

From: Ron Kirschner, MD, Medical Director
To: ALL HEALTH CARE PROFESSIONALS
Subject: Designer opioids
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- The term “designer drugs” is often applied to substances such as synthetic cannabinoids, cathinones, and other amphetamine-like stimulants.
- More recently, poison centers have been hearing about designer opioids such as U-47700, AH-7921, and MT-45. These are opioid agonists that have not been studied or approved for clinical use.
- They may have stronger agonist activity than drugs used to treat pain (U-47700 is reported to be 7-8 times more potent than morphine).
- Fatalities with documented blood levels of MT-45 and U-47700 have been reported.
- Although not used therapeutically, these drugs are sold on the internet as “research chemicals” and are typically labelled ‘not for human consumption’.
- As access to prescription analgesics becomes more tightly controlled, we are likely to see increasing use of these designer opioids.
- Consider the possibility of designer opioids in patients with CNS/respiratory depression and a negative drug of abuse screen. Designer opioids might be detectable by a reference lab but these results would not be available in real time.
- NMS Labs can test blood samples for MT-45 and AH-7921, as well as acetyl and butyryl fentanyl.
- Treatment should include naloxone and supportive care, with intubation and mechanical ventilation as needed.
- Higher doses of naloxone might be required compared to intoxication with heroin or opioid analgesics.

References

- Elliott SP. The first reported fatality associated with the synthetic opioid 3,4-cichoro-N-[2-(dimethylamino)cyclohexyl]-N-methylbenzamide (U-47700) and implications for forensic analysis. *Drug Test Anal* 2016, epub 5/27/16.
- Gussow L. Designer opiates 10,000x stronger than morphine. *EM News* May 2016.
- Papsun D. Analysis of MT-45, a novel synthetic opioid, in human whole blood by LC-MS-MS and its identification in a drug-related death. *J Anal Toxicol* 2016; 40: 313.



Our certified nurse specialists in poison information and physician toxicologists are available 24 hours a day to answer your questions.