

Alan Stevens, MSW, LSW, ACSW

**UNDERSTANDING
ADDICTION *to*
COCAINE**

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CONTENTS

Understanding Addiction to Cocaine	4
The History of Cocaine	6
Coca, the Plant	6
Cocaine, the Wonder Drug	7
Cocaine, the Demon	7
Crack, the Epidemic	9
Crack Babies, the Myth	9
The Science of Cocaine	10
Physiological Effects	10
The Unique Effects of Crack	11
Common Methods of Cocaine Use	12
Signs and Symptoms of Cocaine Addiction	14
Health Hazards	15
CHECKLIST: Possible Signs of Cocaine Addiction	17
Treating Cocaine Addiction at Behavioral Health of the Palm Beaches	18
Cocaine Withdrawal	19
Common Symptoms of Cocaine Withdrawal	20
Residential Detox and Rehabilitation	20
Long-Term Residential Recovery	21
Alumni Programs	22
A Clean Road Forward	22

UNDERSTANDING ADDICTION TO COCAINE

Cocaine: it's the second most popular illicit substance in the United States – and the second most trafficked illegal drug in the world. At least a million Americans use cocaine once a month. As of only a few years ago, fourteen percent of all Americans aged twelve or older had tried cocaine at least once in their lifetime. In the century and a half since it was first created in a German laboratory, cocaine has been called both a wonder drug and a fatal poison, hailed in song and glorified in cinema.

Vanessa Mueller and McDonald Oden are just two of the many people who have been mesmerized by cocaine's mystique. Although their stories could not seem more different, the themes are all too common amongst the millions whose lives have felt the toxic touch of cocaine.

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Even since the tender age of five, Vanessa has known the damage that addiction can cause to a family. Her two sisters – both at least a decade older than herself – were addicts, and Vanessa herself unwittingly followed

in their shoes. After a rough divorce, she moved to Florida and began to try and lose herself in partying. “I really believed that people liked me better when I was drinking or using,” she recalls, her voice unsteady with the pain of remembering those years. “I was always the person that had the money for the drugs.” Her partying lifestyle took a dark turn, sadly, when she was introduced to smoking crack. “The first time I tried crack, I was 30. And from age 30 to 35, my addiction took me places that I never thought I would go.”

Mac Oden also found himself at the mercy of his addiction and in a situation he could not have possibly imagined. From 1980 to 1982 he played tight end for the Cleveland Browns, and it was in the tumult and chaos of NFL fame that the young athlete, barely into his twenties, began using cocaine. “I began to indulge with teammates and before realizing it, I had crossed the line between recreational and habitual.” As a professional football player, Mac was effectively waited on hand and foot, and soon found himself swept up in the unreal celebrity lifestyle as his drug use began to take control of his life. “I knew my drug usage had gotten out of hand when we were playing a football game and myself and two other teammates were on the field, on the sideline – playing in front of eighty thousand fans – doing cocaine. On the sideline! No rational person does anything like that.” After just three seasons, Mac’s career was cut short, and he found himself homeless on the streets of Miami with nothing to his name but an untamable need for cocaine.

The History of Cocaine

Coca, the Plant

Understanding cocaine means understanding its history, and for that we have to consider the thousands of years that cocaine – or rather, its original organic form, coca – was an everyday part of the lives of the people of western South America. “Coca” refers to several species of plants (of the genus *Erythroxylum*) native to what are now the countries of Peru, Colombia, and Bolivia. Archaeological evidence shows that possibly as far back as 6000 BCE, the native people of the eastern Andes used the leaves of the coca plant for its various medicinal properties, as well as in numerous religious rituals. In its natural state, chewing coca leaves can serve as an anesthetic or analgesic, and reportedly also found use in treating malaria, ulcers, asthma, digestive issues, and even as an aphrodisiac; when brewed into a tea, coca can serve as a mild stimulant and also prevents altitude sickness.

Coca leaves were introduced to Europe in the 1500s, but were initially of little interest, as the long voyage across the Atlantic Ocean aged the leaves and left them with only a meager portion of their potency. It wasn't until the mid-19th century that a European physician publicized coca's positive effects, which led to its initial popularity in drinks and medicinal tonics, including coca wine, which was endorsed by the Pope

of the time, and even the initial formula for Coca-Cola. All this attention led a series of German scientists to explore coca's chemical composition, and then in 1859, one chemist isolated the alkaloid responsible for coca's myriad medicinal properties: cocaine.

