

# Cocaine

Cocaine is a very powerful extremely addictive stimulant drug. It is typically ingested by snorting (inhaled through the nose) or injecting by needle directly into a vein. Cocaine is a deadly substance frequently resulting in acute cardiovascular or cerebrovascular emergencies such as heart attack or stroke, as well as seizures and life-threatening respiratory distress. There is no safe way to use cocaine. Like all fast acting drugs, cocaine has a strong potential for developing dependency.

## PHYSICAL EFFECTS

Cocaine affects the central nervous system by blocking the reabsorption of dopamine, a chemical associated with both pleasure and movement. As a result, the buildup of dopamine causes the cocaine user to experience a continual euphoria. After the euphoria dissipates the cocaine user will experience a "crash" - a rush of depression. Frequently the crash leads to an undeniable urge for cocaine, causing the user to seek out more of this dangerous substance and increasing the user's chance of addiction.

Cocaine affects the entire system. Users of cocaine may experience increased temperature, heart rate, and blood pressure, in addition to dilated pupils, hyperstimulation/reduced fatigue, restlessness, irritability, hallucinations, dizziness, headache, and/or anxiety. The hallucinations experienced by a user of cocaine can turn into full-blown paranoia and psychosis. Users of cocaine may experience gastrointestinal disturbances such as abdominal pain and nausea. Furthermore, as cocaine has a tendency to decrease one's appetite, cocaine addicts are often found to be severely underweight and malnourished.

The physical effects of cocaine use depend on the route of administration and absorption. For example, an individual who snorts cocaine may experience a loss of smell, regular nosebleeds, difficulty swallowing, hoarseness, lung trauma, bleeding, and/or chronic congestion. Individuals who ingest cocaine may experience severe gastrointestinal problems, such as gangrene of the bowel due to the drug's reduction of normal blood flow. Users who inject cocaine may experience severe allergic reactions, and also place themselves at a significantly increased risk for contracting HIV or another blood-borne disease transmitted through the injection needles.

In addition to the physical dangers of pure cocaine, adulterants also pose a serious health threat. Used to dilute the drug for the financial benefit of the dealer, adulterants may include caffeine, chalk, laundry detergent, rat poison, meat tenderizer, baby laxatives, and talcum or baby powder. Adulterants are largely undetectable to the average user. The health complications associated with the absorption of an adulterant can range from none to sickness and death. The prevalence of adulterants is simply another layer of the plethora of health concerns and possible physical effects associated with the use of cocaine.

Cocaine-related death is not uncommon among users of this deadly, illegal substance. In 1982 a cocaine/heroin overdose killed comedian John Belushi, and in 1986 cocaine induced cardiac and respiratory distress killed University of Maryland basketball player, Len Bias, less than 48 hours after he was drafted by the Boston Celtics in the 1986 NBA draft. Bias was 22 years old when he died.

## TOLERANCE AND ADDICTION

Many users are initially drawn to cocaine because of the drug's potential "high" - the euphoric feeling associated with the illegal

substance. Each person's "high" has a different longevity, and is based not only on the quantity of cocaine absorbed, but also on the route of absorption (i.e., injected, smoked, snorted). For example, the high produced after smoking cocaine is often very intense, but also short lived. The high from smoking cocaine may only last five or ten minutes, which is a very short period of time considering cocaine's potentially fatal risks (see Physical Effects for more information).

Over time an individual will build up tolerance to cocaine, and require a larger dosage of the substance to experience the same initial high. In fact, many cocaine users report that they have never been able to achieve the same level of euphoria and pleasure that was achieved during their first cocaine exposure. Individuals affected by a build-up of cocaine tolerance will seek to increase their absorbed dosage, as well as frequency of use, in an effort to attain the perceived desired effect. This desire leads to the use of extremely high dosages of cocaine, significantly increasing one's risk of serious health consequences, and/or sudden death.

Not all cocaine users build tolerance in the same way. While some cocaine users build up a classic tolerance to the drug, requiring an increased dosage to achieve the same high, other cocaine users become more sensitive to the substance and can experience life-threatening effects such as cardiac arrest, respiratory failure, or classic overdose at very low dosages.

