

# Cocaine Addiction

RESTORING HOPE TO ALL AFFECTED BY DRUG ADDICTION THROUGH EDUCATION, ADVOCACY AND SUPPORT.

Cocaine addiction is a very serious and sometimes life threatening dilemma. Not only is it difficult for the addict, it is extremely hard on those around them who care about them. For the addict, admitting they have an addiction problem can be difficult. However painful this may be, it must be acknowledged as the first gradient to overcoming the problem. The next hurdle is being willing to seek & accept help from an addiction professional. It can be hard for an addict to confront the fact that they can not do it alone. Once this fact is accepted, it is time to seek the appropriate professional treatment. Drug rehab programs based on the social education modality are highly successful. This means that individuals who are recovering from Cocaine addiction are not made wrong for their past indiscretions, but are taught how to avoid future ones. They are provided with knowledge on how to change their lives and how to live comfortably without Cocaine. Receiving



treatment for addiction should be done in a safe & stable environment that is conducive to addiction recovery. Research studies show that residential treatment programs of at least 3 months in duration have the best success rates. 3 months may seem like a long time, but one day in the life of an individual addicted to Cocaine can feel like an eternity. Addiction is a self imposed hellish slavery. The chains can be broken people do it everyday. You can be free!

Drug rehabilitation is a multi-phase, multi-faceted, long term process. Detoxification is only the first step on the road of addiction treatment. Physical detoxification alone is not sufficient to change the patterns of a drug addict. Recovery from addiction involves an extended

process which usually requires the help of drug addiction professionals. To make a successful recovery, the addict needs new tools in order to deal with situations and problems which arise. Factors such as encountering someone from their days of using, returning to the same environment and places, or even small things such as smells and objects trigger memories which can create psychological stress. This can hinder the addict's goal of complete recovery, thus not allowing the addict to permanently regain control of his or her life.

Almost all addicts tell themselves in the beginning that they can conquer their addiction on their own without the help of outside resources. Unfortunately, this is not usually the case. When an addict makes an attempt at detoxification and to discontinue drug use without the aid of professional help, statistically the results do not last

long. Research into the effects of long-term addiction has shown that substantial changes in the way the brain functions are present long after the addict has stopped using drugs. Realizing that a drug addict who wishes to recover from their addiction needs more than just strong will power is the key to a successful recovery. Battling not only cravings for their drug of choice, re-stimulation of their past and changes in the way their brain functions, it is no wonder that quitting drugs without professional help is an uphill battle.

Cocaine addiction is one of society's greatest problems today. Individuals addicted to cocaine will do almost anything to get the drug. It has penetrated all levels of our society, rich, poor, and everyone in between.

Family members connected to cocaine addicts live in chaos and confusion. Not understanding the underlying mechanics of cocaine addiction.

Q) What is Cocaine?

A) Cocaine is derived from the leaves of the coca bush, which grows in South America. Cocaine has been used for centuries by Indians to combat the effects of hunger, hard work, and thin air, in the mid 1800s its effects were praised by Freud, among others. Until 1906, this substance was a chief ingredient of Coca-Cola and was also used as a anesthetic. Widespread use and addiction led to government efforts against cocaine in the early 1900s. The danger associated

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with cocaine was ignored in the 1970s and early 1980s, and cocaine was proclaimed by many to be safe. With the accumulating medical evidence of cocaine's deleterious effects and the introduction and widespread use of cocaine, the public and government have become alarmed again about its growing use. To many Americans, especially health care and social workers who deal with cocaine users and have witnessed the personal and societal devastation it produces, cocaine addiction is, by far, the most serious drug problem in the United States.

Q) How is cocaine used?

A) There are four primary methods of ingesting cocaine. These are:

1. "Snorting" - absorbing cocaine through the mucous membranes of the nose.
2. Injecting - users mix cocaine powder with water and use a syringe to inject the solution intravenously.
3. Freebasing - Cocaine hydrochloride is converted to a "freebase" which can then be smoked.
4. Crack Cocaine - Cocaine hydrochloride is mixed with ammonia or sodium bicarbonate (baking soda) and other ingredients, causing it to solidify into pellets or "rocks". The crack is then smoked in glass pipes.

Q) How widespread is cocaine addiction?

A) In 1997, there were approximately 1.5 million regular cocaine abusers. 1-tenth of the population - over 22 million people have tried cocaine. Each day 5,000 more people will experiment with cocaine. Cocaine is a \$35 billion illicit industry now exceeding Columbia's #1 export, coffee. 1 in 10 workers say they know someone who uses cocaine on the job. In 1997, an estimated 1.5 million Americans (0.7 percent of those age 12 and older) were current cocaine users, according to the 1997 National Household Survey on Drug Abuse (NHSDA). This number has not changed significantly since 1992, although it is a dramatic decrease from the 1985 peak of 5.7 million cocaine users (3 percent of the population). Based upon additional data sources that take into account users underrepresented in the NHSDA, the Office of National Drug Control Policy estimates the number of chronic cocaine users at 3.6 million.

