

Drug Overdoses

— Powerful animal sedative is mixed with fentanyl in the drug supply

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Medetomidine, an animal tranquilizer [more potent than xylazine](#), recently appeared in drug overdoses in several states in combination with the synthetic opioid fentanyl, sparking concern among public health officials.

Medetomidine is a [synthetic alpha-2 adrenoceptor agonist](#) similar to dexmedetomidine and clonidine. It's approved by the FDA as a sedative and analgesic for dogs, but not for human use.

[Department of Public Health](#) said it was detected in the drug supply for the first time. [City of Chicago officials warned](#) about its presence in multiple samples collected. [Michigan officials](#) said in June that medetomidine was identified in three overdose deaths, along with fentanyl and other drugs.

These reports may be less concerning than they appear, said Lewis Nelson, MD, chair of emergency medicine at Rutgers New Jersey Medical School in Newark.

"It's not generally a life-threatening overdose that you're going to cause," Nelson told *MedPage Today*. "The person will be sedated. All these overdose clusters we hear about are really oversedation problems, not death problems."

Xylazine and medetomidine are never alone in the drug supply, Nelson noted. Both are almost always mixed with fentanyl.

"The death rate from the fentanyl drug supply has not gone up with the introduction of xylazine or medetomidine," he observed. "In fact, there are data from some studies that actually imply, to some extent, that the severe adverse event rates -- cardiac arrest and death -- are lower in people who have xylazine."

It's likely that combinations made with these drugs have less fentanyl. Even high medetomidine doses are likely to cause only deep sedation, Nelson observed. "If there were not fentanyl in the supply, we would not be talking about this drug," he said.

Yet there are reasons for concern, Nelson said. Despite evidence about similar drugs, there's little data about the effects of medetomidine in humans, he pointed out.

The combination of heavy sedation from medetomidine and respiratory depression from fentanyl could lead to sudden overdose in some people, he added. "Dose makes the poison," he said. Moreover, medetomidine may continue to rise in the illicit drug supply because it doesn't share the same public scrutiny as xylazine.

Naloxone can reverse the deadly effects of a medetomidine-fentanyl overdose, even if it doesn't appear to be working, Nelson added.