Cocaine is highly addicting, and even a single use can quickly lead to dependency. Animal studies have shown that after being exposed to cocaine, if given the choice, the animals will give up food and water, and even tolerate electrical shocks, if it will enable them to get cocaine. People are also severely affected by cocaine's addictive properties. Similarly to animals, human cocaine users will often give up food and water, steal, and live in dire poverty in order to sustain their drug habit.

An often overlooked bi-product of addiction to cocaine is the high financial cost of maintaining one's addiction. National Pulse Check sources indicate that cocaine is mostly sold in central city areas and select suburban communities. While the price of cocaine varies drastically, the average price of one gram of power cocaine is \$100 in most cities. Drug addiction is often a contributing factor in homelessness, poverty, and divorce. As one's desire for cocaine takes precedence over other life expenses, cocaine addiction can have a significant detrimental role on one's personal finances.

## MIXING ALCOHOL AND COCAINE

When absorbed simultaneously, the human liver combines alcohol and cocaine to form a deadly chemical complex known as cocaethylene. National research has shown that while cocaethylene intensifies cocaine's euphoric effects and hallucinogenic properties, it also has the potential to significantly increase one's risk of sudden death.

## LEGAL CONCERNS

In December 1914 the United States passed the Harrison Act, enabling the federal government to regulate cocaine within its borders. The act banned all non-medical use of cocaine, as well as prohibited its importation and raised the penalty for criminal cocaine-related violation to that of users/distributors of opium, morphine, and heroin. As a result, cocaine in the United States became scarce and was replaced by other legal stimulants such as amphetamines. Despite the Harrison Act, cocaine never fully

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disappeared from the American market. After cocaine use rose sharply again in the 1960s, in 1970 the United States Congress decided to classify cocaine as a Schedule II substance, labeling it as substance with a high potential for abuse as well as severe psychological and/or physical dependence. Cocaine is still considered a Schedule II substance, with limited legal medical uses such as serving as a local anesthetic for very specific and rare eye, ear, and throat surgeries.

Cocaine continues to be the most frequently listed illegal substance reported to the Drug Abuse Warning Network (DAWN) by hospital emergency departments throughout the country. During 2002 cocaine was listed 199,198 times, and was linked to 30% of drug related cases to appear in emergency departments that year, and cocaine listings increased 47% between 1995 and 2002.

## STUDENT USE

Cocaine is used by individuals of all ages and all socio-economic backgrounds. In 2004 a national self-reporting survey indicated that 3.4% of U.S. eighth graders, 5.4% of tenth, and 8.1% of twelfth graders had used cocaine at least once during their lifetime. Of equally great concern was the fact that 19.4% of eighth graders, 31.2% of tenth graders, and 41.7% of twelfth graders reported that powder cocaine was "fairly easy" or "very easy" to obtain.

## WITHDRAWAL

Withdrawal from cocaine can be a difficult but extremely rewarding process. Between 1992 and 2002 cocaine addictions represented 17.5% of the total admissions to drug/alcohol treatment programs. Addicts going through withdrawal can experience a range of physical and psychological systems including intense depression, anxiety, and paranoia.

The widespread use of cocaine has led to the development of drug-specific treatment programs and anti-withdrawal medication designed to alleviate an individual's craving for cocaine, as well as many of the symptoms associated with the withdrawal from such a highly addictive substance. In addition, drug-specific treatment programs are continually striving to diversify their therapy options in order to meet the needs and demands of their patients, as well as to offer the best program possible. For example, in addition to treatment medications, many drug-specific treatment programs are incorporating various forms of behavioral therapy, designed to decrease one's need to use the drug.

## GETTING HELP

If you or a friend is suffering from a cocaine-related problem or addiction know that you are not alone. The University Health Service (UHS) at the University of Rochester offers both counseling and clinical treatment options to students, staff, and faculty. See Links and Resources for more information. To make an appointment with your primary health care provider at UHS, call 275-2662.

## LINKS AND RESOURCES

Cocaine Anonymous  
<http://www.ca.org>

Self test for cocaine addiction  
<http://www.ca.org/literature/selftest.htm>

Do It Now Foundation  
<http://www.doitnow.org>