Adults 18 to 25 years old have a higher rate of current cocaine use than those in any other age group. Overall, men have a higher rate of current cocaine use than do women. Also, according to the 1997 NHSDA, rates of current cocaine use were 1.4 percent for African Americans, 0.8 percent for Hispanics, and 0.6 percent for Caucasians.

Cocaine remains a serious problem in the United States. The NHSDA estimated the number of current cocaine users to be about 604,000 in 1997, which does not reflect any significant change since 1988.

The 1998 Monitoring the Future Survey, which annually surveys teen attitudes and recent drug use, reports that lifetime and past-year use of cocaine increased among eighth graders to its highest levels since 1991, the first year data were available for this grade. The percentage of eighth graders reporting cocaine use at least once in their lives increased from 2.7 percent in 1997 to 3.2 percent in 1998. Past-year use of cocaine also rose slightly among this group, although no changes were found for other grades.

Data from the Drug Abuse Warning Network (DAWN) showed that cocaine-related emergency room visits, after increasing 78 percent between 1990 and 1994, remained level between 1994 and 1996, with 152,433 cocaine-related episodes reported in 1996.

Q) Why would anyone become addicted to cocaine?

A) The effects of cocaine are immediate, extremely pleasurable, and brief. Cocaine produce intense but short-lived euphoria and can make users feel more energetic. Like caffeine, cocaine produces wakefulness and reduces hunger. Psychological effects include feelings of well-being and a grandiose sense of power and ability mixed with anxiety and restlessness. As the drug wears off, these temporary sensations of mastery are replaced by an intense depression, and the drug abuser will then "crash", becoming lethargic and typically sleeping for several days.

Q) What are the physical effects of cocaine addiction?

- A) Changes in blood pressure, heart rates, and breathing rates  
 Nausea  
 Vomiting  
 Anxiety  
 Convulsions  
 Insomnia  
 Loss of appetite leading to malnutrition and weight loss  
 Cold sweats  
 Swelling and bleeding of mucous membranes  
 Restlessness and anxiety  
 Damage to nasal cavities  
 Damage to lungs  
 Possible heart attacks, strokes, or convulsions

## HEALTH EFFECTS

Even though the public is often regaled with highly publicized accounts of deaths from cocaine, many still mistakenly believe the drug, especially when sniffed, to be nonaddictive and not as harmful as other illicit drugs. Cocaine's immediate physical effects include raised breathing rate, raised



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blood pressure and body temperature, and dilated pupils.

By causing the coronary arteries to constrict, blood pressure rises and the blood supply to the heart diminishes. This can cause heart attacks or convulsions within an hour after use. Chronic users and those with hypertension, epilepsy, and cardiovascular disease are at particular risk. Studies show that even those with no previous heart problems risk cardiac complications from cocaine. Increased use may sensitize the brain to the drug's effects so that less of the substance is needed to induce a seizure. Those who inject the drug are at high risk for AIDS and hepatitis when they share needles. Allergic reactions to cocaine or other substances mixed in with the drug may also occur.

Q) What are the short term effects of cocaine?

A) Cocaine's effects appear almost immediately after a single dose, and disappear within a few minutes or hours. Taken in small amounts (up to 100 mg), cocaine usually makes the user feel euphoric, energetic, talkative, and mentally alert, especially to the sensations of sight, sound, and touch. It can also temporarily decrease the need for food and sleep. Some users find that the drug helps them to perform simple physical and intellectual tasks more quickly, while others can experience the opposite effect. Short-term effects of cocaine

- Increased energy
- Decreased appetite
- Mental alertness
- Increased heart rate
- Increased blood pressure
- Constricted blood vessels
- Increased temperature
- Dilated pupils

The duration of cocaine's immediate euphoric effects depends upon the route of administration. The faster the absorption, the more intense the high. Also, the faster the absorption, the shorter the duration of action. The high from snorting is relatively slow in onset, and may last 15 to 30 minutes, while that from smoking may last 5 to 10 minutes

The short-term physiological effects of cocaine include constricted blood vessels; dilated pupils; and increased temperature, heart rate, and blood pressure. Large amounts (several hundred milligrams or more) intensify the user's high, but may also lead to bizarre, erratic, and violent behavior. These users may experience tremors, vertigo, muscle twitches, paranoia, or, with repeated doses, a toxic reaction closely resembling amphetamine poisoning. 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.

Q) What are the long term effects of cocaine?

