert into the anus or vagina. The drug is then absorbed by the membranes of these body parts. Little research has been focused on the suppository (anal or vaginal insertion) method of administration, also known as "plugging". This method of administration is commonly administered using an oral syringe. Cocaine can be dissolved in water and withdrawn into an oral syringe which may then be lubricated and inserted into the anus or vagina before the plunger is pushed. Anecdotal evidence of its effects is infrequently discussed, possibly due to social taboos in many cultures. The rectum and the vaginal canal is where the majority of the drug would be taken up through the membranes lining its walls.

# PRODUCTION/MANUFACTURING

When it comes to the chain of production, this starts at ground level (or level one), with the farmer, who is also typically responsible for the initial extraction of the coca leaves, **using a mixture of gasoline and cement to make crude cocaine paste.** The paste is more easily transported than large quantities of leaves, but it has a short life span, so the farmer sells it to the second-level “collector.” This guy is either a wholesale dealer operating on his own, or a collector employed by a jungle lab (level three). **The cocaine paste is purified by either level two or three to increase the stability of cocaine. A common method for this is the oxidizing of the paste’s impurities with potassium permanganate, a very strong oxidant with a vivid purple color.**

**At the third level, hydrochloric acid is added to the base cocaine to convert it to the corresponding salt, which is then precipitated to what we know as crystalline, high-grade cocaine.** From here, the exporters and importers come into the picture as level four. If you’re lucky enough to know an importer, this is where you might get the good stuff—unless the supply came through Africa. This is a common smuggling route, as it’s easier to traffic cocaine into Europe from Africa than trafficking it directly from South America. But it’s also a place where additional dilution of the product is highly likely. The same goes for Eastern Europe. **The opportunities to interfere with the purity and content of the cocaine are almost limitless and really depend on the creativity of the smugglers.**

One thing is certain, though: Because there’s so much money to be made in dealing the drug, **each level of the supply chain adds some sort of white powder to the cocaine to maximize profits.** This usually spirals out of control when the cocaine has arrived at its destination country and is being divided into smaller portions. Everyone wants a piece of the cake, whether it’s the gang members responsible for the “primary” import or their supporters distributing the gear to the dealers. **The average purity of English cocaine is no more than 20 to 30 percent.** Given the chemical diversity of available diluents and adulterants used in cocaine, it’s very difficult for a user to assess the quality of a street-level bag. Of course, if you are—or know—a chemistry student, it’s possible to do a purification test, but at that point you’ll have already spent your savings on a sketchy product, and it would take at least ten grams of the stuff to make it worthwhile.

Cocaine can be dangerous even in pure form due to its chemical nature and addictive properties. **However, added danger comes from the fact that any illicit cocaine bought on the streets is likely to have some kind of additive, and it’s impossible to know what else is in the powder without special equipment. The longer cocaine is taken, the greater the overall risks.**

**The most reliable street test in my opinion is actually the smell of cocaine, as it has a very distinct aroma that none of the additives possess.** Unfortunately, for reference, this requires you to have smelled a lot of different cocaine of certain purities, and very few people have had that opportunity. Personally, I think I could estimate cocaine purity from its scent and from looking at and tasting a few milligrams, but I’ve also handled quite a lot of different batches with known purities.

**Flaking cocaine is usually a sign of high purity but is no guarantee, as it depends on the crystallization method being used during production and requires that the cocaine hasn’t been crushed.** **Cocaine rock, on the other hand, is absolutely not a good indicator. Dealers won’t hesitate to use hairspray to solidify powdered cocaine into bricks after tampering with the purity, so remember that next time you're crushing that block back down to powder.**

**It doesn’t matter which form of cocaine is being manufactured i.e. whether it is injectable, made for smoking or inhalation, dissolved in water or fusion of substances with cocaine is done by the manufacturers**. **Cutting of cocaine is done with two purposes in mind, either to change texture and color or increase the weight of the product or to increase the intensity of euphoric feeling which is a result of cocaine intake.** Pure coke is obtained from processed dried coca leaves. Growing cocaine abuse and potential business opportunity in dealing with cocaine, coupled with difficulties in manufacturing adequate quantities of the substance has compelled dealers to cut cocaine with substances that are not just injurious to health, and they can actually cause death to an enormous amount.

In addition to cutting cocaine to make it more profitable, the substance may be altered in order to change it into different forms. Freebase cocaine is made to be easy to smoke through the use of ammonia and ether.

If not prepared carefully, the ether in freebase cocaine can actually cause burns in a person’s throat and nasal passages. This form of cocaine is also considered to be more addictive.

In addition to the more common fillers, dealers have been known to cut cocaine with much more dangerous substances in an attempt to make the most profit**. For example, it was discovered in 2005 that 2 percent of all the cocaine seized by the US Drug Enforcement Administration (DEA) was cut with levamisole, a cattle dewormer. This drug used to be used for humans infected with parasitic worms but was found to severely deplete white blood cells. By 2011, 73 percent of all the cocaine tested by the DEA contained levamisole.**

Cocaine hydrochloride and, less frequently, cocaine base have been discovered in a range of ‘carrier’ materials as diverse as beeswax, fertiliser, clothing, herbs and liquids. The incorporation process can vary in sophistication from simply soaking clothes in a solution of cocaine and water, to incorporating the drug in plastic. In the latter case, a reverse chemical process is needed to extract the cocaine. After extraction, the substance can be adulterated with various cutting agents and pressed into cocaine bricks embossed with logos that designate high purity cocaine in producer countries.

Europol received reports of the discovery of about 30 cocaine ‘secondary extraction’ laboratories of various sizes in 2008, all in Spain. In the Netherlands, a mid-scale laboratory removing cocaine from cacao powder and liquor was seized in Roosendaal, in the province of Brabant. A year earlier, Dutch authorities had already dismantled two ‘secondary extraction’ laboratories in the same province, seizing eight tonnes of plastic (polypropylene) containing cocaine. Documentation recovered at the laboratories showed that more than 50 tonnes of the plastic had been imported from Colombia during that year.

# CRACK COCAINE

Another very common form of cocaine is crack cocaine. **This substance was invented in order to make it cheaper and more affordable for low-income individuals who are more vulnerable to drug abuse and addiction**. **It’s made by dissolving cocaine in water and then mixing it with ammonia or baking soda. The substance then develops into a rock form. During this process, additives like powdered milk, powdered sugar, or more baking soda may be added to make it even cheaper.**

# HARMFUL EFFECTS OF COCAINE ADDITIVES

**Cocaine abuse itself is harmful as it activates the brain in an unnatural fashion and forces it to stay excited for long times, this damages nerves. Its addiction potential is very high and physical and psychological dependence is another worrisome factor as the abuser destroys his body by abusing this medicine.**

**The addition of other anesthetic products such as benzocaine etc. can raise the threshold of anesthesia in an abuser thus complicating surgical and medical procedures. Loss of sensations might start appearing due to sustained suppression of pain sensation.**

**Sudden heart failure, arrhythmias, stroke and liver problems can arise due to injecting fast-acting substances which are taken through intravenous route.**

**Sudden death can occur as a person trying to keep the hallucination state might overdose without realizing.**

**In addition, cuts containing levamisole leave users highly susceptible to infection. In severe cases, individuals can get a dangerous infection from even small cuts and scratches. For those who inject cocaine with needles, this risk is even higher. There have been several deaths associated with this one additive alone as the victims’ immune systems were completely unable to fight off infection.**

**Other additives pose worrisome and harmful effects such as with laundry detergent, small particles in laundry detergent can build up in arteries and cause dangerous blockages in the heart, brain, or liver.**

# COCAINE ADULTRANTS

*An adulterant is a pejorative term for a substance found within other substances such as food, fuels or chemicals even though it is not allowed for legal or other reasons.*

*It will not normally be present in any specification or declared contents of the substance, and may not be legally allowed. The addition of adulterants is called adulteration. The most common reason for adulteration is the use by manufacturers of undeclared materials that are cheaper than the correct and declared ones. The adulterants may be harmful, or reduce the potency of the product, or they may be harmless.*

**Adulterants added to reduce the amount of expensive product in illicit drugs are called cutting agents**. Deliberate addition of toxic adulterants to food or other products for human consumption is poisoning.

Adulterants in cocaine can be anything and are chosen because they are cheap or easily available to serve their purpose of either stretching, diluting or enhancing cocaine samples.

**Adulterants in cocaine cuts can be classified into 4 groups; Dilutants/bulkers/fillers, Contaminants, Substitutes and Acidifiers.**

**Dilutants** are used to minimize the effects of the cocaine. Bulkers and fillers are added for the purpose of stretching the amount of the cocaine for increased profit.

The term "**contamination**" is usually used for the inclusion of unwanted substances due to accident or negligence rather than intent, and also for the introduction of unwanted substances after the product has been made. Adulteration therefore implies that the adulterant was introduced deliberately in the initial manufacturing process, or sometimes that it was present in the raw materials and should have been removed, but was not.

**Acidifiers** serve the purpose of dissolving a substance for safer injection keeping vein damage to a minimum.

**Substitutes** are used in cocaine to mimic the effects of cocaine or to heighten its effects.

*Once a bulker/filler or dilutant has been used to stretch the amount of cocaine the effects of which may be minimized, a dealer or distributer may substitute another adulterant to then offset this loss in effect or “high”. Thus, the vicious cycle of cutting cocaine is born, at each level manufacturers, distributors, dealers and some users tamper with the sample leaving users unaware of what is in their cocaine.*

# TESTING FOR COCAINE ADULTERANTS

COCAINE CUTTING AGENTS TEST (testkitplus.com)

Adulterants able to be identified through test:



# CLASSIFIED ADULTERANTS IN COCAINE

|  |  |
| --- | --- |
| **DILUTANTS/BULKERS/FILLERS**   * Sugars   + Mannitol   + Inositol   + Glucose   + Sucrose   + Dextrose   + Lactose   + Saccharine * Powders   + Baking Soda   + Powdered Milk   + Powdered Sugar   + Baby Powder   + Corn Starch   + Baby Formula   + Baby Laxatives   + Laxatives   + Laundry detergent * Boric Acid * Pectin * Creatine * Vitamin B12 | **SUBSTITUTES**   * Levamisole   + Dexamisole   + Tetramisole * Caffeine * Yohimbine * Lidocaine * Benzocaine * Procaine * Ephedrine * Phenacetine * Ibuprofen * Aspirin * Vyvanse * Ritalin * Dimethylphenidate * Methcathinone * Naphyrone * Chloroquine * Diltiazem * Scopolamine/Hyoscine * Strychnine/Arsenic * Methamphetamine |
| **ACIDIFIERS**   * Vitamin C * Lemon Juice * Vinegar * Citric Acid | **CONTAMINANTS**   * Ammonia * Hairspray * Hydrochloric Acid * Sulfuric Acid * Kerosene * Potassium Permanganate * Ethanol/ Ethyl Alcohol * Acetone * Diesel * Dimethyl-terephthalate * Hydroxyzine |

# COCAINE ADULTERANT BREAK DOWN

## DILUTANTS/FILLERS/BULKERS

### SUGAR CUTS

#### INOSITOL, MANNITOL, SUCROSE, LACTOSE, GLUCOSE, DEXTROSE, SACCHRINE,

Sugars such as lactose, inositol and mannitol are also used to dilute or add bulk to powdered cocaine. Some unscrupulous dealers don't bother to add cocaine to the recipe at all. The finished product is a white, flaky powder: bitter, odorless, and numbing to the lips and tongue. Cocaine cut with a sugar substance will burn clear and cannot be removed without doing some chemistry.

