

Heroin

What is Heroin?

Heroin is an opioid drug made from morphine, a natural substance taken from the seed pod of the various opium poppy plants grown in Southeast and Southwest Asia, Mexico, and Colombia. Heroin can be a white or brown powder, or a black sticky substance known as black tar heroin. People inject, sniff, snort, or smoke heroin. Some people mix heroin with crack cocaine, a practice called speedballing.

Heroin enters the brain rapidly and binds to opioid receptors on cells located in many areas, especially those involved in feelings of pain and pleasure and in controlling heart rate, sleeping, and breathing.

The Dangers of Heroin

Heroin is addictive and there is a high risk of overdose and death from using it. Heroin also often contains additives, such as sugar, starch, or powdered milk, that can clog blood vessels leading to the lungs, liver, kidneys, or brain and cause permanent damage. In addition, sharing drug injection equipment and having impaired judgment from drug use can increase the risk of contracting infectious diseases such as HIV and hepatitis (see "Injection Drug Use, HIV, and Hepatitis").

Risk of Overdose

A person can easily overdose on fentanyl. An overdose occurs when a drug produces serious adverse effects and life-threatening symptoms. Death from an opioid overdose happens when the drug depresses the parts of the brain that control breathing. Signs and symptoms when people overdose on opioids include

- Their face becomes extremely pale and/or feels clammy to the touch
- Their body goes limp
- Their fingernails or lips have a purple or blue color
- They start vomiting or making gurgling noises
- They cannot be awakened or are unable to speak



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- Their breathing or heartbeat slows or stops

Risk of Addiction

Heroin is highly addictive. People who regularly use heroin often develop tolerance, which means that they need higher and/or more frequent doses of the drug to get the desired effects.

Those who are addicted to heroin and stop using the drug abruptly may have severe withdrawal. Withdrawal symptoms—which can begin as early as a few hours after the drug was last taken—include:

- Restlessness
- Severe muscle and bone pain
- Sleep problems
- Diarrhea and vomiting
- Cold flashes with goose bumps ("cold turkey")
- Uncontrollable leg movements ("kicking the habit")
- Severe heroin cravings

Researchers are studying the long-term effects of opioid addiction on the brain. Studies have shown some loss of the brain's white matter associated with heroin use, which may affect decision-making, behavior control, and responses to stressful situations.

SOURCES

National Institute on Drug Abuse: <https://www.drugabuse.gov/publications/drugfacts>

Substance Abuse and Mental Health Service Administration: <https://www.samhsa.gov/medication-assisted-treatment/treatment/opioid-overdose>

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