

- Unknown content of the drug: Heroin is often cut with additives that may be poisonous, such as strychnine, or that do not dissolve (and so can clog blood vessels), such as chalk.
- Combining heroin with other drugs, such as cocaine (in “speedballs”): When drugs interact inside the body, the results are unpredictable, and sometimes deadly.
- Risk of addiction: The constant need to obtain heroin, and the repeated use of the drug, can result in criminal involvement or other high-risk behaviour, family breakdown, loss of employment and poor health.
- Pregnancy: Women who use heroin regularly often miss their periods; some mistakenly think that they are infertile, and become pregnant. Continued use of heroin during pregnancy is very risky for the baby.

Is heroin addictive?

Yes. Regular use of heroin, whether it is injected, snorted or smoked, can lead to addiction within two to three weeks. Signs of addiction include strong cravings for the effects of the drug, taking more of the drug than intended and continuing to use the drug despite the problems it may cause. Addiction may develop with or without physical dependence.

Not all people who experiment with heroin become addicted. Some use the drug only on occasion, such as on weekends, without increasing the dose. With regular use, however, tolerance develops to the effects of the drug, and more and more heroin is needed to achieve the desired effect. Continuous use of increasing amounts of the drug inevitably leads to physical dependence.

Once dependence is established, stopping use can be extremely difficult. People who have used heroin for a long time often report that they no longer experience any pleasure from the drug. They continue to use heroin to avoid the symptoms of withdrawal and to control the powerful craving for the drug, which is often described as a “need.” Cravings may persist long after they stop taking the drug, which makes it difficult to avoid relapse, or beginning to use again.

What are the long-term effects of using heroin?

Addiction, and the medical, social and legal complications that often result from heroin use, can be devastating to the lives of the people who use the drug.

Research using brain scans has revealed that long-term regular use of heroin results in changes in the way the brain works. While the effect of these changes is not fully understood, this research has shown that it may take months or years for the brain to return to normal functioning after a person stops using heroin.

Methadone maintenance treatment, which prevents heroin withdrawal and reduces or eliminates drug cravings, is the most effective treatment for heroin addiction currently available. (See *Do You Know . . . Methadone.*)

One in a series...

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Do You Know...

Street names: junk, H, smack, horse, skag, dope

What is it?

Heroin is a dangerous and illegal drug with a high addictive potential. It is also an effective painkiller.

Heroin belongs to the opioid family of drugs. Also in the opioid family are the opiates, such as morphine and codeine, which are natural compounds found in the opium poppy; and synthetic opioids, such as Demerol (meperidine) and methadone, which are chemically manufactured. Heroin is a semi-synthetic opioid: it is made from morphine that has been chemically processed. It enters the brain quickly and produces a more immediate effect. Heroin is converted back into morphine in the brain.

When heroin was first introduced in the late 19th century, it was promoted as a pain reliever and cough suppressant. By the early 20th century, the dangers of heroin were recognized. Laws were introduced throughout North America and Europe to restrict the production, distribution and use of heroin.

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Heroin

In some countries, there are circumstances where heroin may be prescribed by physicians. In the United Kingdom, for example, doctors may prescribe heroin for extreme pain. This treatment is usually reserved for patients who are terminally ill. In the United Kingdom, the Netherlands, Switzerland, Germany, Spain and Denmark, a small number of people who are addicted to heroin, and who have not responded to other treatments, receive heroin by prescription in carefully monitored maintenance programs.

Where does it come from?

Most heroin is produced in Asia and Latin America, where opium poppies are grown. Morphine is extracted from the opium gum in laboratories close to the fields, and then converted into heroin in labs within or near the producing country.

What does it look like?

In its pure form, heroin is a fine, white, bitter-tasting crystalline powder that dissolves in water. When it is sold on the street, its colour and consistency vary, depending on the manufacturing process and what additives it has been mixed, or “cut,” with. Street heroin may come in the form of a white powder, a brown and sometimes grainy substance or a dark brown sticky gum. The purity of heroin varies from batch to batch, and can range from two to 98 per cent.

Some additives, such as sugar, starch or powdered milk are used to increase the weight for retail sale, or other drugs may be added to increase the effects of the heroin. Quinine may be added to imitate heroin’s bitter taste, making it difficult to determine the purity of the drug.