**Sugar substances are used regularly because they are legal and readily available. These substances act as inactive Dilutant with minimal risk of adverse health effects although can cause nasal irritation**

Sugar substances are cut with cocaine for the purpose being that it adds volume and stretches the amount of cocaine, dealers or manufacturers will do this to increase their profit.

**Inositol powder** can be used in small proportions as a cutting agent for cocaine or methamphetamine ("crystal meth"). It has an almost identical appearance when in powder form and portrays similar qualities when heated. This, in addition to the fact that it adds almost no discernable taste or feel to either drug regardless the method of use, makes it an ideal cutting agent. Cutting either drug at any point in the distribution increases volume of the street product and increases dealer profits. However, at higher cut levels the inositol becomes somewhat noticeable in that the quality of the product is obviously diminished.

**Mannitol** is popularly used as a cutting agent in cocaine. Mannitol is a type of sugar which is also used as a medication. As a sugar, it is often used as a sweetener in diabetic food, as it is poorly absorbed from the intestines. As a medication, it is used to decrease high pressures in the eyes such as are seen in glaucoma and to lower increased intracranial pressure. Medically, it is given by injection. Effects typically begin within 15 minutes and last up to 8 hours. Mannitol is commonly seen as an additive in heroin. **It is also considered a successful adulterant for cocaine** **because of its anti-caking properties**, used to keep the drug in its powdered state. The ingestion of Mannitol also comes with precautions, especially in cocaine use, as those who have allergic reactions to the substance, **a history of heart failure or heart disease, or other problems involving the kidney, brain, or lungs, are already forewarned against the use of Mannitol**

### POWDERS USED AS ADULTERANTS

#### BAKING SODA, POWDERED MILK, POWDERED SUGAR, BABY POWDER, FLOUR, BABY FORMULA, CORN STARTCH

These substances that come in powdered form such as the most commonly used baby powder which allows a manufacturer, **dealer or user to cut the cocaine to use less of the drug to increase the amount and profit.** **These substances can have varying effects but most likely will irritate the nostrils if snorted as well as dilute the effect. For this reason, cut cocaine will also usually contain a substitute (such as caffeine that increases effects) as well as an dilutant (powder used as a filler).**

Corn Starch works, too. A few problems: corn starch dries a nose out REALLY quickly and will leave your customer's nose dry as fuck after a night of partying. Also, it can tend to look a little off-white, and sometimes even yellow. If you cut 70% coke, 30% cut, the corn starch can get pretty noticeable if you look really close. **It seems a little off colored and a little grainier than Coke.**

**Two ideas if you get desperate. Sugar or baby powder (talcum powder) work. Sugar you can taste in the Drip, and when it burns off it turns brown and will fuck up a batch of Hard real fast. Talcum Powder is kinda' smelly. And - it will absorb the smell of the Cocaine... so if someone sticks their nose in the bag, they wont smell anything.**

### BORIC ACID

**One of the reasons why boric acid is sometimes added to cocaine supplies is that it heightens the anesthetic effects, while also having the physical appearance of cocaine crystals.** **However, boric acid is also one of the most dangerous adulterants to encounter with cocaine use,** particularly because **it is considered a dangerous poison.** Imagine having to ingest boric acid, when it is used in products such as glass fiber manufacturing, rodent and ant pesticides, photography chemicals, and a fireproofing agent for timber.

Boric acid, commonly used as an insecticide, has also been found in seized shipments of cocaine. **One of the primary reasons for using boric acid is cosmetic, as the compound often resembles the appearance of cocaine crystals.** **Known for being highly poisonous, huffing boric acid-laced cocaine can cause a number of neurological and physical disorders to occur.**

### PECTIN

Pectin is used as a gelling agent in jams and jellies, in fillings, sweets plus as a stabilizer in fruit juices and milk drinks. It’s also found in apples, guavas, plums, oranges and citrus fruits. Pectin was first sold as a liquid extract, but nowadays pectin is often sold as dried powder. Because it comes in a dry powder, is legal and easily available it is (rarely) used as a bulker in cocaine. Little is known about effects, harms or risks with this adulterant.

### 

### CREATINE

Creatine is used as an Dilutant when cutting cocaine in that it increases the amount by acting as a filler. This can also result in lowered effectiveness of the drug as well as have unpredictable effects. **It is said Creatine has the same numbing effect of cocaine.** **Creatine is odorless, has no color and no taste which is why it is used in cocaine cuts.**

### VITAMIN B12

Powder cocaine is often diluted or “cut” with white powders that have a similar consistency. Cornstarch, flour, talc, procaine (a local anesthetic), levamisole (a veterinary de-worming medication), powdered sugars, even coffee creamers, vitamin B12 and baby formula may be used.

**The next best thing is Vitamin B powder, which you can get at your local GNC. No smell or taste, but it burns off at REALLY low temperatures. So, if your customers are cooking your soft into hard, and they know a lot about Cocaine, they'll notice it's cut when it burns off almost immediately.** **Vitamin B is a great cut, but only if your customers want the powder to snort or inject, not to rock.**

# ACIDIFIERS

### VITAMIN C, VINAGER, LEMON JUICE, CITRIC ACID

*Why people who inject drugs use* *acidifiers?*

**Crack cocaine and ‘black tar’ (or ‘brown’) heroin are usually sold as solid crystals (rock) or powder; to inject them, the user must dissolve them in an acidic solution**. Most powered, ‘white’, heroin does not require an acidifier to dissolve it in water. **Common acidifiers include vitamin C, citric acid, lemon juice, and vinegar.**

*What are the problems with lemon juice and vinegar?*

Lemon juice and vinegar are commonly used because they are widely available1. However, they are much harsher acids, **causing more pain, irritation, and damage to the veins.** Repeated damage causes veins to collapse2. A drug user may then start using more dangerous veins4, such as veins in the neck or groin, that are near major arteries. If a major artery is pierced accidentally with a needle, life-threatening blood loss can occur3. Vinegar and lemon juice may also be contaminated with bacteria or fungus. These may lead to life-threatening infections including abscesses, cellulitis and heart infections5, or eye infections causing blindness6,7.

*How is vitamin C used?*

The smallest amount of ascorbic acid is used to dissolve the drug in order to keep vein damage to a minimum. In a stericup or ‘cooker’ (see Cookers Q and A), the drug is combined with sterile water. Small amounts of vitamin C are added until the drug is fully dissolved. For crack, the amount of vitamin C required is about ¼ the size of the rock; however for crack and brown or black tar heroin, the amount of vitamin C needed to fully dissolve the drug varies with the purity of the drug. Heroin may be heated until the drug is fully dissolved. Crack may also be heated, but should not be boiled. Once the packet of vitamin C is opened, any left over should be thrown away, so that it does not become contaminated and cause an infection.

*Why does BC Harm Reduction\* Strategies and Services provide ascorbic acid?*

**Medical-grade vitamin C is the safest acidifier. It causes the least damage to the veins, is non-toxic, and is sterile, reducing or eliminating the harms associated with other acids2**. Acidifiers are commonly shared when supplies are limited or difficult to access8. Shared acidifiers, like shared needles and other injecting paraphernalia, may transmit infections such as hepatitis C or HIV between users9,10. Single-use vitamin C packs should be available to all who need it and in a quantity to ensure sufficiency for each injection. Providing safe supplies to people who inject drugs creates a way to engage hard-to-reach and under-serviced populations in health care and social services. No studies have found that providing safe supplies makes people more likely to engage in harmful drug use.

# CONTAMINANTS

### AMMONIA

Cocaine powder forms the base of freebase cocaine. Freebase cocaine has a low melting point, so it can be smoked. It is made by dissolving powder cocaine in water and a strong alkaloid solution such as ammonia. Then, a highly flammable solvent like ether is added, and a solid cocaine base separates out from the solution. Crack cocaine is an easier-to-manufacture form of freebase cocaine.

Crack cocaine is also made from powder cocaine, but because its production doesn't require the use of flammable solvents, it is safer to make than freebase cocaine. To make crack, powder cocaine is dissolved in a mixture of water and either ammonia or sodium bicarbonate (baking soda). The mixture is boiled to separate out the solid, and then it's cooled. The solid is then dried and cut up into small nuggets, or "rocks."

### HAIRSPRAY

Dealers won't hesitate to use hairspray to solidify powdered cocaine into bricks after tampering with the purity, so remember that next time you're crushing that block back down to powder.

### HYDROCHLORIC ACID, SULFURIC ACID, KEROSENE

Dried coca leaves contain up to 1 % cocaine. They are processed into cocaine hydrochloride in clandestine laboratories. The leaves are moistened with lime water or other alkali and extracted with kerosene (paraffin). The dissolved cocaine is extracted from the kerosene with sulfuric acid to produce an aqueous solution of cocaine sulfate. This solution is neutralised with lime, causing cocaine base (coca paste) to precipitate. Coca paste is redissolved in sulfuric acid and potassium permanganate is added to destroy cinnamoylcocaine and other impurities. The filtered solution is again treated with alkali to precipitate the free base, which is dissolved in acetone or other solvents. Concentrated hydrochloric acid is added to the solution, causing cocaine hydrochloride to settle out as a solid residue. Sulfuric and hydrochloric acids, acetone and certain other solvents are listed in Table II, and potassium permanganate is listed in Table I, of the United Nations 1988 Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. The corresponding EU legislation is set out in Council Regulation (EEC) No 3677/90 (as later amended), which governs trade between the EU and third countries.

Although various methods exist for the synthesis of cocaine, they are less economic than extraction of the natural product. Typical precursors include atropine, tropinone and carbomethoxytropinone, none of which is listed in Table 1 of the above-mentioned United Nations 1988 Convention.

Crack is manufactured from cocaine hydrochloride by one of two main methods: either microwaving a wet mixture with sodium bicarbonate or by adding alkali to a hot saturated solution of cocaine and allowing the denser base to settle and solidify.

### POTASSIUM PERMANGANATE

Coca paste is first re-dissolved in a small amount of dilute sulfuric acid (thus reconstituting a fresh agua rica solution); as previously noted, the solution has a yellowish-brown color similar to beer. Some operators then slightly increase the pH of the solution with careful addition of base. The solution is then titrated against a concentrated aqueous solution of potassium permanganate, a powerful oxidizing agent. Potassium permanganate gives an intensely purple solution when dissolved in water; as it reacts with the oxidizable alkaloidal impurities in coca paste, it is reduced to manganese dioxide (an insoluble, brown-black solid), which precipitates out of solution. While many operators just add a set volume of concentrated aqueous permanganate to a given weight of coca paste/volume of agua rica (as determined by experience), the more usual method is to slowly add the solution with vigorous stirring, wait a few minutes, and then check to see if the solution has any yellowish-brown color remaining. This is determined by visual inspection of the solution after waiting for the precipitated manganese dioxide to settle out; if the solution is still colored, the addition of the permanganate solution is continued until the solution is finally colorless. Thus, potassium permanganate also acts as its own visual endpoint indicator. Over-addition or too rapid addition of permanganate is known to result in decomposition and loss of cocaine, so the operators work carefully to get it just right.

When the permanganate addition is judged to be complete, the solution is filtered to remove the precipitated manganese dioxide. The resulting colorless, slightly acidic solution (still commonly referred to as agua rica, hereafter oxidized agua rica) is again treated with a solution of base (usually dilute ammonia at this stage) with stirring. Again, the ammonia neutralizes the cocaine sulfate and any remaining sulfuric acid, thereby precipitating purified coke base, which is filtered, dried, packaged, and transferred to a crystal laboratory.