Cocaine, the Wonder Drug

Cocaine exploded across Europe and North America in the latter half of the 19th century, championed by everyone from Sigmund Freud to Pope Leo XIII, and even fictional detective Sherlock Holmes frequently indulged in it. An American manufacturing company sold cocaine in every application imaginable, from tonics to cigarettes to a ready-made intravenous solution, promising that the drug would “supply the place of food, make the coward brave, the silent eloquent and render the sufferer insensitive to pain.” It was used as a stimulant by American dockworkers and Antarctic explorers. Thanks to this massive popularity – and the growth of coca as a cash crop in South America and Indonesia – cocaine soon became more affordable than alcohol, and it became overwhelmingly popular with America's lower-class workforce.

Cocaine, the Demon

It was this popularity among the downtrodden – which

at the time included the majority of the African-American workforce – that led to a panic about cocaine’s effects, as well as its eventual prohibition. Rumors began to spread that the use of cocaine would make African-Americans into unstoppable, superhuman, depraved monsters, and it was this racist hyperbole that led individual states to ban the sale of cocaine, starting with Georgia in 1902. Eventually a series of federal bills restricted the use and sale of cocaine nationwide, culminating in the Jones-Miller Act of 1922.

Because of this initial racially-charged scaremongering, public opinion resulted in a general condemnation of cocaine, and for the rest of the twentieth century it was seen as the purview of criminals and degenerates. Starting in the latter half of the century and continuing into the new millennium, cocaine has seen a resurgence in popularity as a recreational drug, and is now the second most popular recreational narcotic in the world, with the United States consuming approximately half of the world’s annual production.

Cocaine returned to popularity initially as a part of disco culture in the 1970s and 80s, and then became entrenched in pop culture as an indulgence of the rich in the 1980s thanks to its portrayal in films like 1983’s *Scarface*. But while cocaine was taking root among America’s affluent, a newer, deadlier, and cheaper drug was appearing on the poverty-stricken streets of major urban areas.

Crack, the Epidemic

Crack – the street name for cocaine’s freebase form – began to trickle onto the streets of America in the early 1980s, and exploded into popularity in Los Angeles in 1984. Cheaper than regular cocaine, with a stronger high, and easily smoked, crack took America’s African-American and Latino communities by storm, arguably reshaping them through the economic and criminal force of the drug trade and the narcotic bliss of the drug itself. Even today, crack ravages the lives of millions of Americans.

Crack Babies, the Myth

It is important to note that while crack usage is a serious problem, a great deal of the “common knowledge” about crack is actually distorted or exaggerated by the media. Nowhere is this more focused than in the stereotype of the “crack baby,” a concept popularized in the late 1980s that was based on a methodologically flawed set of studies. Supposedly, children born to mothers that used cocaine during pregnancy were born inherently inferior, suffering from so many debilitating defects and disorders that they would be effectively subhuman. Yet extensive studies in the past thirty years have shown that children born to cocaine- or crack-addicted mothers suffered little ill effect from prenatal

cocaine usage – in fact, there is substantial evidence to support the fact that the use of tobacco, alcohol, or marijuana during pregnancy is far more detrimental to the development of a fetus; cocaine should of course be avoided, but deserves no special demonization when compared to, say, Fetal Alcohol Syndrome. The fact is that the “crack baby” stereotypes were propagated by sensationalist media outlets and fed on the growing racial and socioeconomic prejudices that festered throughout America in the early 1990s, and even today, although there is no proper scientific basis for the term, it is still used by the uninformed when discussing the effects of addiction on our society as a whole.

The Science of Cocaine

Physiological Effects

Cocaine acts as an extreme stimulant on the human brain, and has a complicated set of effects on the major neurotransmitters serotonin, dopamine, and norepinephrine. Interestingly, it acts in almost the same way as the category of drugs known as neurotransmitter reuptake inhibitors – the most common of which are used as prescription antidepressants, such as Prozac or Cymbalta. This is possibly the root of the euphoric and confident feelings that characterize a cocaine high. However, cocaine’s many other effects, even the ones with arguable clinical value, are too

severe for it to make a viable antidepressant.

