

Center for Health, Identity, Behavior & Prevention Studies

INSTITUTE OF HUMAN DEVELOPMENT AND SOCIAL CHANGE

Substances - Heroin

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Heroin 101:

Processed from morphine and part of the opiate family, heroin (also known as “smack,” “H,” “junk,” and “skag”) acts as an extremely addictive and potent pain-killing drug analogous to morphine, opium and codeine.

Heroin acts as a lipid soluble “prodrug” within the brain, meaning that heroin itself is inactive but it is metabolized into an active form within the body. After crossing the blood-brain barrier, heroin is metabolized into morphine, which actively binds to opiate receptors in the brain producing the high. In this way, heroin’s lipid solubility, which allows for rapid passage through the blood-brain barrier, makes it more effective than morphine is on its own. The quick effects of the drug are generally what draws users in and keeps them mentally addicted.

The neurochemical effects of the drug, however, are responsible for making users physically addicted. Opiate receptors usually react to neurotransmitters already present in the brain, specifically endorphins, to aid in the attenuation of pain. When heroin acts in place of these endorphins, the body may respond by limiting the production of natural endorphins. This reduction is what causes addiction in users and what leads to the extreme withdrawal symptoms, such as drug cravings, muscle and bone pain, insomnia, restlessness, vomiting, diarrhea, and kicking movements. Withdrawal symptoms usually peak between 48 and 72 hours after the dose, and they are completely gone within a week. However, sudden withdrawal for a heavy user may actually result in death. Methadone and Buprenorphine are two medications that have proven useful in easing a heavy chronic user off of heroin without the intense withdrawal symptoms.

Heroin’s effects are mainly governed by its method of administration. Regardless of the form in which it is taken, heroin use involves a “rush” of pleasurable feelings as the drug mimics endorphins producing a warm sense of well-being and increasing heart rate. When smoked, however, there is an additional adrenaline rush. After the “rush,” there generally follows a feeling of heaviness and distance from one’s surroundings. Heart rate and respiration both slow. The next several hours are usually spent in a drowsy state due to sedation of the central nervous system.

Heroin use comes with many medical risks including fatal overdose, spread of infectious disease through needle use, addiction, and possible adulterant effects.



Overdoses occur when heroin decreases heart rate and respiration to fatal lows. Virtually any dose can be lethal depending on the level of a users tolerance (and tolerance is lost quickly in users- approximately three days of non-using). What would cause a new user to OD may be the regular dose for a chronic user. However, doses in general are extremely hard to judge as it is impossible to ever tell for sure how much heroin is being taken at any given time due to impurity. Overdoses thus often occur when regular users are exposed unknowingly to a more pure dose. It is recommended that users only use a little to begin with to judge the purity of the heroin, especially when starting a new bag.

Another reason for overdosing may actually be the location in which the drug is taken. A chronic user who always shoots up in the same place may experience an overdose if the same dosage is taken in a new environment. Theory predicts that taking the drug in the same location each time prepares the body for the "rush" of heroin by slowing the body down before the drug is taken. When in a new situation, the body may not subconsciously prepare for the "rush" leading to an overdose.

Spreading infection is a risk of any intravenously taken drug due to needle usage. Users should never share needles. Needle exchange programs are available throughout the country to supply clean needles. See the resources page for needle exchange programs in the New York City area. Also, injecting impure heroin that contains irritating or bacteria-infested adulterants may lead to infection.

Addicts or chronic users may suffer from some long-term effects such as collapsed veins, infections in the blood stream and vessels, abscesses, liver disease, or kidney disease. Another problem presented is malnutrition due to a constant lack of hunger.

Brief History:

First produced in 1874 by a British chemist, heroin was developed as a more potent form of morphine produced by mixing morphine with acetic anhydride. It was later marketed under the Bayer label as a replacement for aspirin due to aspirin's possible side effects. From 1898 to 1910, when it was sold as a cough medicine for children and a non-addictive alternative to morphine, heroin was heralded as the cure for morphine addiction. At the time, people were unaware of the fact that heroin turned into morphine once it was in the body. After this finding, the Harrison Narcotics Tax Act of 1914 aimed to control the sale and distribution of heroin in the U.S. However, it was still possible to obtain heroin for medical purposes with a prescriptions. It was not until 1924 that the sale, importation, and manufacturing of heroin were expressly prohibited in the U.S.

Appearance and Forms:

Heroin, a derivative of morphine, comes in a variety of forms that are all dependent on purity. The most pure form is a bitter white powder. Street forms of heroin are highly variable in appearance ranging from granules to powder to solution to pills, all of which may take any coloration from white to brown. Impure heroin's color can usually be attributed to the substances it is cut with, such as talcum powder, starch, flour, caffeine, sucrose, flour, chalk, or other adulterants.

How is Heroin Used?

Snorting (10-15 minutes 'til "rush" time)

Less dangerous than injecting but limit amount as the purity is unknown. Overdose less likely but still possible.

Smoking (adrenaline rush in 2-5 minutes"

Also referred to as "chasing the dragon," smoking heroin involves heating heroin on foil and then inhaling the smoke through a glass tube or rolled up dollar. Less dangerous than injecting since there is a lower probability of overdosing.



Intravenous Injection ("rush" and euphoria in 7-8seconds)

Higher probability of overdosing. Disease may be spread if needles are shared. Involves heating heroin in water. Most intense and quick onset of euphoria.

Intramuscular Injection ("rush" in 5-8 minutes)

High probability of overdosing. Disease spread through needle sharing. Slower onset of euphoria.

Mixing Heroin (Just Don't):

Mixing heroin may lead to increased chances of vomiting, choking, or overdosing.

Alcohol: since both are depressants, increases the chance of death due to lowered heart rate and respiration.

Methamphetamines: since the effects of this upper with the later part of heroin's downer side may mask the effects of one another, it makes it more likely to overdose.

Cocaine: Known as a speedball, a combination of heroin and cocaine can completely throw off the rhythm of the heart resulting in death since cocaine and heroin both initially raise heart rate and then heroin decreases it rapidly.

Ecstasy: Again masks the effects of the downer heroin and makes overdosing more likely

GHB: Mixing with heroin would fatally depress the nervous system

Heroin and the Gay Community:

Within the realm of gay clubs, heroin is becoming an increasingly popular relaxation drug that eases the come down from E, coke or meth. However, heroin is extremely dangerous due to the potential for overdosing as well as the possibility of spreading diseases like HIV. If you are going to use, make sure you are using a clean needle, using only a small amount, and remain safe in practicing sex by keeping condoms on hand.

For information about treatment and resources for help with an addiction please check out our resources page.

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