Coke base generally varies from 80 to 95% cocaine. Since potassium permanganate oxidation tends to remove both the cinnamoylcocaines and other colored impurities typically found in coca paste, the appearance of coke base is usually much lighter, varying from light tan to white; in addition, it has a drier, more mobile (free-flowing) consistency versus coca paste.

If too little potassium permanganate is used, an individual coke base exhibit may retain significant levels of cinnamoylcocaines (varying as high as 15% relative to cocaine for coke base derived from ECVC). Conversely, if improper mixing, poor pH control, or excess permanganate is used, cocaine itself may be oxidized to N-formylcocaine, which in turn can be hydrolyzed to N-norcocaine8,10,26,33,60. N-norcocaine can also undergo an intramolecular transamination reaction, giving N-benzoyl norecgonine methyl ester26,60. Thus, poor potassium permanganate oxidation techniques contribute directly to the relative amounts and types of impurities found in the coke base and eventually in the resulting cocaine hydrochloride (i.e., high cinnamoylcocaines with low N-norcocaine and N-formyl cocaine contents or low cinnamoylcocaines with higher N-norcocaine, N-formylcocaine, and N-benzoyl norecgonine methyl ester contents).

### ETHANOL/ETHER (Cocaethylene)

*Ethanol, also called alcohol, ethyl alcohol, and drinking alcohol, is the principal type of alcohol found in alcoholic beverages.*

*Ethanol - C2H6O ETHER - (C2H5)2O*

**Since Ethanol has been made illegal manufacturers are now using substances such as diesel which can be more harmful as it does not evaporate as effectively as ethanol.**

Dependence liability Moderate to High

Routes of administration Produced from ingestion of cocaine and ethanol

Synonyms benzoylecgonine ethyl ester, ethylbenzoylecgonine,

Cocaethylene (ethylbenzoylecgonine) is the ethyl ester of benzoylecgonine. It is structurally similar to cocaine, which is the methyl ester of benzoylecgonine. Cocaethylene is formed by the liver when cocaine and ethanol coexist in the blood.

Cocaethylene is the by-product of concurrent consumption of alcohol and cocaine as metabolized by the liver. Normally, metabolism of cocaine produces two primarily biologically inactive metabolites—benzoylecgonine and ecgonine methyl ester. The hepatic enzyme carboxylesterase is an important part of cocaine's metabolism because it acts as a catalyst for the hydrolysis of cocaine in the liver, which produces these inactive metabolites. If ethanol is present during the metabolism of cocaine, a portion of the cocaine undergoes transesterification with ethanol, rather than undergoing hydrolysis with water, which results in the production of cocaethylene.

cocaine + H2O → benzoylecgonine + methanol (with liver carboxylesterase 1)

benzoylecgonine + ethanol → cocaethylene + H2O

cocaine + ethanol → cocaethylene + methanol (with liver carboxylesterase 1).

**Physiological effects**

Cocaethylene is largely considered a recreational drug in and of itself, with stimulant, euphoriant, anorectic, sympathomimetic, and local anesthetic properties. The monoamine neurotransmitters serotonin, norepinephrine, and dopamine play important roles in cocaethylene's action in the brain. Cocaethylene increases the levels of serotonergic, noradrenergic, and dopaminergic neurotransmission in the brain by inhibiting the action of the serotonin transporter, norepinephrine transporter, and dopamine transporter. These pharmacological properties make cocaethylene a serotonin-norepinephrine-dopamine reuptake inhibitor (SNDRI; also, known as a "triple reuptake inhibitor").

In most users, cocaethylene produces euphoria and has a longer duration of action than cocaine. Some studies suggest that it may be more cardiotoxic than cocaine and "it also carries an 18- to 25-fold increase over cocaine alone in risk of immediate death". Cocaethylene has a higher affinity for the dopamine transporter than does cocaine, but has a lower affinity for the serotonin and norepinephrine transporters.

### ACETONE

Acetone is indeed a base product in the process of manufacturing cocaine. It has a numbing effect quickly experienced by gums or the tip of one's tongue. **It is this numbing quality rather than taste that is generally tested for. Typically used to “purify” cocaine.** Please note that the acetone wash does not remove amphetamine, levamisole, ephedrine, or pseudoephedrine. It is understood that an acetone wash will purify your cocaine but this is highly disputable as not all cuts are removed through an acetone wash. Acetone was does NOT leave pure cocaine at all, it just removes fillers that are solvable in acetone, there are plenty of cheap fillers in this world that are insoluable. If you want pure cocaine the process is very long and requires a lot of chemicals/equipment (acid/base extraction) There's tons of both active and inactive cuts that won't come out when you wash with acetone. And if the acetone isn't anhydrous then you can end up taking more coke out than cut.

Myth: Turning cocaine into freebase removes all of it's impurities. FALSE! By turning cocaine into freebase, your also turning ephedrine, amphetamine, lidocaine, procaine etc. into freebase. Now, we're not concerned about the inactive cuts like procaine or lidocaine, but we definitely want to remove those irritating active cuts such as ephedrine, amphetamine and caffeine.

Fact: Amphetamine freebase and ephedrine freebase are entirely soluble in water. Cocaine freebase is not. So, with that in mind, this is how we are going to simply wash that crap right off of our precious cocaine with good ole water. And like I said, with ease.

### DIESEL

Once the ammonia and lime have been applied, diesel gasoline is sprayed over the mixture with a watering can. While these steps are being applied, workers are constantly agitating the mixture to make sure the chemicals and the cement powder are being applied evenly to the minced leaves.

Once the minced leaves have been agitated, they are then put inside a large plastic drum where even more diesel gasoline is poured in. This time, the gasoline is not sprinkled on, but rather poured in very liberally.

The mixture is agitated with a stick for a while and is left to soak. As the mixture soaks, the diesel gasoline causes the cocaine to extract from the coca leaves. After a few hours of soaking, the gasoline/cocaine solution is then drained from the container. The remaining coca leaves are discarded since their usable amounts of cocaine have already been extracted.

Once the gasoline/cocaine liquid has been drained, ammonia is added to separate the cocaine from the diesel gasoline. You may be getting grossed out at this point as you learn the reality of how cocaine is made.

As soon as the ammonia is added, once can see the cocaine separate out instantaneously. During this process, the solution changes from a light green to an opaque, milky white. More diesel gasoline is then added to cause the cocaine that was in the mixture to collect. While the additional diesel gasoline is added, another worker continues to agitate the liquid with a stick or other stirring device.

Next, a solution containing 1 teaspoon of sulfuric acid for every 1 liter of water is added to the gasoline/cocaine liquid and a toilet plunger is used to agitate the new solution. More ammonia is then added to cause the cocaine to bind up into a paste.

The remaining solution is then strained into a container covered by a rag or cloth to separate out the chunks of cocaine paste from the remaining gasoline.

Sodium permanganate is then added to remove left over impurities. This chemical is interesting because it has a bright purple in color similar to diluted beet juice or a purple highlighter. Caustic soda is then added and the cocaine mixture is stirred and filtered until a purified paste remains.

Diesel can easily pollute your body's system and can have an adverse effect on the circulatory system, debilitating your health in the long run.

### DIMETHYL-TEREPHTHALATE

Dimethyl-terephthalateis a chemical used to make plastic sheeting. Present at low levels in cocaine and previously thought by some to have “leached” out of packaging materials. Now thought to be added deliberately but for what reason is currently unknown.

### HYDROXYZINE

Hydroxyzine is a sedative, anxiolytic, used as an **antihistamine this drug is also used to alleviate cocaine withdrawal symptoms and other stimulants. Its purpose in cut cocaine is unknown, but potentially used in the final processing stages of cocaine manufacturing.** **Use in combination with sedative drugs can cause unconsciousness and rare cases of overdose resulting in CNS problems. Dizziness, Drowsiness, Gastro-intestinal effects, Tinnitus, and Headaches.**

Hydroxyzine, better known as Vistaril is an antihistamine. This drug relieves itching and skin related allergies. It is also used for anxiety and tension, reduces nausea and vomiting, and helps you sleep at bedtime or before surgery. It might help with pain relief after surgery. Of course, this medicine causes drowsiness.

In some instances, it can do the reverse effect and cause agitation, restlessness, excitability, and being unable to sleep. It can cause irregular heart beat, blurred vision, seizures, pain or difficulty urinating, confusion, and weakness.

Since cocaine responds differently to many people, I really don't think I would want to mix this, but like I said there is no interactions between the two medications

## SUBSTITUTES

### LEVAMISOLE

**Levamisole is an anthelmintic drug, meaning it can be used to kill parasitic worms.** The drug was previously used to deworm both humans and livestock, but since **it was discovered to cause agranulocytosis (a severe depletion of white blood cells that leaves the body susceptible to infection),** it's only been used to treat worm-infested cattle. **In addition to being a popular cow dewormer, it has become a very popular cocaine adulterant. It has been theorised that it gives a more intense high.**

Due to the fact that levamisole kills white blood cells, **frequent users of cocaine that contains this drug are highly susceptible to infection. In severe cases, individuals can get a dangerous infection from even small cuts and scratches. For those who inject cocaine with needles, this risk is even higher. There have been several deaths associated with this one additive alone as the victims’ immune systems were completely unable to fight off infection.**

All over the world, forensic chemists report finding levamisole-tainted cocaine in **increasing frequency** from every level of distribution, ranging from the street to huge multi-ton shipments. **This means that the adulterant is added in South America before the cocaine has been exported.** So the question is, why bother diluting high-grade cocaine that costs almost nothing to produce (compared to street prices) with a compound that's more expensive than other adulterants and diluents? **The amount of levamisole found in cocaine is typically not that large, so it’s not to add weight, and it’s neither a stimulant nor a local anesthetic. But it is known that one of the metabolites of levamisole is a compound called aminorex, which has amphetamine-like stimulation properties.**

**Another possibility could be the fact that levamisole increases the amount of dopamine released by raising glutamate levels in the brain.** Since cocaine gets most of its euphoric effect from blocking the dopamine transporter protein—which then increases the available amount of dopamine to interact with the dopamine receptors of the brain—**levamisole could potentially increase the effect of cocaine through its release of dopamine.** Some people even suggest that levamisole can pass cocaine purity tests, but frankly why would any coke producer care about that? They’ve already been paid by the time the drug hits the market. To me, the aminorex and dopamine releasing theories are by far the most likely explanations, simply because I haven’t heard of any other plausible theories. **Essentially, levamisole enhances the rush.**

In 2005, levamisole was found in almost 2 percent of the cocaine seized by the DEA. In 2007, the frequency went up to 15 percent, and by 2011 a staggering 73 percent of all cocaine seized by the DEA had been cut with levamisole. The same tendency is seen in Europe and in the samples I have analyzed myself. From 2008 to 2009, the frequency was around 66 percent, and from 2011 to 2012 it had gone up to 90 percent in Danish cocaine**. The side effects from levamisole are not necessarily something the average user should worry about, since their exposure is not on a daily basis. Yet the more habitual consumer should definitely take it into consideration.**

The concentration of levamisole in cocaine has steadily increased since it was first detected. The concentration was less than 1% in 2001,8 and in 2009, levamisole comprised approximately 10% of each cocaine sample.8 By July 2009, the DEA reported that 69% of cocaine entering the United States contained levamisole,9 while in the United Kingdom, levamisole was found in over 50% of cocaine samples tested.7 In an analysis of cocaine users in Seattle, Washington, approximately 80% of users who tested positive for cocaine also tested positive for levamisole.4 Levamisole is also used to adulterate other illicit substances; seized heroin supplies in 2008 and 2009 were found to contain trace amounts of levamisole.2,10

Corrupted cocaine sold in Britain is making people's skin rot. Or so we were told last week, when a series of reports warned of the "flesh eating" cocaine causing people to suffer from a rare blood disorder that makes their flesh decompose and their ears go black. The stories came with images from a gruesome case study in the British Medical Journal, of a woman covered in dark blotches and open sores, looking like something out of a medieval physician's casebook.

