

HEROIN

Street Names:

Big H, Black Tar, Brown Sugar, Chiva, Dope, Hell Dust, Horse, Junk, Muc, Negra, Skag, Smac(k), Thunder

Introduction:

Heroin is a Schedule I, highly addictive drug derived from morphine, which is obtained from the opium poppy, a naturally occurring substance extracted from the seed pod of the Asian opium poppy plant. It is a "downer" or depressant that affects the brain's pleasure systems and interferes with the brain's ability to perceive pain. Heroin usually appears as a white or brown powder or as a black sticky substance, known as "black tar heroin."

What Does It Look Like?



Heroin usually appears as a white or brown powder or as a black sticky substance, known as "black tar heroin." Although purer heroin is becoming more common, most street heroin is "cut" with other drugs or with substances such as sugar, starch, powdered milk, or quinine.

Common places of origin:

Heroin is processed from morphine, a naturally occurring substance extracted from the seed pod of certain varieties of poppy plants grown in Southeast Asia (Thailand, Laos and Myanmar (Burma); Southwest Asia (Afghanistan and Pakistan), Mexico and Colombia. It comes in several forms, the main ones being "black tar" from Mexico (found primarily in the western United States) and white heroin from Colombia (primarily sold on the East Coast.)

Virginia Heroin:

Most new heroin abusers in Virginia are young adults who snort the drug rather than inject it. Dominican criminal groups based in New York City and Philadelphia transport wholesale quantities of South American heroin into Virginia and distribute the drug at the wholesale level. African American criminal groups based in Virginia frequently travel to New York City, Philadelphia, Baltimore, and Washington, D.C., to purchase wholesale quantities of heroin and return to Virginia where they distribute the drug at the wholesale level. Transporters commonly use private and rental vehicles, commercial buses, and passenger rail services to transport heroin from New

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York City and Philadelphia into Virginia. Local independent African American dealers are the principal retail distributors of heroin in Virginia.

Drugs causing similar effects:

Methadone and morphine cause similar effects as heroin.

How Is Heroin Abused?

Heroin can be used in a variety of ways, depending on user preference and the purity of the drug. Heroin can be injected into a vein ("mainlining"), injected into a muscle, smoked in a water pipe or standard pipe, mixed in a marijuana joint or regular cigarette, inhaled as smoke through a straw, known as "chasing the dragon," snorted as powder via the nose. All three methods of administering heroin can lead to addiction and other severe health problems.

What are the Short Term Affects?

The short-term effects of heroin abuse appear soon after a single dose and disappear in a few hours. After an injection of heroin, the user reports feeling a surge of euphoria ("rush") accompanied by a warm flushing of the skin, a dry mouth, and heavy extremities. Following this initial euphoria, the user goes "on the nod," an alternately wakeful and drowsy state. Mental functioning becomes clouded due to the depression of the central nervous system. Other effects included slowed and slurred speech, slow gait, constricted pupils, droopy eyelids, impaired night vision, vomiting, and constipation.

What are the Long Term Affects?

Long-term effects of heroin appear after repeated use for some period of time. Chronic users may develop collapsed veins, infection of the heart lining and valves, abscesses, cellulites, and liver disease. Pulmonary complications, including various types of pneumonia, may result from the poor health condition of the abuser, as well as from heroin's depressing effects on respiration. In addition to the effects of the drug itself, street heroin may have additives that do not really dissolve and result in clogging the blood vessels that lead to the lungs, liver, kidneys, or brain. This can cause infection or even death of small patches of cells in vital organs. As higher doses are used over time, physical dependence and addiction develop. With physical dependence, the body has adapted to the presence of the drug and withdrawal symptoms may occur if use is reduced or stopped. Withdrawal, which in regular abusers may occur as early as a few hours after the last administration, produces drug craving, restlessness, muscle and bone pain, insomnia, diarrhea and vomiting, cold flashes with goose bumps ("cold turkey"), kicking movements ("kicking the habit"), and other symptoms. Major withdrawal symptoms peak between 48 and 72 hours after the last dose and subside after about a week. Some individuals, however, may show persistent withdrawal symptoms for months. Although heroin withdrawal

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is considered less dangerous than alcohol or barbiturate withdrawal, sudden withdrawal by heavily dependent users who are in poor health is occasionally fatal.

How Does Heroin Affect the Brain?

Heroin enters the brain, where it is converted to morphine and binds to receptors known as opioid receptors. These receptors are located in many areas of the brain (and in the body), especially those involved in the perception of pain and in reward. Opioid receptors are also located in the brain stem—important for automatic processes critical for life, such as breathing (respiration), blood pressure, and arousal. Heroin overdoses frequently involve a suppression of respiration. With regular heroin use, tolerance develops, in which the user's physiological (and psychological) response to the drug decreases, and more heroin is needed to achieve the same intensity of effect. Heroin users are at high risk for addiction—it is estimated that about 23 percent of individuals who use heroin become dependent on it.