Cocaine also has anesthetic properties; historically, it was used for such in eye and nasal surgery, and it is still in very limited use for those same purposes. However, it also has vasoconstrictive properties – that is, it causes blood vessels to narrow and contract, which is less than helpful in an anesthetic. Still, cocaine does see limited medical use in several countries.

Other than euphoria, a cocaine high frequently comes with feelings of what can best be described as supreme confidence and alertness. Cocaine users will initially feel like they can achieve anything they set their minds to. But following quickly on the heels of this assertive nature come anxiety, paranoia, restlessness, tremors, and even megalomania.

The Unique Effects of Crack

While technically crack is just a condensed form of cocaine, the marked increase in its physiological and psychological effects merits its own discussion. As with regular cocaine, crack creates its trademark euphoric high by acting on the brain's supply of dopamine. However, crack consumes the dopamine at a much faster rate, and within five to ten minutes the high fades and the user will feel the need to take another hit. However, since the user's dopamine levels have plummeted because of the first hit, subsequent hits will not result

in as intense of a high, and this frequently sets off the stereotypical several-day binge for which crack is known.

Common Methods of Cocaine Use

The most popular way of using cocaine, of course, is through insufflation, or snorting; the user directly inhales a line of powdered cocaine, and the drug is absorbed through the nasal mucus membranes. The high peaks after about fifteen minutes, and users will generally do several doses in a row as each moment of euphoria fades. While nosebleeds are a stereotypical side effect of this form of usage, they are not actually caused by the cocaine itself, since cocaine acts as a vasoconstrictor. Rather, any damage to the inside of the nose is caused by irritation to the mucus membranes or by any foreign particles or adulterants that were mixed in with the cocaine.

Although less common than snorting, injecting cocaine is still popular due to the rapidity with which the drug takes hold – the high will peak within three minutes of injection. Injecting cocaine has the curious side effect of causing a ringing in the user’s ears that lasts for several minutes. Intravenous drug users will commonly combine cocaine and heroin into a single dose known as a “speedball” – a potentially lethal drug cocktail that claimed the lives of famed comedians John Belushi, Chris Farley, and Mitch Hedberg.

Powder cocaine is rarely smoked, as heat will strip it of its chemical properties; if powdered cocaine is smoked, it is usually combined with another drug, such as marijuana. Crack, however, is almost always smoked, usually through some kind of ad-hoc or jerry-rigged pipe. The most common of these are small glass tubes that are sold as the containers for “love roses” or “roses in glass” – little paper or silk roses that are labeled as romantic gifts at convenience stores. Crack users may also use soda cans or even glassware similar to that used for smoking marijuana.

Sometimes, cocaine is ingested orally. This is usually done with whatever amount is left after snorting; the powder is rubbed into the user’s gums or on a cigarette filter, which is then smoked. Very little of the drug is actually absorbed into the body through this method, so it is mostly used as an afterthought.

Traditional methods of ingesting the leaves of the coca plant, such as chewing the leaves or brewing them into tea, will leave the same metabolites in the user’s bloodstream as full-on cocaine, although traditional coca has a markedly weaker stimulant effect. It should be noted, though, that an addiction to coca leaf is unlikely, and sales of it within the United States are severely restricted by the DEA.

Signs and Symptoms of Cocaine Addiction

Unlike many other popular recreational drugs, such as heroin, cocaine does not cause a severe physiological dependence in the user. In fact, studies show that across large samples, the addiction rate for cocaine use is far lower than that of opioids or methamphetamine, and researchers hypothesize that some cocaine users are capable of abstaining from self-destructive habits, similar to the majority of alcohol drinkers.

...habitual users become reliant on cocaine to improve their mood

Yet once the psychological effects of cocaine are factored in, it becomes evident that this drug can still devastate a user's life. Because of cocaine's effects on neurotransmitters, habitual users become reliant on cocaine to improve their mood, and begin to exhibit severe manic behaviors similar to amphetamine psychosis or schizophrenia. Cocaine addicts will display severe mood swings, paranoia, insomnia, cognitive impairments, and frequently suffer from a tactile hallucination known as "formication" – literally feeling as if insects are crawling underneath the skin.

Health Hazards

Habitual cocaine use exposes the user to significant health problems, including potentially severe damage to the respiratory system, increased risk of strokes or heart attacks, chronic abrasion of tooth enamel, and even the complete disintegration of the septum – the cartilage that separates the nostrils. Cocaine also has the possibility of increasing the risk of developing various autoimmune diseases, such as lupus.