Newspapers revealed the culprit: levamisole, a cattle de-worming drug found in "80 percent of cocaine" in the UK. The message being: Do a bit of a gear and you'll lose all your skin.

Levamisole has, over the last decade, become a major cutting agent in the world's cocaine supplies. While the substance might be found frequently, that doesn't mean cocaine is packed with the stuff. Cocaine purity research carried out by Lana Brockbals at drug identification firm TICTAC, seen exclusively by VICE, found that out of 106 samples of cocaine from an unnamed British festival last year, 83 contained traces of the de-wormer. However, the average concentration of levamisole in each wrap was just over 5 percent, with most samples containing between 1.5 and 5 percent of levamisole.

Tests on 5,000 street cocaine samples in the Netherlands between 2011 and 2014 found an average concentration of nine percent. In Spain last year, concentration was found to be, on average, 11.9 percent. The DEA says levamisole takes up nine percent of the average American bag of cocaine. An analysis last year of 103 random cocaine samples from around the world, conducted by the Energy Control drug testing service, found that the average concentration was 11 percent.

**Related to levamisole:**

DEXAMISOLEis an anthelmintic drug (dewormer).

TETRAMISOLEis a mixture of levamisole and dexamisole.  Anthelmintic drug (dewormer). Present in small quantities so not enough to produce a high; why it is added is currently unknown. Tetramisole hydrochloride Used to treat worms and parasitic infestations in animals. Has had trials for the treatment of certain cancers. Reason for addition not fully understood. Seems to be present in relatively small quantities.

### CAFFEINE

Caffeine is considered a psychoactive stimulant drug and is highly used when cutting heroine or cocaine because it is legal, cheap and more readily available than illicit drugs. In small doses, there are few serious health repercussions. Moderate to large doses can cause considerable harms. Such as Mood disturbances, induce anxiety, Addictive, Sleep disturbance, Increases risk of a range of health problems. Cocaine/Amphetamine/Methamphetamine/Ecstasy Stimulant properties of caffeine can create similar, although usually milder, effects to the primary drug.

Coffee jitters aside, caffeine is mild as far as stimulants go. But a new report reveals that combining it with cocaine turns it into an insanely potent and highly addictive drug — one that’s already being sold on the streets in South America.

As the team of Italian scientists points out, it’s no secret that **drug dealers cut cocaine with caffeine to use less of the drug and lower costs.** What isn’t clear is whether distributors realize the **incredible potency of cocaine and caffeine.** In the study, which they presented at the Society for Neuroscience conference last month, the **researchers discovered that caffeine boosts coke’s “reinforcing effects” — that is, the combination makes users even more likely to keep seeking out the drug than they would if they were addicted to coke alone.**

The researchers, using rats as test subjects, found that individuals with access to coke alone or the coke-caffeine super-stimulant learned how to self-administer the drug, while those that only had access to caffeine did not. In another set of experiments, rats had to “work” to access the drugs by activating a trigger a set number of times. With each dose, that number increased, forcing rats to put in more effort to get their fix.

As expected, rats that received cocaine worked hard to get their dose, and rats receiving coke cut with caffeine worked even harder.

Exactly how caffeine boosts coke’s potency — and what additional dangers it poses to users — will require further investigation.

### YOHIMBINE

Yohimbine (/joʊˈhɪmbiːn/) is an indole alkaloid derived from the bark of the Pausinystalia Yohimbe tree in Central Africa. It is a veterinary drug used to reverse sedation in dogs and deer. Yohimbine has been studied as a potential treatment for erectile dysfunction but there is insufficient evidence to rate its effectiveness. Extracts from Yohimbe have been marketed as dietary supplements for improving sexual function.

Studies conducted in dogs showed that concurrent yohimbine and cocaine use can cause a greater increase in blood pressure compared with either substance administered separately. The authors concluded that the alpha-blocking effects of the yohimbine can increase the risk of cardiovascular toxicity when combined with cocaine.

### LOCAL ANESTHETICS

*Topical anaesthetics are popular candidates for cutting agents because they can pass a quick purity “taste” by producing local numbing effects.*

### LIGNOCAINE/LIDOCAINE

Lignocaine, also known as Lidocaine, can be used to lace cocaine due to its similar physical properties and anesthetic effects. **The danger in its usage lies in the seriousness of allergic reactions, and may include tremors or seizures, uneven heartbeat, confusion, drowsiness and blurred vision.** The non-recreational use of Lidocaine has to be cleared with a doctor, **which is why cocaine use involving this substance makes the abuser even more susceptible to serious side effects.**

The abuse of cocaine has dramatically increased in the recent decade. Cocaine obtained on the illegal market is rarely found in pure form. Most often it is adulterated with various substances, especially other local anesthetics. **Lidocaine is one of the most common local anesthetics employed for adulteration of illicit cocaine.** Toxicity due to the simultaneous ingestion of cocaine and lidocaine has been reported. **Acute toxicity to cocaine and other local anesthetics is manifested in central nervous system aberrations, such as seizures and convulsions.** This study investigated the convulsant potency of cocaine and lidocaine alone and in combination. Rats were administered intravenous injections of 5 mg/kg or 20 mg/kg of cocaine or lidocaine alone and in combination in equal proportion. Seizure activity and intensity were evaluated. The plasma concentration and brain content of each agent was also determined at the time of toxicity. The administration of 5 mg/kg of each drug alone did not yield seizure activity. However, the concomitant administration of 5 mg/kg of both cocaine and lidocaine produced a seizure response nearly equal to that produced after administration of 20 mg/kg of cocaine alone. Diazepam pre-treatment successfully antagonized the seizures induced by cocaine and lidocaine and raised the seizure threshold dose for the combination treatment by approximately four-fold. **The results suggest that cocaine and lidocaine interact synergistically to increase seizure activity and that the nature of this response occurs in part through a depression of inhibitory neuronal transmission.**

### BENZOCAINE

Benzocaine is a local anesthetic commonly used as a topical pain reliever or in cough drops. It is the active ingredient in many over-the-counter anesthetic ointments such as products for oral ulcers. It is also combined with antipyrine to form A/B otic drops to relieve ear pain and remove earwax.

The collapse in cocaine purity is credited to importers' enterprise with products normally found beside a dentist's chair. Around 2007, they discovered cocaine could be heavily cut with cheaply bought benzocaine—**a dental anesthetic that mimics coke's numbing effect**—in place of glucose, the previous cutting agent of choice. Benzocaine can be bought as an identical looking powder for around $17 per kilo from China, and can then be cut into cocaine at a ratio as high as 10:1 or more. This week, two men from South Wales were jailed for conspiracy to sell cocaine; they had aroused suspicion after buying 12 blenders from Asda to mix together four blocks of blow with 12.8 pounds of benzocaine. An internet "pharmacist" sold more cutting agent to cocaine dealers in a single day than industrial giants use in an entire year, a court heard.

Gibbons says, "If you go back to pre-2007, cocaine purity was reasonably high, but it was always cut with inert substances like glucose. However, there was only so far you could cut cocaine with glucose before the numbing effect—the 'Kojak test' you see detectives do on-screen—would dissipate. **Dealers started using benzocaine or phenacetin, as they look like cocaine and have the same numbing effect, so they were able to cut harder to spread their product."**

This drug is known as a local anesthetic, typically found in topical, over-the-counter products such as creams and suntan lotions. While Benzocaine is commonly found in oral care products, **regular ingestion can bring about very serious results, including a potentially life-threatening condition called methemoglobinemia,** wherein the user will have dangerously abnormal levels of the hemoglobin called methemoglobin in the bloodstream. Further danger is present because while the more common onset of this condition occurs over time through the use of Benzocaine, there are also cases **when the condition can present even with just a one-time exposure, such as in adulterated cocaine use.**

**"Benzocaine is particularly favoured as a cutting agent, because it compliments cocaine because there is no discernible loss of quality.” "So wholesalers can sell their drugs at a premium and maximise their profits - Benzocaine costs about £100 per kilo, while cocaine costs many thousands."**

### PROCAINE (NOVOCAINE)

**Procaine (probably as hydrochloride salt) Local anesthetic used in creams, ointments and suntan lotions. Similar anaesthetic properties to cocaine. Less common now than it was a few years ago.**

Procaine is a local anaesthetic and is commonly cut into cocaine. Procaine has a risk of toxicity at high doses, as well as CNS problems, Nausea, Vomiting, Dizziness, Tremors, Convulsions, Anxiety. **Procaine has similar anaesthetic and subjective effects as cocaine thus is used as a substitute in cocaine to enhance its properties.** **Whilst it has only been reported in non life threatening quantities, small increases could potentially be fatal or be accompanied by Muscle spasm or Opisthotonos (holding of body in awkward rigid position).**

Procaine is a local anesthetic drug of the amino ester group. It is used primarily to reduce the pain of intramuscular injection of penicillin, and it is also used in dentistry. Owing to the ubiquity of the trade name Novocain, in some regions, procaine is referred to generically as novocaine. It acts mainly as a sodium channel blocker. Today it is used therapeutically in some countries due to its sympatholytic, anti-inflammatory, perfusion-enhancing, and mood-enhancing effects.

Application of procaine leads to the depression of neuronal activity. The depression causes the nervous system to become hypersensitive, producing restlessness and shaking, leading to minor to severe convulsions. Studies on animals have shown the use of procaine led to the increase of dopamine and serotonin levels in the brain. Other issues may occur because of varying individual tolerance to procaine dosage. Nervousness and dizziness can arise from the excitation of the central nervous system, which may lead to respiratory failure if overdosed. Procaine may also induce weakening of the myocardium leading to cardiac arrest.

Procaine can also cause allergic reactions causing individuals to have problems with breathing, rashes, and swelling. Allergic reactions to procaine are usually not in response to procaine itself, but to its metabolite PABA. About one in 3000 white North Americans is homozygotic (i.e. has two copies of the abnormal gene) for the most common atypical form of the enzyme pseudocholinesterase,and do not hydrolyze ester anesthetics such as procaine. This results in a prolonged period of high levels of the anesthetic in the blood and increased toxicity. However, certain populations in the world such as the Vysya community in India commonly have a deficiency of this enzyme.

### EPHEDRINE and PSEUDO-EPHEDRINE

Ephedrine and pseudoephedrine are both classified under stimulants. Both drugs have the capacity to mimic partially what endogenous adrenaline could give to the body.

Ephedrine is a vasoconstrictor. It works in various areas of the body to produce many different reactions.

Both these drugs are similar because of the fact that they really don’t carry the whole package of what adrenaline is offering, thus the classification of sympathomimetic. These drugs can only mimic to an extent, what adrenaline can do to the body, and both ephedrine and pseudoephedrine aren’t good brain stimulants. Though both drugs are also used in order to create methamphetamines, Ephedrine and Pseudoephedrine are different in terms of chemical formation. Both of these drugs are stereoisomers of each other, which means that the hydroxyl part of its chemical formation is differently placed.

