**Narcotic analgesics**

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| --- | --- | --- | --- | --- |
| **Natural** | | **Semi-Synthetic** | **Synthetic** | |
| Poppy Plant | | Morphine | Meperidine | Methadone |
| Opium | | Heroine |
| Morphine | Codeine | Brown Sugar |

**The Pharmacology of Narcotics: Natural, Semi-synthetic, and Synthetic**

1. **Narcotics of Natural Origin:**

**Natural** opiates include morphine, codeine, and thebaine. Semi-synthetic/manmade opioids are created in labs from **natural** opiates. Semi-synthetic opioids include hydromorphone, hydrocodone, and oxycodone (the prescription drug OxyContin), as well as heroin, which is made from morphine.

**Opium:**

a reddish-brown heavy-scented addictive drug prepared from the juice of the opium poppy, used illicitly as a narcotic and occasionally in medicine as an analgesic.

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**Opium Origin:**

**Opium**, [narcotic](https://www.britannica.com/science/narcotic) [drug](https://www.britannica.com/science/drug-chemical-agent) that is obtained from the unripe seedpods of the [opium poppy](https://www.britannica.com/plant/opium-poppy) (Papaver somniferum), a plant of the family “*[Papaveraceae](https://www.britannica.com/plant/Papaveraceae)”* ([poppy](https://www.britannica.com/plant/poppy)). Opium is obtained by slightly incising the seed capsules of the poppy after the plant’s flower petals have fallen. The slit seedpods exude a milky [***latex***](https://www.britannica.com/science/latex-chemical-compound)that coagulates and changes colour, turning into a gumlike brown mass upon exposure to air. This raw opium may be ground into a powder, sold as lumps, cakes, or bricks, or treated further to obtain derivatives such as [morphine](https://www.britannica.com/science/morphine), [codeine](https://www.britannica.com/science/codeine), and [heroin](https://www.britannica.com/science/heroin). Opium and the drugs obtained from it are called opiates.

* **Morphine:**

A bitter crystalline addictive narcotic base C17H19NO3 that is the principal alkaloid of opium and is used in the form of a soluble salt (such as a hydrochloride or a sulfate) as an analgesic and sedative. Morphine is a [pain medication](https://en.wikipedia.org/wiki/Analgesic) of the [opiate](https://en.wikipedia.org/wiki/Opiate) family which is found naturally in a number of plants and animals, including humans. It acts directly on the [central nervous system](https://en.wikipedia.org/wiki/Central_nervous_system) (CNS) to decrease the feeling of pain. It can be taken for both [acute pain](https://en.wikipedia.org/wiki/Acute_pain) and [chronic pain](https://en.wikipedia.org/wiki/Chronic_pain). It is frequently used for pain from [myocardial infarction](https://en.wikipedia.org/wiki/Myocardial_infarction) and during [labor](https://en.wikipedia.org/wiki/Childbirth).



**Routes of Administration:**

It can be given by mouth, by [injection into a muscle](https://en.wikipedia.org/wiki/Intramuscular), by [injection under the skin](https://en.wikipedia.org/wiki/Subcutaneous_injection), [intravenously](https://en.wikipedia.org/wiki/Intravenously), [injection into the space](https://en.wikipedia.org/wiki/Epidural_administration) around the [spinal cord](https://en.wikipedia.org/wiki/Spinal_cord), or [rectally](https://en.wikipedia.org/wiki/Rectal_administration). Maximum effect is reached after about 20 minutes when given intravenously and after 60 minutes when given by mouth, while duration of effect is 3–7 hours Long-acting formulations also exist.

* **Codeine:**

A morphine derivative C18H21NO3·H2O that is found in opium, is weaker in action than morphine, and is used especially as an analgesic and antitussive. Codeine is a prescription pain medication used to treat mild to moderate pain.

**Routes of Administration:**

It is injected subcutaneously or intramuscularly. Orally, medical preparation of codeine are usually made in combination which other chemicals and are available in the form of tablets and syrup.

1. **Semi-Synthetic Narcotics:**

**Semi**-**synthetic** opioids are synthesized from naturally occurring opium products, such as morphine and codeine, and include heroin, oxycodone, hydrocodone, and hydromorphone, these are also prepared artificially (in laboratories).

* **Heroine:**

Heroin is a crude preparation of diamorphine. It is a semi-synthetic product obtained by acetylation of morphine, which occurs as a natural product in opium: the dried latex of certain poppy species. Diamorphine is a [narcotic analgesic](http://www.emcdda.europa.eu/drug-profiles/glossary#Narcotic) used in the treatment of severe pain.

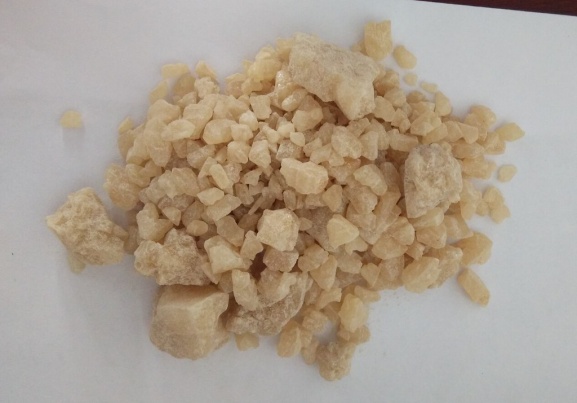


**Routes of Administration:**

Heroin may be smoked or solubilised with a weak acid and injected. Whereas opium has been smoked since historical times, diamorphine was first synthesised in the late nineteenth century. Heroin is under international control.

* **Brown Sugar:**

**Brown sugar**(an adulterated form of [heroin](https://deaddictioncentres.in/indian-drug-guide/heroin/)), also called smack, junk, skag, dope, and chaw, is a semi synthetic opioid derived from the morphine extracted from poppy plants.



1. **Synthetic Narcotics:**

Synthetic narcotics, i.e. artificially produced, (prepared in laboratory) mainly psychotropic substances are substances, which are composed of chemical components and which can have many hold effects.

* **Meperidine:**

A synthetic narcotic drug C15H21NO2 used in the form of its hydrochloride as an analgesic, sedative, and antispasmodic, it is a best pain killer and also have numbness effect.

**Routes of Administration:**

Meperidine injected intravenously, intramuscularly or subcutaneously, but the injection should be given very slowly, preferably as a diluted solution. It is also administered orally in the form of tablets.

* **Methadone:**

A powerful synthetic analgesic drug which is similar to morphine in its effects but less sedative and is used as a substitute drug in the treatment of morphine and heroin addiction.



**Routes of Administration:**

Methadone is more effected when administered orally as it is by injected. It is usually taken in the form of tablets.