Crack, as a more concentrated form of cocaine, has all of the same health risks – but as with the increased intensity of the high, crack also comes with more intense side effects. Crack can cause seizures, which are frequently followed by fatal respiratory arrest. Frequent use of crack results in scarring and permanent damage to lung tissue, colloquially known as “crack lung.” This usually results in an intense cough, difficulty breathing, and severe chest pains.

Both cocaine and crack also have an inherent risk that is not attributable to the drugs themselves; both are frequently adulterated (or “cut”) with other substances, sometimes to bulk out a dealer’s supply and sometimes to cover up the impurities of a particular batch of the drug. Powder cocaine is frequently cut with inert substances like baking soda or sugar, or sometimes anesthetics like lidocaine to add to cocaine’s numbing effects. Crack is sometimes cut with macadamia

wax, which adds a toxic element to the smoke.

More worrisome still are the reports that at least 80% of the cocaine in the United States has been cut with levamisole, a drug most commonly used to treat parasitic infections in humans until 2000, when it was withdrawn from the market because of serious side effects. It is still used by veterinarians as a common animal de-wormer. The effect of cocaine contaminated with levamisole is so severe that it was officially classified as Levamisole Induced Necrosis Syndrome in 2011. LINES, as the name might suggest, causes severe necrosis across the face, abdomen, and legs, as well as severe fever.

CHECKLIST:

Possible Signs of Cocaine Addiction

- Repeated nosebleeds
- Manic behavior
- Aggression
- Severe paranoia
- Constant scratching or complaints of itching
- Collapse of nostrils
- Insomnia
- Depression
- Anxiety
- Loss of sense of smell
- Chronically hoarse voice
- Exhaustion or difficulty functioning during day-to-day activities

Treating Cocaine Addiction at Behavioral Health of the Palm Beaches

Cocaine addiction is a severe health issue; while it results in less of a physiological dependence when compared to drugs like heroin or alcohol, the psychological effects are extremely severe, and an unsupervised attempt to overcome addiction to cocaine can end tragically in an overdose, or even in suicide. In all likelihood, trying to kick their addictions alone would have killed Mac Oden and Vanessa Mueller both – but they managed to find their way into medically-supervised recovery programs, and that saved both their lives.

Most addicts who attempt to go through withdrawal on their own will inevitably relapse, which usually leads to an overdose...

Cocaine Withdrawal

Overcoming a cocaine addiction requires going through withdrawal – the period where the user’s body, which at this point is used to operating with massive amounts of cocaine – must return to a state of homeostasis, purging any remaining quantities of drugs still present and allowing neurotransmitters like dopamine and serotonin to return to normal levels. This process is usually anything but pleasant, and involves a whole list of symptoms that are almost impossible to handle without outside assistance. Most addicts who attempt to go through withdrawal on their own will inevitably relapse, which usually leads to an overdose; relapsing addicts will resume using cocaine in the same quantities they were used to before beginning withdrawal, but during the withdrawal period their tolerance for the drug will have gone down, and thus what before may have only gotten them a little high can now possibly result in a stroke. This is why medical supervision is so important, especially during the withdrawal process. Properly trained recovery specialists can administer medications to help ease the pain of withdrawal symptoms, as well as provide counseling and assistance with psychological issues.

Common Symptoms of Cocaine Withdrawal

- Paranoia, agitation, or anxiety
- Depression and moodiness
- Exhaustion and fatigue
- Itching or a crawling sensation on the skin
- Insomnia
- Disorientation and dysphoria
- Nausea or vomiting
- Intense cravings for more cocaine

Residential Detox and Rehabilitation

Successfully recovering from cocaine addiction means getting help from the right people – people like those who helped Mac and Vanessa; people like the staff at Behavioral Health of the Palm Beaches. Once you’ve checked into a recovery facility like Behavioral Health of the Palm Beaches, you will be placed in a “detoxification” program so that you will have the necessary medical assistance and supervision as you go through withdrawal. After the detox is over and your system is clean of cocaine or any other toxic substances,

you can enter the full residential rehabilitation program.