* Ephedrine and Pseudoephedrine are both classified under stimulants that mimic what adrenaline does to the body.
* Ephedrine and Pseudoephedrine are both precursors of methamphetamine.
* Ephedrine and Pseudoephedrine differ in chemical structure found in its hydroxyl branch.
* Ephedrine is typically used to counteract orthostatic hypotension while pseudoephedrine is used to decongest nasal passages. Though both have the capacity to increase the blood pressure of patients, ephedrine has a more powerful effect.
* It is speculated that Ephedrine increases the stimulant effects of Cocaine and Pseudoephedrine is used to decongest nasal passages by those who snort cocaine as well as increase stimulant effects.

***Possible side effects of ephedrine:***

All medicines may cause side effects, but many people have no, or minor, side effects. Check with your doctor if any of these most COMMON side effects persist or become bothersome:

Anxiety; confusion; difficulty sleeping; dizziness; headache; nausea; nervousness; pale skin; restlessness; sweating; tension; tremors; weakness.

*Seek medical attention right away if any of these SEVERE side effects occur:*

Severe allergic reactions (rash; hives; difficulty breathing; tightness in the chest; swelling of the mouth, face, lips, or tongue); chest pain; difficulty urinating; eye pain; hallucinations; increased irregular heartbeat; nausea; pounding in the chest; vomiting.

*This is not a complete list of all side effects that may occur.*

Do NOT use ephedrine if: you are allergic to any ingredient in ephedrine or if you have an adrenal gland tumor or abnormally fast heart rate. **Cutting cocaine with ephedrine can cause rapid heart rate and as a result associated risks.**

**Ephedrine and cocaine initially caused contractions in cavernosal tissue strips that persisted for several hours. EFS-induced contractions became attenuated over time in tissues treated with ephedrine or cocaine. Eventually, the contractile responses to EFS were not distinguishable from the basal tone, although the tissues remained responsive to exogenous phenylephrine.**

**CONCLUSIONS:**

**Functional activation of alpha-adrenergic receptors on trabecular smooth muscle does not appear to be impaired with prolonged cocaine or ephedrine exposure. However, chronic use of cocaine or ephedrine may deplete norepinephrine from sympathetic nerve terminals, leading to priapism (persistent and painful erection of the penis).**

### PARACETAMOL (ACETAMINOPHEN)

Paracetamol is available as a generic medication with trade names including Tylenol and Panadol among others. Due to the accessibility and powdered form paracetamol or acetaminophen is used as a cutting agent in cocaine. It is widely used, Found occasionally in cocaine, but principally in heroin samples.

**In cocaine paracetamol is used to dilute the effects and it is said that is can cause significant nasal irritation if snorted.** **Because it works to dilute effects it is assumed typical pain medications such as paracetamol, ibuprofen or aspirin are cut into cocaine as a filler/additive/adulterant/dilutant.** It is also speculated it is used to enhance the effects of cocaine.

Acetaminophen (paracetamol) is a medication used to treat pain and fever. It is typically used for mild to moderate pain. It is often sold in combination with other ingredients such as in many cold medications. In combination with opioid pain medication, paracetamol is used for more severe pain such as cancer pain and after surgery. It is typically used either by mouth or rectally but is also available intravenously. Effects last between two and four hours.

Paracetamol is generally safe at recommended doses. Serious skin rashes may rarely occur, and too high a dose can result in liver failure. It appears to be safe during pregnancy and when breastfeeding. In those with liver disease, it may still be used, but in lower doses. Paracetamol is classified as a mild analgesic. It does not have significant anti-inflammatory activity and how it works is not entirely clear.

Paracetamol is the most commonly used medication for pain and fever in both the United States and Europe. It is on the World Health Organization's List of Essential Medicines, the most effective and safe medicines needed in a health system. Paracetamol is available as a generic medication with trade names including Tylenol and Panadol among others.

### PHENACETIN

Phenacetin (or acetophenetidin) is a pain-relieving and fever-reducing drug which was widely used for almost a hundred years before it was banned by the FDA in 1983. It is now classified as an industrial chemical.

The analgesic effects of phenacetin are due to its actions on the sensory tracts of the spinal cord. In addition, phenacetin has a depressant action on the heart, where it acts as a negative inotrope (suppresses muscular function). It is an antipyretic (fever reducer), acting on the brain to decrease the temperature set point. It is metabolized in the body as paracetamol (acetaminophen).

Phenacetin has been shown to be both a carcinogen and nephrotoxin (causes kidney damage).

Phenacetin Painkiller chemically related to paracetamol. No longer used in the UK because of its suspected cancer-causing properties. Looks like cocaine. Recently seen in some heroin samples, possibly because the same people are also supplying cocaine.

**Though phenacetin might not be quite as dangerous (debatable) a substance as levamisole is, it seems to be even more prevalent in cocaine than levamisole is.** Phenacetin was used as a pain-relieving and fever-reducing drug in the USA for nearly 100 years before being banned by the FDA in 1983. Its use in the medical profession now in the US is very limited, but it is still be used in some other countries.

In humans, many case reports have implicated products containing phenacetin in urothelial neoplasms, especially urothelial carcinoma of the renal pelvis. In one prospective series, phenacetin was associated with an increased risk of death due to urologic or renal diseases, death due to cancers, and death due to cardiovascular diseases.

Chronic use of phenacetin is known to lead to analgesic nephropathy characterized by renal papillary necrosis. This is a condition which results in destruction of some or all of the renal papillae in the kidneys!

One notable death that can possibly be attributed to the use of this drug was that of the aviation pioneer Howard Hughes. He had been using phenacetin extensively for the treatment of chronic pain; it was stated during his autopsy that phenacetin use may have been the cause of his kidney failure.

**Since phenacetin is being used as a cutting agent AFTER the cocaine has arrived from its South American home, many samples of cocaine now are being found to have both phenacetin and levamisole in them! Often times this substance is also called “Super Buff” because of its physical and refractive properties of crystals.**

**It seems that phenacetin is more often found in cocaine in the UK and Canada than other nations.**

### ASPIRIN

Aspirin: Crushed aspirin pills are almost indistinguishable from powdered drugs like cocaine and heroin. Aspirin also has a slightly bitter smell and taste, which is another attribute dealers look for when trying to assess the purity of a substance they would like to purchase or test. Aspirin is remarkably cheap to buy, and there are no limitations on how much a person can buy at any one time. Dealers pressed for time could simply head to a big box store and pick up aspirin in bulk. Once they have crushed the tablets, they could have enough powder to amend several doses of drugs.

Aspirin is known to interact with other drugs. For example, acetazolamide and ammonium chloride are known to enhance the intoxicating effect of salicylates, and alcohol also increases the gastrointestinal bleeding associated with these types of drugs. Aspirin is known to displace a number of drugs from protein-binding sites in the blood, including the antidiabetic drugs tolbutamide and chlorpropamide, warfarin, methotrexate, phenytoin, probenecid, valproic acid (as well as interfering with beta oxidation, an important part of valproate metabolism), and other NSAIDs. Corticosteroids may also reduce the concentration of aspirin. Ibuprofen can negate the antiplatelet effect of aspirin used for cardioprotection and stroke prevention. The pharmacological activity of spironolactone may be reduced by taking aspirin, and it is known to compete with penicillin G for renal tubular secretion. Aspirin may also inhibit the absorption of vitamin C.

### IBUPROFEN

Ibuprofen is a nonsteroidal anti-inflammatory drug (NSAID). It works by reducing hormones that cause inflammation and pain in the body. Ibuprofen is used to reduce fever and treat pain or inflammation caused by many conditions such as headache, toothache, back pain, arthritis, menstrual cramps, or minor injury. **Due to increased liver load some consideration should be taken when mixing ibuprofen with or as an adulterant in cocaine. Due to the anti-inflammatory properties of ibuprofen it can help alleviate nasal pain and congestion. The reason for ibuprofen as a cutting agent in cocaine is highly unexplored with little to no literature available. It is not suspected however to have any serious adverse health effects but caution should still be exercised due to the lack of information.**

Ibuprofen can increase the risk of fatal heart attack or stroke, especially if used long term or in high doses, or in the case of heart disease. Ibuprofen may also cause stomach or intestinal bleeding, which can be fatal. These conditions can occur without warning while using ibuprofen, especially in older adults. An ibuprofen overdose can damage the stomach or intestines.

Commonly reported side effects of ibuprofen include: hemorrhage, vomiting, anemia, decreased hemoglobin, eosinophilia, and hypertension. Other side effects include: upper gastrointestinal hemorrhage, upper gastrointestinal tract ulcer, dizziness, and dyspepsia

### CNS STIMULANTS

Three major types of CNS stimulant are currently abused in sport: amphetamine, cocaine and caffeine. Each drug type has its own characteristic mechanism of action on CNS neurones and their associated receptors and nerve terminals. Amphetamine is widely abused in sports requiring intense anaerobic exercise where it prolongs the tolerance to anaerobic metabolism. It is addictive, and chronic abuse causes marked behavioural change and sometimes psychosis. Cocaine increases tolerance to intense exercise, yet most of its chronic effects on energy metabolism are negative. Its greatest effects seem to be as a central stimulant and the enhancement of short-term anaerobic exercise. It is highly addictive and can cause cerebral and cardiovascular fatalities.

### Vyvanse

It is suspected that Vyvanse and other stimulants such as Adderall, Dimethylphenidate (a mild CNS stimulant used to treat ADHD) and Ritalin that are used to treat ADD/ADHD, are used as an adulterant in cocaine due to the similar stimulant properties of cocaine. These types of adulterants can help increase the effects of cocaine and are said to minimize the comedown of a cocaine high. Adverse health effects can include heart papulations with repeated use, other effects are unknown therefor always exercise caution.

### Ritalin

Like cocaine, Ritalin is a powerful stimulant that increases alertness and productivity. Ritalin and cocaine also look and act very much alike. They have a similar chemical structure, and both increase dopamine levels in the brain. They do this by blocking a dopamine transporter protein, which normally takes up dopamine from the synapse.

ADHD children are typically taken off of Ritalin when they reach adulthood. Interestingly, these individuals seem to be more prone to cocaine addiction. Why is that? Because Ritalin and cocaine are similar drugs, it's possible that ADHD adults are unknowingly using cocaine as a replacement for Ritalin. In other words, it may be an attempt to self-medicate. Cocaine may help individuals with ADHD focus and feel calm and in control.

### Adderall

Adderall is a combination of amphetamine and dextroamphetamine that is prescribed to treat the symptoms of attention-deficit hyperactivity disorder (ADHD.) While if taken as prescribed for someone who needs it for ADHD, Adderall does a great job for relieving the symptoms. But if abused, Adderall gives you almost the identical high to cocaine.

Different from cocaine, Adderall is strictly in pill form. The active ingredient of amphetamine can induce a same euphoria of cocaine. It increases your alertness and concentration by lessening the levels of fatigue. The more you consume the more alert you are and the more your appetite decreases. Similar to cocaine, Adderall stimulates the central nervous system. Adderall has very similar side effects to cocaine including:

Increased alertness

Loss of appetite, Elevated mood, Fatigue, Increased cravings for more

Signs of Adderall addiction symptoms and overdose include:

Headache, Dry mouth, Anxiety, Restlessness, Pounding or fast heartbeat, Difficulty sleeping, Panic attack, Hyperventilation, Hallucinations, Tremors

### METHCATHIONE

Methcathinone (α-methylamino-propiophenone or ephedrone) (sometimes called "cat" or "jeff" or "catnip" or "intash" ) is a monoamine alkaloid and psychoactive stimulant, a substituted cathinone. It is used as a recreational drug due to its potent stimulant and euphoric effects and is considered to be addictive, with both physical and psychological withdrawal occurring if its use is discontinued after prolonged or high-dosage administration. It is usually snorted, but can be smoked, injected, or taken orally.

