

## Methadone Abuse and Overdoses

Methadone is a Schedule II long-acting synthetic opioid that is used to treat opioid addiction and to relieve chronic pain. It is available in tablet, dissolvable tablet, liquid, liquid concentrate and injectable forms. Methadone abuse often occurs in chronic heroin users and oxycodone abusers seeking to ameliorate opioid withdrawal. Those abusing methadone solely for its potential euphoric effect appears to be low.

Methadone overdoses result from methadone abuse as well as suprathereapeutic dosing for the management of pain. Maryland's Office of the Chief Medical Examiner reported 141 deaths due to methadone intoxication in 2005 and 179 deaths in 2006. Most (59%) of the 2006 methadone deaths were due to methadone only; 41% were due to methadone combined with other drugs, such as benzodiazepines and other opioids. Patients prescribed methadone should have doses slowly titrated to effect, and be closely monitored for toxicity. Patients' medication histories should be examined to avoid drug interactions that might result in methadone toxicity. Pediatric ingestions of methadone resulting from access to tablets and to liquid methadone stored in inappropriate containers (e.g. baby bottles, juice bottles, sports bottles) have caused severe toxicity and death.

Clinical effects of methadone overdoses are similar to other opioids and include lethargy, miosis, bradycardia and hypotension. Life-threatening toxic effects such as coma, respiratory depression, pulmonary edema and, rarely, cardiac dysrhythmias including QT prolongation and Torsades de Pointes may occur. Treatment consists of supportive care, activated charcoal and naloxone. Because the duration of methadone's effects is often prolonged for 12 hours to several days, a continuous infusion of naloxone may be employed.

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### ***DID YOU KNOW THAT... opiate drug screens usually do not test for methadone?***

Opiate drug screens usually include the naturally occurring drugs codeine, morphine, opium and, indirectly, heroin. Semi-synthetic opioids, like hydrocodone, oxycodone and hydromorphone, have less cross-reactivity with the opiate drug screen and are poorly detected by this assay unless large quantities are present. Synthetic opioids, like methadone, have no cross-reactivity and are never detected by this method. Some hospitals use a specific methadone assay and are able to detect both opiates and methadone on the same sample of urine at the same time. Be aware of whether your hospital tests for methadone or opiates or both.



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