How is it used?

The most common ways of using heroin are:

- injection—either into a vein (“mainlining,” intravenous or IV use), into a muscle (intramuscular or IM use) or under the skin (“skin-popping” or subcutaneous use)
- snorting—inhalng the powder through the nose (also called sniffing)
- inhaling or smoking—this method is also referred to as “chasing the dragon,” and involves gently heating the heroin on aluminum foil and inhaling the smoke and vapours through a tube.

Injection may be chosen because this method gives the greatest and most immediate effect for the least amount of drug. People who are addicted to heroin may inject two to four times a day. The drug is more likely to be snorted or smoked when heroin of high purity is available, or by occasional users who prefer not to inject.

Who uses heroin?

Heroin is used by a range of people, from a variety of cultural, social, economic and age groups. First-time users tend to be in their teens or 20s, but most people who use heroin regularly are over 30. A survey of Ontario students in grades 7 to 12 reported that 1.8 per cent used heroin in 2009—a significant drop from the 6.8 per cent who used it in 1999.

How does heroin make you feel?

The way heroin, or any drug, affects you depends on many factors, including:

- your age
- how much you take and how often you take it
- how long you’ve been taking it
- the method you use to take the drug
- the environment you’re in
- whether or not you have certain pre-existing medical or psychiatric conditions

- whether you’ve taken any alcohol or other drugs (illegal, prescription, over-the-counter or herbal).

When heroin is injected into a vein, it produces a surge of euphoria called a “rush.” This effect is felt in seven or eight seconds, and lasts from 45 seconds to a few minutes. The initial effect with snorting or smoking is not as intense. Following the rush comes a period of sedation and tranquility known as being “on the nod,” which may last up to an hour. When heroin is injected under the skin or into a muscle, the effect comes on more slowly, within five to eight minutes.

New users often experience nausea and vomiting. The desired effects include detachment from physical and emotional pain and a feeling of well-being. Other effects include slowed breathing, pinpoint pupils, itchiness and sweating. Regular use results in constipation, loss of sexual interest and libido, and an irregular or stopped menstrual cycle in women.

Heroin use causes changes in mood and behaviour. People who are addicted to heroin may be docile and compliant after taking the drug, and irritable and aggressive during withdrawal.

How long does the feeling last?

Regardless of how heroin is used, the effects generally last for three to five hours, depending on the dose.

People who use heroin daily must use every six to 12 hours to avoid symptoms of withdrawal. The initial symptoms are intense, and include runny nose, sneezing, diarrhea, vomiting, restlessness and a persistent craving for the drug. Also associated with withdrawal are goosebumps and involuntary leg movements, leading to the expressions “cold turkey” and “kicking the habit.” Withdrawal symptoms peak

within a couple of days, and usually fade within five to 10 days. Other symptoms, such as insomnia, anxiety and craving, may continue for some time. Heroin withdrawal is not life-threatening, but can be extremely uncomfortable.

Is heroin dangerous?

Yes. Heroin is dangerous in a number of ways. The most immediate danger is overdose. Heroin depresses the part of the brain that controls breathing. In an overdose, breathing slows down, and may stop completely. A person who has overdosed is unconscious and cannot be roused, and has skin that is cold, moist and bluish. A heroin overdose can be treated at a hospital emergency room with drugs, such as naloxone, which blocks heroin’s depressant effects.

- The risk of overdose is increased by various factors:
- The unknown purity of the drug. This makes it difficult to determine the correct dose. Ironically, many overdoses are due to increases in the quality of the drug sold on the street.
 - Injection, because the drug reaches the brain more quickly than by other ways of taking the drug, and because the dose is taken all at once.
 - Combining heroin with other sedating drugs, such as alcohol, benzodiazepines or methadone.

Dangers other than overdose are associated with heroin use:

- Injection: Injection drug use puts a person at high risk of bacterial infection, blood poisoning, abscesses, endocarditis (an infection of the lining of the heart) and collapsed veins. Sharing needles greatly increases the risk of becoming infected with, or spreading, HIV and hepatitis B or C.

Heroin