*Intravenous usage:*

Injecting this substance has recently been associated with symptoms similar to those seen in patients with Parkinson's Disease (Manganism) due to the compound manganese dioxide which is a byproduct of synthesis with permanganate.

### NAPHYRONE

Naphyrone is a naphthyl analogue of Pyrovalerone that acts as a triple monoamine reuptake inhibitor[ii], producing psychostimulant effects[iii]. The substance enjoyed a brief period of popularity in 2010 following the scheduling of mephedrone, for which it was marketed as the ‘legal’ replacement.

The Advisory Council on the Misuse of Drugs (ACMD) considered the substance among other legal highs in July 2010[iv]., noting “it is important to distinguish between naphyrone (the subject of the ACMD’s advice) and NRG-1; a branded product which may contain naphyrone or any number of other cathinones, legal stimulants (caffeine) or other active and inactive constituents. The branded product NRG-1 cannot be presumed to be naphyrone.” **The limited evidence available suggests Naphyrone to be effective as a stimulant in dosages much lower than commonly found with recreational users of street-level amphetamine, cocaine or mephedrone. Making it an option as a cocaine adulterant for the purpose of enhancing or substituting its effects.**

### CHLOROQUINE

Chloroquine: This is a white, powdered medication that is used to help people deal with the effects of the illness malaria. It is a relatively easy substance to find, especially in countries where malaria is active, and it is an inexpensive substance to purchase. That makes this drug a good cutting agent. It is a very common choice among people who hope to maximize profits and reduce costs. Health risks are unknown.

### DILTIAZEM

Diltiazem (probably as hydrochloride salt) Used in treatment of various heart conditions, including angina and high blood pressure. Reason for addition not fully understood, but amounts generally believed to be small.

### SCOPOLAMINE/HYOSCINE

Hyoscine was first written about in 1881 and came into medical use in 1947. It is on the World Health Organization's List of Essential Medicines, the most effective and safe medicines needed in a health system. Hyoscine is produced from plants of the nightshade family. The name "scopolamine" is derived from one type of nightshade known as Scopolia while "hyoscine" is from another type known as Hyoscyamus niger.

Hyoscine, also known as scopolamine, is a medication used to treat motion sickness and postoperative nausea and vomiting. It is also sometimes used before surgery to decrease saliva. When used by injection effects begin after about 20 minutes and last for up to 8 hours. It may also be used by mouth and as a skin patch.

Common side effects include sleepiness, blurred vision, dilated pupils, and dry mouth. It is not recommended in people with glaucoma or bowel obstruction. It is unclear if use during pregnancy is safe; however, it appears to be safe during breastfeeding. Hyoscine is in the antimuscarinic family of medications and works by blocking some of the effects of acetylcholine within the nervous system.

**Five cases of acute poisoning by scopolamine bought as cocaine, are reported.** All the cases presented a serious anticholinergic syndrome which needed physostigmine administration. The presence of scopolamine in urine in the specimen that sniffed the substance was demonstrated in all the cases.

**While it has been occasionally used recreationally for its hallucinogenic properties, the experiences are often unpleasant, mentally and physically. It is also physically dangerous, so repeated use is rare.**

Scopolamine can render a victim unconscious for 24 hours or more with a significant dose. In large doses, it can cause respiratory failure and death. It is most often administered in liquid or powder form in foods and beverages.

Due to accessibility in powder form this substance is added to Cocaine, it is also suspected that due to hallucinogenic and similar effects it is also added as a substitute. Substances that bulk out cocaine as well as offer euphoric effects are popular as a cutting agent in Cocaine.

### STRYCHNINE/ARSENIC

Strychnine poisoning is a form of acute poisoning caused by the toxic agent Strychnine. It can be fatal to humans and other animals and can occur by inhalation, swallowing or absorption through eyes or mouth. It produces some of the most dramatic and painful symptoms of any known toxic reaction, making it quite noticeable and a common choice for assassinations and poison attacks. For this reason, strychnine poisoning is often portrayed in literature and film.

**Truth is, adulterating cocaine with strychnine or arsenic seems to be rare**. The U.S. Drug Enforcement Administration analyzed 2,944 samples of cocaine confiscated in five cities between 1974 and 1980. Adulterants found in at least 5 percent of the samples were reported; strychnine and arsenic didn't make the cut. Here's the stuff that did: lactose (milk sugar), 29 percent of samples; lidocaine (local anesthetic), 29 percent; mannitol, 26 percent; inositol, 10 percent; dextrose, 8 percent. (The last three items are all sugars.)

A team of researchers (Shesser et al, 1991) also went through DEA bulletins and the forensic science literature from 1982 through January 1989 looking for reports of contaminants. They found mentions of 48 substances, everything from heroin and amphetamine to baking soda and caffeine — but no strychnine or arsenic. Strychnine and arsenic were found on occasion in heroin, though.

**Strychnine in low doses is a stimulant; the seeds of the nux vomica tree, from which it's derived,** were once used to make a medicinal tonic. Heroin is a narcotic, not a stimulant, but maybe dealers figure a drug is a drug and they might as well mix the two together. A more likely explanation, though, is that dealers will cut their wares with any powder that's cheap, white, and available, and strychnine (commonly used as a rat poison) fills the bill. In a pinch, I suppose, so does arsenic.

The fact that coke isn't usually cut with rat poison doesn't mean the stuff it is cut with is harmless. Milk sugar won't do much to you apart from irritating your nose but the same can't be said for lidocaine. Lidocaine, benzocaine, procaine, and other local anesthetics are used to stretch cocaine because they can't readily be distinguished from the real thing when snorted. But if you get too much — and the average street sample of cocaine is only 40 percent pure, leaving a lot of room for chemical surprises — you could suffer tremors, hallucinations, seizures, or in the odd case death. And since the stuff you buy on corners doesn't have the ingredients printed on the side, you won't even be sure what from. **Let the buyer beware.**

### METHAMPHETAMINE AND OTHER STIMULANTS

Stimulant drugs increase activity in the central nervous system (made up of the brain and spinal cord, this system controls the activities of the body). Combining different stimulants can increase the risk of cardiovascular (heart) problems and substance-induced psychosis (a serious mental illness that causes people to misinterpret or confuse reality). Users can also increase their risk of experiencing anxiety or panic attacks.

Both cocaine and the amphetamines developed originally for clinical use (including methamphetamine (or “ice”)) are psychomotor stimulants.1 They have broadly similar actions at the synaptic level (such as blocking reuptake of dopamine released from the meso-limbo-cortical dopamine terminals), the level of mood and alertness, and the behavioural level. Some other amphetamines (such as phenylamphetamine (mescaline)) have slightly different actions, based, like ecstasy (MDA, MDMA), on a predominantly seratonergic effect.

All can be taken by different routes, including oral, intranasal, intravenous, or smoked (the freebase of cocaine “crack” or methamphetamine “crystal”). In a drug-naive, low dose, intranasal or oral user the stimulant effect would probably be additive at the time of use, with the longer half life of amphetamines giving a much prolonged “high” compared with cocaine by itself. Tolerance in regular users builds up to a great degree, so naive users are at immediate risk of overdose (such as with severe cardiovascular effects) if they take the dose of their more experienced friends, say at a party or club. Fatal overdoses are particularly common if taken in combination with other substances, especially injected heroin (a “snowball” or “speedball”) and abundant alcohol (cocaethylene is produced). A prolonged run of stimulant use, say continuously over a weekend, always produces an unpleasant emotional state very different from the initial euphoria—people who try desperately to prolong the “high” may end up feeling desperate and behave in a pretty wild or frightened way.

***Drug Forum Experiences:***

Taking two very powerful stimulants at the same time, is only going to compound the risks and negative effects associated with these drugs. Also, as others have mentioned it seems to me like it would be somewhat of a waste, as I don't believe that cocaine would add much to a methamphetamine "high".

The two work on the brain in different ways, meth increases dopamine production and coke slows down reuptake, in theory that would massively amplify the effects. However, in practice I've found it to not be that great of a combo, you'll display much more obvious stimulant intoxication but won't objectively feel that much higher, especially if you're using both consistently, I think this is largely due to the much stronger at onset effects of the coke overshadowing the longer lasting but weaker effects of the meth.

### PCP

Mixing PCP with Cocaine

Status: Unsafe

Note: This combination can easily lead to hyper-manic states

Mixing PCP with other drugs is very high-risk behavior. Due to the unpredictable nature of PCP side effects, many risks that do not exist with other drugs of abuse become more prevalent with PCP. Cocaine cut with PCP is very rare in Canada.

### HEROIN

SPEED-BALL = Mix of Heroin and Cocaine

One popularly abused combination is that of heroin and cocaine, which together form what’s commonly referred to as a “speedball.” Although the appeal of this poly-drug use among people who engage in it isn’t entirely understood, concurrent cocaine use may result in an especially rewarding surge of euphoria and might otherwise serve to alleviate some of the withdrawal symptoms associated with heroin use.

People mix heroin with other drugs for a variety of reasons, but by doing so they raise their risk for a number of consequences. Concurrent drug use can increase the risk of overdose.

One study speculated that individuals may decrease heroin use and begin mixing heroin with other drugs after about 10 years of using the opioid because of the hardships associated with abuse. As the relative amount of heroin use declines for these individuals, they might begin to increase their use of other drugs. This phenomenon might explain how some cases of concurrent heroin and other drug use begin.

Heroin is often combined with cocaine to avoid or decrease the unwanted side effects of either drug. This is a markedly risky combination of substances, and it can easily have fatal consequences.

Cocaine’s stimulant effects might temporarily prop up an otherwise depressed heart and breathing rate when abused simultaneously with heroin. However, these effects of cocaine wear off far sooner than those of heroin, which means that once the user experiences heroin’s full depressant effects, respiratory failure may occur. This overdose can easily happen if the individual takes more heroin than intended due to cocaine’s ability to mask heroin’s effects.

Combining heroin with cocaine may also increase the chances of experiencing psychotic symptoms such as delusions and paranoia. Evidence suggests that dependence developed in association with speedball use is more profound than that of either substance individually.

Heroin and cocaine tend to mask the negative side effects of each other and increase the euphoria experienced. The combined withdrawal effects that emerge may be more severe than withdrawal symptoms of heroin or cocaine alone.

This combination allows users to take cocaine for longer periods of time, but doing so can increase the risk of overdose or adverse effects. Some of the potential signs and symptoms of concurrent heroin and cocaine use include:

*Anxiety. Drowsiness. Confusion. Blurred vision. Stupor. Lack of coordination. Nausea or vomiting. Seizures. Irregular heartbeat. High blood pressure. Chest pain. Heart attack. Stroke. Respiratory distress. Coma.*

The combination of heroin and cocaine can negatively impact both heart rate and rhythm. At extreme levels, this can result in death.

Speedballing might be more likely to result in injection-site problems than other forms of intravenous drug use because of a higher frequency of injection. Concurrent heroin and cocaine users tend to inject more frequently than other kinds of intravenous heroin users do, sometimes injecting as many as 16 times in a day.

Speedball users might “miss their hits” because of the numbing properties of cocaine, and this mistake can increase complications such as vein damage. Other speedballing complications include:

*Systemic bacterial infections. Abscesses and other skin infection. Soft tissue damage. Deep vein thrombosis. Pulmonary embolism. Stroke.*

An individual who develops an addiction to heroin and cocaine is said to have poly-substance or poly-drug dependence. Cases of poly-substance abuse might complicate an individual’s recovery trajectory. However, many treatment programs recognize these patterns of drug use and can adequately address the unique issues that arise with poly-drug addiction.

