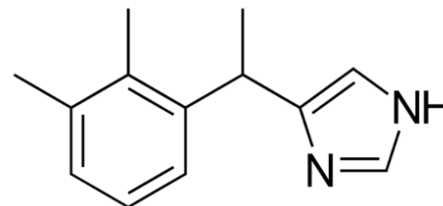


A New Sedative on the Street: Medetomidine

Medetomidine (also known as 'rhino tranq,' 'mede,' or 'dex') has rapidly emerged in the illicit drug supply chain. It was first identified in Maryland (2022) and is often found in the Northeastern and Mid-Atlantic regions of the United States, though its presence has been reported across the country. In 1996, the U.S. Food and Drug Administration approved medetomidine (Domitor®) as a veterinary sedative and analgesic to be used in canines. Medetomidine shares the same mechanism of action as clonidine, dexmedetomidine, and xylazine, acting as a potent α_2 -adrenergic receptor agonist. Agonism decreases presynaptic norepinephrine release in the central nervous system, producing sedation, analgesia, bradycardia, and hypotension.

Medetomidine appears to become increasingly common, possibly replacing xylazine, as an adulterant in the illicit opioid market. Adulteration results in a profound central nervous system, respiratory, and cardiovascular depression. In April 2026, the White House Office of National Drug Control Policy and Center for Disease Control published a Health Alert Network advisory notice regarding the rapid emergence of medetomidine within the illicit fentanyl supply. It cited that between 2023 and 2025, the National Forensic Laboratory Information System (NFLIS) reports the number of detections of medetomidines in drug seizures had increased from 247 in 2023 to 2,616 in 2024 (950% increase), then to 8,233 in 2025 (215% increase).

Patients with suspected opioid-induced respiratory depression should be treated with naloxone with the goal of reversing respiratory depression, not necessarily to achieve full arousal. Persistent sedation or respiratory depression despite adequate naloxone administration should raise suspicion for an α_2 -adrenergic adulterant such as medetomidine, as naloxone is unable to reverse α_2 effects. Supportive care remains the cornerstone of treatment for medetomidine because no approved human antidotes currently exist. Due to risks of aspiration and loss of a patent airway, elevate the head and consider endotracheal intubation and mechanical ventilation. Symptomatic bradycardia, with rates as low as 30 beats/min, and associated hypotension have been noted.



Did you know?

Medetomidine, approved in 1996, was indicated as the original veterinary sedative as a racemic mixture of dexmedetomidine and levomedetomidine. Three years later, the active dextrorotatory enantiomer was isolated and developed into dexmedetomidine (Precedex®).

References:

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Continued on page 2

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Perfusion can be sustained with intravenous fluids, or vasopressors if refractory. Treatment of opioid withdrawal in combination with clonidine, tizanidine, or dexmedetomidine when clinically appropriate may help with the α_2 withdrawal component. Of note, it has been observed that exceptionally high doses of these agents may be necessary to curb medetomidine withdrawal syndrome. As the illicit drug supply continues to evolve, clinicians should maintain vigilance and recognize that medetomidine is increasing in predominance as an opioid adulterant, requiring heightened awareness and continued surveillance. Successful management requires close collaboration among multiple healthcare disciplines. For patient-specific recommendations, contact your local poison center at 1-800-222-1222.