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# Heroin

**Also called:** Big H, Black tar, H, Horse, Junk, Smack, Thunder, TNT

## What is heroin?

Heroin is an illegal, very addictive opioid drug [<https://medlineplus.gov/opioidsandopioidusedisorderoud.html>] . It's made from morphine, which comes from the seedpod of opium poppy plants. These plants grow 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.

## How do people use heroin?

People inject, sniff, snort, or smoke heroin. Some people mix heroin with crack cocaine [<https://medlineplus.gov/cocaine.html>] , which is called "speedballing." All these ways of taking heroin send it to the brain very quickly, which makes it highly addictive.

## What are the short-term effects of heroin?

People who use heroin report feeling a "rush" (a surge of pleasure). And then they may feel other effects, such as a warm flushing of the skin, dry mouth [<https://medlineplus.gov/drymouth.html>] , and a heavy feeling in the arms and legs. They may also have severe itching [<https://medlineplus.gov/itching.html>] , nausea, and vomiting [<https://medlineplus.gov/nauseaandvomiting.html>] . After these first effects, they will usually be drowsy for several hours, and their breathing will slow down.

## What are the long-term effects of heroin?

People who use heroin over the long term may develop many different health problems. These problems could include liver [<https://medlineplus.gov/liverdiseases.html>] , kidney [<https://medlineplus.gov/kidneydiseases.html>] , and lung [<https://medlineplus.gov/lungdiseases.html>] disease, mental disorders [<https://medlineplus.gov/mentaldisorders.html>] , and abscesses [<https://medlineplus.gov/abscess.html>] .

People who inject the drug also risk getting infectious diseases such as HIV [<https://medlineplus.gov/hiv.html>] , hepatitis [<https://medlineplus.gov/hepatitis.html>] , and bacterial infections [<https://medlineplus.gov/bacterialinfections.html>] of the skin, bloodstream, and heart (endocarditis [<https://medlineplus.gov/endocarditis.html>] ). They can also get collapsed veins. When a vein collapses, the blood cannot flow through it.

Repeated use of heroin can lead to tolerance. This means users need more and more of the drug to have the same effect. At higher doses over time, the body becomes dependent on heroin. If someone who is dependent on heroin stops using it, they have withdrawal symptoms. These symptoms can include restlessness, muscle and bone pain, diarrhea [<https://medlineplus.gov/diarrhea.html>] , vomiting, and cold flashes with goose bumps.

Repeated use of heroin often leads to heroin use disorder, sometimes called addiction. This is more than physical dependence. It's a chronic (long-lasting) brain disorder. When someone has it, they continue to use heroin even though it causes problems in their life. Some examples include health problems and not being able to meet responsibilities at work, school, or home. Getting and using heroin becomes their main purpose in life.

## Can a person overdose on heroin?

It's possible to overdose [<https://medlineplus.gov/opioidoverdose.html>] on heroin. This happens when a person uses so much heroin that it causes a life-threatening reaction or death. All heroin users are at risk of an overdose because they never know the actual strength of the drug they are taking or what may have been added to it. Most heroin available in the United States is combined with illegally made fentanyl (IMF). Using heroin combined with IMF, or along with other drugs or alcohol can increase the risk of an overdose.

When people overdose on heroin, their heart rate and breathing slow down. Their breathing may slow do so much that not enough oxygen reaches the brain. This condition is called hypoxia. Hypoxia can lead to a coma [<https://medlineplus.gov/coma.html>] , permanent brain damage, or death.

## How can a heroin overdose be treated?

A medicine called naloxone can treat a heroin (or other opioid) overdose if it is given in time. It works by blocking the effects of the opioid on the body. Sometimes more than one dose of the medicine is needed.


There are two forms of naloxone that anyone can use without medical training: nasal spray and injectable. People at risk of an overdose are encouraged to carry naloxone with them. They can buy naloxone at a pharmacy.

## What are the treatments for heroin use disorder?



Treatments for heroin use disorder include medicines to treat withdrawal symptoms, medicine to block the effects of opioids, and behavioral treatments. Often, a combination of medicine and behavioral treatment works best. People getting treatment for heroin use disorder should work with their health care providers to come up with a treatment plan that fits their needs.