A) Cocaine is a powerfully addictive drug. Once having tried cocaine,

an individual may have difficulty predicting or controlling the extent to which he or she will continue to use the drug. Cocaine's stimulant and addictive effects are thought to be primarily a result of its ability to inhibit the reabsorption of dopamine by nerve cells. Dopamine is released as part of the brain's reward system, and is either directly or indirectly involved in the addictive properties of every major drug of abuse. Long-term effects of cocaine Addiction

- Irritability
- Mood disturbances
- Restlessness
- Paranoia
- Auditory hallucinations

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 can also become more sensitive (sensitization) to cocaine's anesthetic and convulsant effects, without increasing the dose taken. This increased sensitivity may explain some deaths occurring after apparently low doses of cocaine.

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.

Q) What are the medical complications of cocaine use?

A) There are enormous medical complications associated with cocaine use. Some of the most frequent complications are cardiovascular effects, including disturbances in heart rhythm and heart attacks; such respiratory effects as chest pain and respiratory failure; neurological effects, including strokes, seizure, and headaches; and gastrointestinal complications, including abdominal pain and nausea.

Medical consequences of cocaine abuse:

- Cardiovascular effects
  - disturbances in heart rhythm
  - heart attacks
- Respiratory effects
  - chest pain
  - respiratory failure
- Neurological effects
  - strokes
  - seizures
- Gastrointestinal effects
  - abdominal pain
  - nausea



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Cocaine use has been linked to many types of heart disease. Cocaine has been found to trigger chaotic heart rhythms, called ventricular fibrillation; accelerate heartbeat and breathing; and increase blood pressure and body temperature. Physical symptoms may include chest pain, nausea, blurred vision, fever, muscle spasms, convulsions and coma.

Different routes of cocaine administration can produce different adverse effects. Regularly snorting cocaine, for example, can lead to loss of sense of smell, nosebleeds, problems with swallowing, hoarseness, and an overall irritation of the nasal septum, which can lead to a chronically inflamed, runny nose. Ingested cocaine can cause severe bowel gangrene, due to reduced blood flow. And, persons who inject cocaine have puncture marks and "tracks," most commonly in their forearms. Intravenous cocaine users may also experience an allergic reaction, either to the drug, or to some additive in street cocaine, which can result, in severe cases, in death. Because cocaine has a tendency to decrease food intake, many chronic cocaine users lose their appetites and can experience significant weight loss and malnourishment.

Research has revealed a potentially dangerous interaction between cocaine and alcohol. Taken in combination, the two drugs are converted by the body to cocaethylene. Cocaethylene has a longer duration of action in the brain and is more toxic than either drug alone. While more research needs to be done, it is noteworthy that the mixture of cocaine and alcohol is the most common two-drug combination that results in drug-related death.

Q) How does cocaine produce its effects?

A) A great amount of research has been devoted to understanding the way cocaine produces its pleasurable effects, and the reasons it is so addictive. One mechanism is through its effects on structures deep in the brain. Scientists have discovered regions within the brain that, when stimulated, produce feelings of pleasure. One neural system that appears to be most affected by cocaine originates in a region, located deep within the brain, called the ventral tegmental area (VTA). Nerve cells originating in the VTA extend to the region of the brain known as the nucleus accumbens, one of the brain's key pleasure centers. In studies using animals, for example, all types of pleasurable stimuli, such as food, water, sex, and many drugs of abuse, cause increased activity in the nucleus accumbens.

in the brain -

In the normal communication process, dopamine is released by a neuron into the synapse, where it can bind with dopamine receptors on neighboring neurons. Normally dopamine is then recycled back into the transmitting neuron by a specialized protein called the dopamine transporter. If cocaine is present, it attaches to the dopamine transporter and blocks the normal recycling process, resulting in a build-up of dopamine in the synapse which contributes

to the pleasurable effects of cocaine.

Researchers have discovered that, when a pleasurable event is occurring, it is accompanied by a large increase in the amounts of dopamine released in the nucleus accumbens by neurons originating in the VTA. In the normal communication process, dopamine is released by a neuron into the synapse (the small gap between two neurons), where it binds with specialized proteins (called dopamine receptors) on the neighboring neuron, thereby sending a signal to that neuron. Drugs of abuse are able to interfere with this normal communication process. For example, scientists have discovered that cocaine blocks the removal of dopamine from the synapse, resulting in an accumulation of dopamine. This buildup of dopamine causes continuous stimulation of receiving neurons, probably resulting in the euphoria commonly reported by cocaine abusers.

As cocaine abuse continues, tolerance often develops. This means that higher doses and more frequent use of cocaine are required for the brain to register the same level of pleasure experienced during initial use. Recent studies have shown that, during periods of abstinence from cocaine use, the memory of the euphoria associated with cocaine use, or mere exposure to cues associated with drug use, can trigger tremendous craving and relapse to drug use, even after long periods of abstinence.

- Q) Are there any other problems that can occur from cocaine addiction?
- A) Cocaine can cause feelings of anxiety and depression, which may last for weeks. Attempts to stop using the drugs can fail simply because the resulting depression can be overwhelming, causing the addict to use more cocaine in an attempt to overcome his depression.

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