## FENTANYL

Authorities across the province are seeing fentanyl being cut into or passed off as cocaine, and that is causing them to fear the powerful opioid could be extending its reach.

Delta Police suspect fentanyl was in the cocaine that caused nine people to overdose within a 20-minute period overnight on Aug. 31. 2016

The nine individuals were all recreational users who believed they were just taking cocaine, Delta police Chief Neil Dubord said.

"The scary part about cocaine is it's not viewed as heroin on the street. Often, it's viewed as more of a social drug, and that's the little piece that worries us, because it goes out to a larger audience."

Dubord said the practice of combining cocaine, a stimulant, with the depressant fentanyl is not new, but it is a dangerous combination.

"We know that fentanyl is very cheap, and when you're using it to cut cocaine, to bulk up cocaine, you're getting a lot more product without having to use a lot more cocaine."

Police also worry that cocaine users often don't have access to drugs such as Naloxone, a prescription drug that can reverse the effects of an opioid overdose, because they assume they don't need it.

The Interior Health Authority has issued an "overdose alert" for the Kamloops area after five overdoses in 48 hours, which they say appear to be linked to a "sparkly white powder" sold as cocaine. One of the overdoses was fatal.

**"The key message that we emphasize to people is to start slowly with the drug. Try a little bit, and then use the full amount they would normally use after testing the drug,"** said the health authority's Dr. Silvina Mema.

Vancouver police say they have also seen fentanyl being cut into cocaine.

**"It's something we're seeing more frequently,"** said Const. Brian Montague. "We've seen it in every drug other than marijuana."

Delta Police said the opioid overdose-reversing drug Naloxone was successfully used on eight of the nine people who overdosed overnight Wednesday.

One of the cases involved a 19-year-old who was at home with parents, Dubord said.

Delta Police say they have seized drugs from the scene and will be investigating to determine the source.

Weeks after nine British Columbians overdosed in a 20-minute span after taking what they thought was cocaine, the province's chief coroner released new stats today that show coke is detected in a significant amount of fentanyl deaths—more than any other recreational drug.

Delta Police have the following reminders for those who choose to use drugs:

* **Fentanyl and W-18 cannot be detected by looks, smell or taste and are being misrepresented and sold by drug dealers as other drugs.**
* **Do not use drugs alone and start with a small amount.**
* **Do not mix with other substances as it can increase the risk of overdose.**
* **Use where help is easily available.**
* **Do not be afraid to call 911 for assistance.**

**Pills or powders containing illicitly-manufactured fentanyl are especially dangerous because there is no quality control or regulated manufacturing process. These drugs may contain toxic contaminants or have different levels of fentanyl in each batch. Even pills produced in the same batch may have little to lethal levels of fentanyl.**

A review of toxicological findings for 325 fentanyl-detected illicit drug overdose deaths

in 2016 was conducted. In 96% of these deaths, at least one substance other than

fentanyl was detected. The four most frequently detected drugs (including alcohol)

were as follows:

 Cocaine (50% of deaths)

 Ethyl alcohol (38% of deaths)

 Methamphetamine/amphetamine (34% of deaths)

 Heroin (32% of deaths)

Showing a high risk for cocaine users in that their substance may contain this dangerous drug Fentanyl.

Samuel Gutman, a doctor with BC-based Rockdoc Consulting, which is setting up harm reduction stations at Pemberton Music Festival next month**, told VICE dealers are cutting fentanyl into other drugs because "it's cheap and available, and it's easy to synthesize."**

**Making fentanyl, he said, is a four-step process requiring easily available non-prescription ingredients. That makes it an appealing substance to cut into other drugs—even uppers like cocaine and MDMA.**

"If you're getting high, you're getting high," he said, even if it may not be the high you expected.

**Delta, BC police, who've seen fentanyl overdoses from people who thought they were doing cocaine, issued a warning to residents last year about laced drugs.**

**There's an additional danger when a person is not a regular opioid user and inadvertently ingests fentanyl.**

**"A relatively small amount of any opioid can cause overdose and death," said Gutman.**

Vancouver police spokesman Randy Fincham said more and more drug users who've died of fatal overdoses have a mixture of drugs in their systems, including fentanyl. But he says it can be tough to track which chemicals mixed together to create the toxic overdose.

# INCREASING THE PURITY OF STREET DRUGS (ALCOHOL AND ACETONE WASHES)

If you do synthetic street drugs that are sold as powder, crystals, or pills, the following techniques for "cleaning" drugs may be of interest to you.

One of the simpler methods of purifying your drugs is called an **alcohol wash**. The premise is that some impurities/cuts will not dissolve as much in alcohol as the actual drug. This works especially well with coke, since it is very soluble in alcohol. It will remove some but not all of the levamisole/Tetramisole in coke.

Supplies: Drugs to clean, 2 clean glass or ceramic containers, lab or coffee filters, something to measure small quantities of liquid with (usually you can get a free 10ml oral syringe from any major pharmacy chain by asking for one), internet access, and the purest alcohol you can get. if you can have somebody bring it in from out of province or the U.S, pure ethanol over 90% is best. Sold as Alcohol Global 94% in Quebec, Ever clear/Spirytus 95/96% in the U.S. Next best is 99% isopropyl alcohol from a pharmacy, make sure it's 99%, not normal rubbing alcohol. After that, some LCBOs sell a 75.5% proof Spirytus, don't get Bacardi 151 unless you want your drugs to have non-alcoholic rum residue in them. In a pinch, normal vodka will work but not nearly as well as those above, and you'll lose a lot more of whatever you're cleaning to the process.

How much alcohol you'll use will depend on what you're cleaning, and how soluble it is in the solvent you've got. For example, cocaine HCl (which is what you'll have if you bought coke that isn't rocked up into crack) is soluble in water at 1.8 grams per millilitre of distilled water, that means every millilitre of water can dissolve 1.8 grams of coke. In pure ethanol (drinking alcohol) it takes 3.2ml to dissolve a gram. That means, in 94% alcohol, you'll need about 2.8ml per gram, just call it 3ml since you'll lose a bit to evaporation and the sides of your container. If you have a toaster oven, set it for about 150F, cover the top of your container with a glass plate, and wait for it to come up to temperature. The plate will have to sit flush with the container so the alcohol doesn't escape. Heating the alcohol is optional, but will improve your results. If you do heat it, make sure you pick up the container with oven mits or a folded towel, because it will be hot. While hot, dissolve your coke in the alcohol and stir to help it dissolve. You can then let it cool to room temperature and pour it through your filter into the other container. Before pouring, wet the filter paper with a bit of alcohol that doesn't have coke in it. Anything less soluble than coke will now be left in the filter, and your cleaner coke will be in the alcohol. Pour the alcohol onto a flat plate and let it sit until it evaporates, which will leave behind your coke. You can use light heat to help it evaporate faster, but make sure it's under 175F and absolutely no open flames. Once it's almost dry, chop it up finely and let it sit for another 48 hours to get all of the alcohol out, especially if you used alcohol not meant for drinking. It may look like a weird white paste before it's completely dry, don't be alarmed if that happens.

To wash other drugs with alcohol, just look up how soluble they are in the solvent you're using (liquid that you'll be dissolving your drugs in) and adjust the figures accordingly. If the solubility is lower than 30ml per gram it's probably not worth doing.

Another method of cleaning your drugs is called an **acetone wash**. This will improve the purity of most drugs if done correctly, but will not get rid of most cuts that are drugs themselves. If your MDMA has speed, PMA, lidocaine, etc. in it that will still be in it at the end. This is best for getting rid of things that whomever manufactured your drugs left behind due to greed, laziness, or incompetence. It will also get rid of caffeine. If you have MDMA that's dark brown and smells strongly, it will be white and mostly odourless when you're done. Warning: Acetone is very flammable, unhealthy to breathe in, and it dissolves paint, varnish, plastic and Styrofoam among other things. Keep away from open flames, keep a window open, and only use clean glass, ceramic, or metal containers. This does not work for any drugs that are in freebase form, like crack or DMT.

Supplies: Acetone (available at most hardware stores. Make sure the container just says it has acetone in it, don't just get any bottle from the paint thinners sections). To test if your acetone is clean, pour a little bit onto a clean glass/ceramic/metal surface and see if it leaves residue behind when it evaporates. If it doesn't, you're good. Epsom salts (should be available at most pharmacies, make sure they're unscented and not sea salt/ something else). An oven or toaster oven, coffee filters, clean glass/ceramic containers, and a mortar and pestle.

First you're going to want to "dry" your acetone. Dry acetone means it has no water in it, water is bad because even a little bit will cause you to lose some of your drugs. To do this, crush up Epsom salts in your mortar and pestle and put them in the oven on high for 3-4 hours. This will take all the water out of the Epsom salts, and they will now absorb water from the atmosphere, or your acetone. Put the equivalent of roughly 1/5 of your container of acetone in dried epsom salts into the acetone container. Give it a good shaking for about a minute, and let it sit for a day. You now have dry acetone. Don't shake the container before using and pour slowly from the top layer so you don't pour out Epsom salts with it. Pour it through a coffee filter to make sure you don't get any Epsom salt in your drugs. If you have a glass eyedropper and patience, it's better to just use that to siphon acetone off the top and leave all the Epsom salt at the bottom. Crush your drugs finely, and depending on how much you're washing put them in an acetone friendly container of appropriate size. Probably a shot glass. Then pour your filtered, dry acetone on top, enough to cover your drugs plus a little room at the top. The acetone will absorb impurities and some cuts, but not your drugs. Stir it around a bit with an acetone friendly utensil, (glass or metal) and let it sit for maybe 10 minutes. Then take a clean container with a new coffee filter on it, and wet the coffee filter with a bit of acetone. You can then pour in the contents of your shot glass. Save the coffee filter and scrape any residue from the shot glass. Let the acetone evaporate off and you can then retrieve your drugs from the coffee filter. If you're curious, you can also let all the acetone from the other container evaporate which will leave behind all the impurities that were removed, otherwise just dispose of it or keep it in a closed container to reuse later.

If you apply both of these techniques to your drugs they will become even cleaner. Keep in mind these techniques only work if what you bought as MDMA/coke/whatever actually contains MDMA/coke/whatever. If you wash a mystery E pill you'll still have mystery powder at the end, albeit cleaner mystery powder.

**VERY IMPORTANT FINAL NOTE:**

If your final product does not resemble diamond-like crystals and is more of just a dullish white looking powder, it most likely contains NO cocaine at all. A lot of what is sold as cocaine today is nothing more than just procaine or lidocaine mixed with either ephedrine or amphetamines or both. (In fact, a recent bust resulted in the confiscation of 2 kilos of pure procaine). The unsuspecting rookie might actually be duped into thinking they're doing cocaine when in fact they're not. The end result is always a miserable buzz resulting in paranoia, ampyness, edginess, untalkativeness, etc. The high is from the amphetamine/ephedrine and the numbness is from the procaine/lidocaine. If this is the case, doing this procedure will simply leave you with pure lidocaine, procaine or whatever "caine" they used to adulterate your sample with. Unfortunately, you cannot get cocaine out of something that never had any to begin with.

I have personally found this to be the case nearly 30% of the time. Just remember, if it doesn't contain any diamonds, it doesn't contain any cocaine either.