*NIH: National Institute on Drug Abuse*

## Start Here

- Heroin [<https://www.getsmartaboutdrugs.gov/sites/default/files/2024-12/Heroin-Drug-Fact-Sheet.pdf>] (Drug Enforcement Administration) - PDF
- Heroin Research Report [<https://nida.nih.gov/publications/research-reports/heroin/overview>]  (National Institute on Drug Abuse)  
Also in Spanish [<https://nida.nih.gov/es/publicaciones/serie-de-reportes/la-heroina/panorama-general>]


## Diagnosis and Tests

- Drug Testing [<https://medlineplus.gov/lab-tests/drug-testing/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-drogas/>]
- Drug Use Screening Tests [<https://medlineplus.gov/lab-tests/drug-use-screening-tests/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-deteccion-del-uso-de-drogas/>]

## Prevention and Risk Factors

- Heroin Overdose Prevention [<https://www.cdc.gov/overdose-prevention/about/heroin.html>] (Centers for Disease Control and Prevention)
- How Opioid (Painkiller) Abuse Can Lead to Heroin Use [<https://www.getsmartaboutdrugs.gov/content/how-opioid-painkiller-abuse-can-lead-heroin-use>] (Drug Enforcement Administration)

## Treatments and Therapies


- Treatment of Opioid Use Disorder [<https://www.cdc.gov/overdose-prevention/treatment/opioid-use-disorder.html>] (Centers for Disease Control and Prevention)
- What Can Be Done for a Heroin Overdose? [<https://nida.nih.gov/publications/research-reports/heroin/what-can-be-done-for-heroin-overdose>]  (National Institute on Drug Abuse)

Also in Spanish [<https://nida.nih.gov/es/publicaciones/serie-de-reportes/la-heroina/que-puede-hacerse-en-el-caso-de-una-sobredosis-de-heroina>]



## Images

- Heroin Photos [<https://www.dea.gov/galleries/drug-images/heroin>] (Drug Enforcement Administration)

## Statistics and Research

- Heroin [<https://nida.nih.gov/research-topics/heroin>]  (National Institute on Drug Abuse)
- Opioid Overdose Deaths by Type of Opioid (Heroin) [<https://www.kff.org/other/state-indicator/opioid-overdose-deaths-by-type-of-opioid/?currentTimeframe=0&selectedDistributions=heroin&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>] (KFF)

## Clinical Trials


- ClinicalTrials.gov: Heroin Dependence [<https://clinicaltrials.gov/search?cond=%22Heroin+Dependence%22&aggFilters=status:not%20rec>]  (National Institutes of Health)
- ClinicalTrials.gov: Methadone [<https://clinicaltrials.gov/search?intr=methadone&aggFilters=status:not%20rec>]  (National Institutes of Health)

## Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Skin Microbiome alterations in heroin users revealed by full-length 16S rRNA... [<https://www.ncbi.nlm.nih.gov/pubmed/40739603>]
- Article: Assessment of Toxoplasma immunoglobulins,  $\alpha$ -fetoprotein, and dopamine sera levels: insights into... [<https://www.ncbi.nlm.nih.gov/pubmed/40597845>]
- Article: Reliability and clinical utility of heroin craving questionnaire factors in treatment-enrolled... [<https://www.ncbi.nlm.nih.gov/pubmed/40540776>]
- Heroin -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Heroin+Dependence%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

## Find an Expert

- Drug Enforcement Administration [<https://www.dea.gov/>]
- FindTreatment.gov [<https://findtreatment.gov/>] (Substance Abuse and Mental Health Services Administration)  
Also in Spanish [<https://findtreatment.gov/es>]
- National Institute on Drug Abuse [<https://nida.nih.gov/>]   
Also in Spanish [<https://nida.nih.gov/es>]
- Opioid Treatment Program Directory [<https://dpt2.samhsa.gov/treatment/directory.aspx>]  
(Substance Abuse and Mental Health Services Administration)
- Partnership to End Addiction [<https://drugfree.org/>]


## Children

- Heroin: What Parents Need to Know [<https://drugfree.org/drugs/heroin/>] (Partnership to End Addiction)

## Teenagers

- What Is Heroin? [<https://kidshealth.org/en/parents/drugs-heroin.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/drugs-heroin.html>]

# Women

- How Does Heroin Use Affect Pregnant Women? [<https://nida.nih.gov/publications/research-reports/heroin/how-does-heroin-abuse-affect-pregnant-women>]  (National Institute on Drug Abuse)  
Also in Spanish [<https://nida.nih.gov/es/publicaciones/serie-de-reportes/la-heroina/como-afecta-las-mujeres-embarazadas-el-consumo-de-heroina>]

## Patient Handouts

- Heroin overdose [<https://medlineplus.gov/ency/article/002861.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/002861.htm>]
- Opiate and opioid withdrawal [<https://medlineplus.gov/ency/article/000949.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000949.htm>]



## MEDICAL ENCYCLOPEDIA

- Heroin overdose [<https://medlineplus.gov/ency/article/002861.htm>]
- Opiate and opioid withdrawal [<https://medlineplus.gov/ency/article/000949.htm>]
- Opioid intoxication [<https://medlineplus.gov/ency/article/000948.htm>]

## Related Health Topics

- Drug Use and Addiction [<https://medlineplus.gov/druguseandaddiction.html>]
- Opioids and Opioid Use Disorder (OUD) [<https://medlineplus.gov/opioidsandopioidusedisorderoud.html>]

## National Institutes of Health

The primary NIH organization for research on *Heroin* is the National Institute on Drug Abuse [<https://www.drugabuse.gov/>]

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