One of the major advantages of a residential rehab program is that the patient is removed from whatever circumstances that may have influenced their addiction, and by no longer being exposed to that environment, they can more easily undergo the process of recovery. For most patients, this kind of program lasts for thirty days, during which they stay in a supervised facility and attend therapy sessions and workshops to address the root causes of their addiction. Residential programs like those at Behavioral Health of the Palm Beaches provide both medical supervision and emotional support to patients at this vulnerable stage in their recovery.

Long-Term Residential Recovery

For patients in need of greater support, Behavioral Health of the Palm Beaches offers a long-term residential rehab program that can last from two to twelve months. This program is focused on giving patients a new perspective on life, which can be extremely helpful for people who have spent many years grappling with addiction, as the effects of long-term cocaine use on both a person's brain chemistry and personality are extensive.

Alumni Programs

After a patient has finished treatment at Behavioral Health, their recovery is by no means finished. Maintaining sobriety can be a difficult task after returning to the pressures of everyday life, and that is why Behavioral Health offers a fully-supported community for alumni of their programs, as well as for the friends and loved ones of those alumni. Through the Behavioral Health Alumni website, former patients can maintain an open dialogue about their progress and their successes, chat with other fellow alums, and organize in-person events. It can be impossible to maintain recovery alone, but with the help of the Behavioral Health alumni community, there will always be someone to talk to who is personally invested in your success.

A Clean Road Forward

Recovery is a continuous process; even after you've finished rehabilitation at a program like Behavioral Health of the Palm Beaches, there will still be hardships to overcome. But Behavioral Health's program will give you the tools and the strength to get through those hard times. Looking back, Mac Oden realizes, "Behavioral Health not only saved my life – they gave me a life. Today, I have my family back. Today, my father calls me his son again. That's a good feeling."

There is hope. We can help.

¹ <http://www.drugabuse.gov/sites/default/files/rrcocaine.pdf>

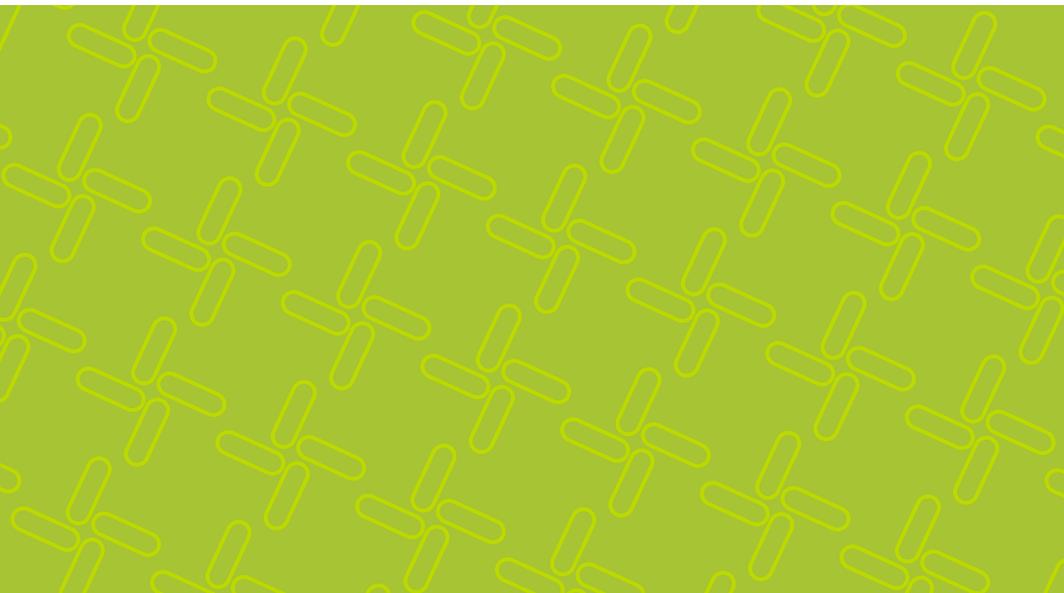
² <http://www.ncbi.nlm.nih.gov/pubmed/6435983>

³ <http://www.thestranger.com/seattle/the-mystery-of-the-tainted-cocaine/Content?oid=4683741>

⁴ <http://newsroom.heart.org/news/recreational-cocaine-use-linked-239564>

⁵ <http://www.druglibrary.org/schaffer/History/ophs.htm>

⁶ <http://www.druglibrary.org/SCHAFFER/cocaine/cokesmoke.htm>



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