# NICKNAMES FOR COCAINE

Common drug combinations that include cocaine

|  |  |  |  |
| --- | --- | --- | --- |
| Cocaine in General:   * Aunt, Aunt Nora * Baseball * Bazulco * Beam * Bernice * Bernie, Bernie’s flakes, Bernie’s gold dust * Big C * Big flake * Blanca * Blow * Bump * C, C-dust, C-game, Candy C, Candy Cane * Coke, Coca * Line Rail * Snow, Snow White * Nose candy * White pony | For crack cocaine:   * Badrock, Black rock * Beat * Blotter, Blopper * Candy, Cookies * Chemical * Dice * Electric kool-aid * Glo * Gravel * Grit * Hail * Hard ball, Hard rock * Ice cube * Jelly beans * Nuggets * Rocks * Sleet * Tornado * Trey | Cocaine and marijuana:   * Banano * Blunt * Pimos * Bazooka * P-Dogs * 51 * Sherman Stick * Tio, Splitting * Woo-Woo * Woo Blunt * Woolies * Woolas * Lace   Cocaine and meth:   * Shabu * Snow Seals   Cocaine and PCP:   * Spaceball * Dusty Road Cocaine * PCP and marijuana: * Wicky | Cocaine and heroin:   * Speedball * Belushi * Boy-Girl * H & C * Murder One * One and One * Smoking Gun * Snowball * Whiz Bang   Cocaine and Ecstasy:   * Bumping up   Cocaine, LSD and Ecstasy:   * Candy Flipping Flame throwers * Cocaine |

# ADDITONAL INFORMATION

## BLACK COCAINE

*From Wikipedia, the free encyclopedia*

Black cocaine, also known as Coca Negra, is a mixture of regular cocaine base or cocaine hydrochloride with various other substances. These other substances are added to camouflage the typical appearance (pigments and dyes, e.g. charcoal), to interfere with color-based drug tests (mixing thiocyanates and iron salts or cobalt salts forms deep red complexes in solution), to make the mixture undetectable by drug sniffing dogs (activated carbon may sufficiently absorb trace odors).

Since the result is usually black, it is generally smuggled as toner, fingerprint powder, fertilizer, pigment or metal moldings. The pure cocaine base can be recovered from the mixture by extraction (freebase) or acid-base extraction (hydrochloride) using common organic solvents such as acetone.

It was reported that in the mid-1980s Chilean dictator Augusto Pinochet ordered his army to build a clandestine cocaine laboratory in Chile where chemists mixed cocaine with other chemicals to produce what Pinochet's former top aide for intelligence Manuel Contreras described as a "black cocaine" capable of being smuggled past drug agents in the US and Europe.

Black cocaine was detected in Bogota, Colombia in May 1998. In 2008, a new type of black cocaine was discovered by police in Spain. It had been manufactured into rubber-like sheets and made into luggage.

## ADVERSE EFFECTS

Because crack is an illicit drug, users may consume impure or fake ("bunk") drug, which may pose additional health risks.

### PHYSIOLOGICAL

*Main physiological effects of crack cocaine*

The short-term physiological effects of cocaine include constricted blood vessels, dilated pupils, and increased temperature, heart rate, and blood pressure. Some users of cocaine report feelings of restlessness, irritability, and anxiety. In rare instances, sudden death can occur on the first use of cocaine or unexpectedly thereafter.Cocaine-related deaths are often a result of cardiac arrest or seizures followed by respiratory arrest.

Like other forms of cocaine, smoking crack can increase heart rate and blood pressure, leading to long-term cardiovascular problems. Some research suggests that smoking crack or freebase cocaine has additional health risks compared to other methods of taking cocaine. Many of these issues relate specifically to the release of methylecgonidine and its effect on the heart, lungs, and liver.

*Toxic adulterants:* Many substances may have been added in order to expand the weight and volume of a batch, while still appearing to be pure crack. Occasionally, highly toxic substances are used, with a range of corresponding short and long-term health risks. Adulturants used with crack and cocaine include milk powder, sugars such as glucose, starch, caffeine, lidocaine, benzocaine, paracetomol, amphetamine, scopolamine and strychnine.

Smoking problems: Any route of administration poses its own set of health risks; in the case of crack cocaine, smoking tends to be more harmful than other routes. Crack users tend to smoke the drug because that has a higher bioavailability than other routes typically used for drugs of abuse such as insufflation. Crack has a melting point of around 90 °C (194 °F), and the smoke does not remain potent for long. Therefore, crack pipes are generally very short, to minimize the time between evaporating and ingestion (thereby minimizing loss of potency). Having a very hot pipe pressed against the lips often causes cracked and blistered lips, colloquially known as "crack lip". The use of "convenience store crack pipes"[13- glass tubes which originally contained small artificial roses - may contribute to this condition. These 4-inch (10-cm) pipes are not durable and will quickly develop breaks; users may continue to use the pipe even though it has been broken to a shorter length. The hot pipe might burn the lips, tongue, or fingers, especially when passed between people who take hits in rapid succession, causing the short pipe to reach higher temperatures than if used by one person alone.

Pure or large doses: Because the quality of crack can vary greatly, some people might smoke larger amounts of diluted crack, unaware that a similar amount of a new batch of purer crack could cause an overdose. This can trigger heart problems or cause unconsciousness.

Pathogens on pipes: When pipes are shared, bacteria or viruses can be transferred from person to person.

### CRACK LUNG

In crack users, acute respiratory symptoms have been reported, sometimes termed crack lung. Symptoms include fever, hemoptysis and difficulty breathing. In the 48-hour period after use, people with these symptoms have also had associated radiographic findings on chest xray of pulmonary edema, interstitial pneumonia, diffuse alveolar hemorrhage, and eosinophil infiltration.

### PSYCHOLOGICAL

Stimulant drug abuse (particularly amphetamine and cocaine) can lead to delusional parasitosis (aka Ekbom's Syndrome: a mistaken belief they are infested with parasites). For example, excessive cocaine use can lead to formication, nicknamed "cocaine bugs" or "coke bugs", where the affected people believe they have, or feel, parasites crawling under their skin. (Similar delusions may also be associated with high fever or in connection with alcohol withdrawal, sometimes accompanied by visual hallucinations of insects.)

People experiencing these hallucinations might scratch themselves to the extent of serious skin damage and bleeding, especially when they are delirious.

### PREGNANCY AND NURSING

"Crack baby" is a term for a child born to a mother who used crack cocaine during her pregnancy. The threat that cocaine use during pregnancy poses to the fetus is now considered exaggerated. Studies show that prenatal cocaine exposure (independent of other effects such as, for example, alcohol, tobacco, or physical environment) has no appreciable effect on childhood growth and development. However, the official opinion of the National Institute on Drug Abuse of the United States warns about health risks while cautioning against stereotyping:

Many recall that "crack babies", or babies born to mothers who used crack cocaine while pregnant, were at one time written off by many as a lost generation. They were predicted to suffer from severe, irreversible damage, including reduced intelligence and social skills. It was later found that this was a gross exaggeration. However, the fact that most of these children appear normal should not be over-interpreted as indicating that there is no cause for concern. Using sophisticated technologies, scientists are now finding that exposure to cocaine during fetal development may lead to subtle, yet significant, later deficits in some children, including deficits in some aspects of cognitive performance, information-processing, and attention to tasks—abilities that are important for success in school.

There are also warnings about the threat of breastfeeding: "It is likely that cocaine will reach the baby through breast milk." The March of Dimes advises the following regarding cocaine use during pregnancy:

Cocaine use during pregnancy can affect a pregnant woman and her unborn baby in many ways. During the early months of pregnancy, it may increase the risk of miscarriage. Later in pregnancy, it can trigger preterm labor (labor that occurs before 37 weeks of pregnancy) or cause the baby to grow poorly. As a result, cocaine-exposed babies are more likely than unexposed babies to be born with low birthweight (less than 5.5 lb or 2.5 kg). Low-birthweight babies are 20 times more likely to die in their first month of life than normal-weight babies, and face an increased risk of lifelong disabilities such as mental retardation and cerebral palsy. Cocaine-exposed babies also tend to have smaller heads, which generally reflect smaller brains. Some studies suggest that cocaine-exposed babies are at increased risk of birth defects, including urinary-tract defects and, possibly, heart defects. Cocaine also may cause an unborn baby to have a stroke, irreversible brain damage, or a heart attack.

## TOLERANCE

An appreciable tolerance to cocaine’s high may develop, with many addicts reporting that they seek but fail to achieve as much pleasure as they did from their first experience. Some users will frequently increase their doses to intensify and prolong the euphoric effects. While tolerance to the high can occur, users might also become more sensitive (drug sensitization) to cocaine's local anesthetic (pain killing) and convulsant (seizure inducing) effects, without increasing the dose taken; this increased sensitivity may explain some deaths occurring after apparent low doses of cocaine.

## ADDICTION

Crack cocaine is popularly thought to be the most addictive form of cocaine. However, this claim has been contested: Morgan and Zimmer wrote that available data indicated that "...smoking cocaine by itself does not increase markedly the likelihood of dependence.... The claim that cocaine is much more addictive when smoked must be reexamined. They argued that cocaine users who are already prone to abuse are most likely to "move toward a more efficient mode of ingestion" (that is, smoking).

The intense desire to recapture the initial high is what is so addictive for many users. On the other hand, Reinarman et al. wrote that the nature of crack addiction depends on the social context in which it is used and the psychological characteristics of users, pointing out that many heavy crack users can go for days or weeks without using the drugs.

## OVERDOSE

A typical response among users is to have another hit of the drug; however, the levels of dopamine in the brain take a long time to replenish themselves, and each hit taken in rapid succession leads to progressively less intense highs. However, a person might binge for 3 or more days without sleep, while inhaling hits from the pipe.

Use of cocaine in a binge, during which the drug is taken repeatedly and at increasingly high doses, leads to a state of increasing irritability, restlessness, and paranoia. This may result in a full-blown paranoid psychosis, in which the individual loses touch with reality and experiences auditory hallucinations.

Large amounts of crack cocaine (several hundred milligrams or more) intensify the user's high, but may also lead to bizarre, erratic, and violent behavior. Large amounts can induce tremors, vertigo, muscle twitches, paranoia, or, with repeated doses, a toxic reaction closely resembling amphetamine poisoning.

# CAUTION FOR INTERACTIONS

**Mushrooms** *Stimulants increase anxiety levels and the risk of thought loops which can lead to negative experiences*

**LSD** *Stimulants increase anxiety levels and the risk of thought loops which can lead to negative experiences*

**DMT** *Stimulants increase anxiety levels and the risk of thought loops which can lead to negative experiences*

**Mescaline** *The focus and anxiety caused by stimulants is magnified by psychedelics and results in an increased risk of thought loops*

**2C-x** *The anxiogenic and focusing effects of stimulants increase the chance of unpleasant thought loops. The combination is generally unnecessary because of the stimulating effects of psychedelics. Combination of the stimulating effects may be uncomfortable.*

**Cannabis** *Stimulants increase anxiety levels and the risk of thought loops which can lead to negative experiences*

**Ketamine** *No unexpected interactions, though lely to increase blood pressure but not an issue with sensible doses. Moving around on high doses of this combination may be ill advised due to risk of physical injury.*

**MXE** *Stimulants taken with MXE can lead to hypermanic states much more easily, especially if sleep is avoided.*

**Amphetamines** *This combination of stimulants will increase strain on the heart. It is not generally worth it as cocaine has a mild blocking effect on dopamine releasers like amphetamine*

**MDMA** *Cocaine blocks some of the desirable effects of MDMA while increasing the risk of heart attack.*

**Caffeine** *Both stimulants, risk of tachycardia, hypertension, and in extreme cases heart failure.*

**GHB/GBL** *Stimulants increase respiration rate allowing a higher dose of sedatives. If the stimulant wears off first then the opiate may overcome the patient and cause respiratory arrest. Likewise, the G can wear off and leave a dangerous concentration of cocaine behind.*

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