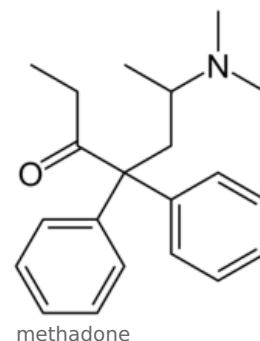


# Methadone

Methadone is a synthetic opioid, used in the substitution treatment of addiction to some opiates. It acts on  $\mu$  receptors as a full agonist just like morphine or heroin, but they differ in their structure. Compared to the above-mentioned substances, it causes only minimal euphoria, without changes in consciousness or mood. Otherwise, it is a strong opioid that produces the same effects in principle as other fully agonistic opioids, i.e. strongly suppresses pain, depresses the CNS, depresses the respiratory center, causes constipation, sedation, with high doses or intolerant users there is a significant risk of overdose. Users describe the euphoria as quite intense, as well as the significantly depressing effects on the entire nervous system.

## Methadone use

Due to its lipophilicity, methadone has a rapid onset of effects and a significantly longer elimination half-life (24-36 hours), which allows dosing in treatment programs only once a day. The daily dose depends on the developed tolerance to the given drug, ranging from 5 to several hundred mg/day. A correctly determined dose blocks the effects of other opiates, reduces craving, which reduces the likelihood of relapse. It is most commonly administered orally as a solution, but despite the recommendations, it is administered intravenously by some users. In the West, it is used as a strong analgesic for severe chronic pain. In addition to the opioid effect, methadone also blocks NMDA receptors, which are responsible for the growth of tolerance, participate in the development of hyperalgesia, etc. Blocking them reduces the above-mentioned phenomena. In practice, a solution with a concentration of 5 mg/ml is administered. Doses at the substitution center in Olomouc vary between 100 and 200 mg for patients taking longer. A higher dose is also not unusual. When used, methadone is usually given in a dose of 40 to 60 mg during withdrawal. On the second day and the following days, the dose is adjusted according to the clinical assessment. We usually increase by 5 to 10 mg per day. Beware of concurrently used psychotropic drugs. Benzodiazepines in particular can lead to a massive overdose in combination with methadone. The duration of analgesia is around 10 hours.



## Methadone in substitution treatment

Substitution treatment for opiate addiction began to be used in the USA from the 1960s, as a solution to the problem of the massive rise of drug users infected with the HIV virus. It is chosen in the event that the patient is not sufficiently motivated for withdrawal treatment, and it has proven itself especially in patients who have failed other attempts at treatment. Substitution with methadone can be temporary, leading to dose reduction up to complete abstinence, or permanent, leading to physical, psychological and social stabilization. Patients can use methadone maintenance treatment, short-term or long-term methadone detoxification. Patients participating in methadone maintenance treatment are able to function normally socially, they are able to work, take care of themselves or their family. The advantage of this type of treatment is relatively low financial costs and non-increasing tolerance to the given substance. In the Czech Republic, in addition to methadone, buprenorphine is also used to a lesser but increasing extent in substitution programs. In case of heroin addiction in **pregnant women** are recommended to use controlled methadone as an alternative to heroin. Pregnant women have priority in the programs.

## Links

### Related Articles

- morphine
- opioid

### Resources

- KALINA, Kamil. *Základy klinické adiktologie*. 1. edition. Prague : Grada, 2008. ISBN 978-802-4714-110.
- KALINA, Kamil. *Mezioborový glosář pojmů z oblasti drog a drogových závislostí*. 1. edition. Praha. 2001. ISBN 80-238-8014-4.
- TUČEK, Milan. *Hygiena a epidemiologie*. 1. edition. Prague. 2012. 358 pp. ISBN 978-80-246-2025-1.