What Other Adverse Effects Does Heroin Have on Health?

Heroin abuse is associated with serious health conditions, including fatal overdose, spontaneous abortion, and—particularly in users who inject the drug—infectious diseases, including HIV/AIDS and hepatitis. In addition, heroin craving can persist years after drug cessation, particularly upon exposure to triggers such as stress or people, places, and things associated with drug use. Heroin abuse during pregnancy, together with related factors like poor nutrition and inadequate prenatal care, has been associated with adverse consequences including low birth weight, an important risk factor for later developmental delay. If the mother is regularly abusing the drug, the infant may be born physically dependent on heroin and could suffer from serious medical complications requiring hospitalization.

What Treatment Options Exist?

A range of treatments exist for heroin addiction, including medications and behavioral therapies. Science has taught us that when medication treatment is combined with other supportive services, patients are often able to stop using heroin (or other opiates) and return to stable and productive lives.

Treatment usually begins with medically assisted detoxification to help patients withdraw from the drug safely. Medications such as clonidine and buprenorphine can be used to help minimize symptoms of withdrawal. However, detoxification alone is not treatment and has not been shown to be effective in preventing relapse—it is merely the first step.

Medications to help prevent relapse include the following:

- *Methadone* has been used for more than 30 years to treat heroin addiction. It is a synthetic opiate medication that binds to the same receptors as heroin;

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- but when taken orally, it has a gradual onset of action and sustained effects, reducing the desire for other opioid drugs while preventing withdrawal symptoms. Properly administered, methadone is not intoxicating or sedating, and its effects do not interfere with ordinary daily activities. Methadone maintenance treatment is usually conducted in specialized opiate treatment programs. The most effective methadone maintenance programs include individual and/or group counseling, as well as provision of or referral to other needed medical, psychological, and social services.
- *Buprenorphine* is a more recently approved treatment for heroin addiction (and other opiates). Compared with methadone, buprenorphine produces less risk for overdose and withdrawal effects and produces a lower level of physical dependence, so patients who discontinue the medication generally have fewer withdrawal symptoms than those who stop taking methadone. The development of buprenorphine and its authorized use in physicians' offices give opiate-addicted patients more medical options and extend the reach of addiction medication. Its accessibility may even prompt attempts to obtain treatment earlier. However, not all patients respond to buprenorphine—some continue to require treatment with methadone.
 - *Naltrexone* is approved for treating heroin addiction but has not been widely utilized due to poor patient compliance. This medication blocks opioids from binding to their receptors and thus prevents an addicted individual from feeling the effects of the drug. Naltrexone as a treatment for opioid addiction is usually prescribed in outpatient medical settings, although initiation of the treatment often begins after medical detoxification in a residential setting. To prevent withdrawal symptoms, individuals must be medically detoxified and opioid-free for several days before taking naltrexone. Naloxone is a shorter-acting opioid receptor blocker, used to treat cases of overdose.

For pregnant heroin abusers, methadone maintenance combined with prenatal care and a comprehensive drug treatment program can improve many of the detrimental maternal and neonatal outcomes associated with untreated heroin abuse. Preliminary evidence suggests that buprenorphine may also be a safe and effective treatment during pregnancy, although infants exposed to either methadone or buprenorphine prenatally may still require treatment for withdrawal symptoms. For women who do not want or are not able to receive pharmacotherapy for their heroin addiction, detoxification from opiates during pregnancy can be accomplished with medical supervision, although potential risks to the fetus and the likelihood of relapse to heroin use should be considered.

There are many effective behavioral treatments available for heroin addiction—usually in combination with medication. These can be delivered in residential or outpatient settings. Examples are individual or group counseling; contingency management, which uses a voucher-based system where patients earn “points” based on negative drug tests—these points can be exchanged for items that encourage healthy living; and cognitive-behavioral therapy, designed to help modify a patient’s expectations and behaviors related to drug abuse, and to increase skills in coping with various life stressors.

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How Widespread Is Heroin Abuse?

Monitoring the Future Survey*

According to the Monitoring the Future survey, there was little change between 2008 and 2009 in the proportion of 8th- and 12th-grade students reporting lifetime,†† past-year, and past-month use of heroin. There also were no significant changes in past-year and past-month use among 10th-graders; however, lifetime use increased significantly among this age group, from 1.2 percent to 1.5 percent. Survey measures indicate that injection use rose significantly among this population at the same time.

Heroin Use by Students, 2009: Monitoring the Future Survey

	8th Grade	10th Grade	12th Grade
Lifetime	1.3%	1.5%	1.2%
Past Year	0.7	0.9	0.7
Past Month	0.4	0.4	0.4

National Survey on Drug Use and Health (NSDUH)***

According to the 2008 National Survey on Drug Use and Health, the number of current (past-month) heroin users aged 12 or older in the United States increased from 153,000 in 2007 to 213,000 in 2008. There were 114,000 first-time users of heroin aged 12 or older in 2008.

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