



Let's Talk Medetomidine

Information for Harm Reduction Workers

Medetomidine was first detected in Ontario's unregulated fentanyl supply in December 2023 by [Toronto's Drug Checking Service](#). By December 2025, they found that medetomidine was in over 80% of fentanyl samples in Toronto. **It continues to be reported with increasing frequency throughout Ontario in the unregulated opioid supply.**

What is Medetomidine?

- Medetomidine (meh-deh-TOH-mih-deen) is a veterinary sedative not approved or safe for human use.
- It is similar to xylazine but more potent, with longer-lasting effects.
- Medetomidine can cause longer-lasting sedation, with unusual or harder-to-recognize symptoms and **severe withdrawal**.
- Treating medetomidine overdose or withdrawal can be complicated and may require emergency medical attention and monitoring.
- Unless an individual is using a drug checking service or drug test strips, they will not know when they might be exposed to medetomidine.

Effects of Medetomidine on the Body

- Very low heart rate and low blood pressure (may cause falling, fainting, lightheadedness).
- Prolonged and deep sedation (that may continue after naloxone has been given).
- Confusion or delirium may occur, and in some cases, people may experience changes in perception such as hallucinations.
- Constricted pupils.

Important!

Medetomidine can cause serious complications in the body. It can severely affect the kidneys, heart, brain, and can cause death. Medetomidine exposure may require urgent medical care that can not be managed outside a hospital.



Withdrawal

An individual may not know they have used a substance containing medetomidine, so medetomidine withdrawal can be hard to identify.

Timing	Withdrawal symptoms can begin within 4–6 hours after last use and may progress rapidly, with symptoms ranging from mild to severe over the following hours to days.
Escalation	Medetomidine withdrawal symptoms can worsen quickly after they start.
Unpredictability Important to Note!	Medetomidine is a contaminant of the unregulated drug supply, so people may be exposed to it without knowing it. <i>For example:</i> one week there may be medetomidine in the opioid drug supply, and the following week there might be none. As a result, an individual may experience medetomidine withdrawal while continuing to use opioids. Symptoms of medetomidine withdrawal may occur: • At the same time as opioid intoxication. • When taking a break from using unregulated opioids. • After an overdose, a person may shift from heavy sedation into withdrawal.

Effects of Medetomidine Withdrawal on the Body

Individuals may experience any of the following signs and symptoms during withdrawal:

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| <ul style="list-style-type: none">• anxiety• tremors & jerking movements• nausea & vomiting• sweating• heart beating too fast, too slow, or unevenly | <ul style="list-style-type: none">• very high heart rate• high blood pressure• agitation and confusion• alertness level can come and go• individual is awake, but not speaking |
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Important!

Naloxone should always be used if an opioid overdose is suspected—it's crucial to call 911. Someone experiencing medetomidine withdrawal may require medical interventions that cannot be provided in the community.



Does Medetomidine Impact Opioid Overdose/Toxicity?

Signs and symptoms of medetomidine exposure can occur at the same time as an opioid overdose. Medetomidine can cause complex drug toxicity involving deep and prolonged sedation, decreased breathing, and low or no pulse.

After an overdose, new or rapidly worsening symptoms like agitation, sweating, vomiting, or very high heart rate and blood pressure may indicate medetomidine withdrawal. Because medetomidine doesn't last long in the body, someone can go from being very sedated to experiencing withdrawal symptoms within just a few hours. Withdrawal can get worse very quickly and may become serious enough to need urgent medical care.

Medetomidine is almost always found in combination with at least one high-potency opioid. When other substances, such as benzodiazepines, are also present, this can make overdose and sedation more complex. These combinations can make symptoms harder to recognize and treat. For example, a person may be breathing slowly because of opioids, still very sedated from medetomidine, and quickly develop withdrawal signs like agitation or a very fast heart rate.

Naloxone should always be used if an opioid overdose is suspected, but it may not fully wake the person if medetomidine is also involved. This is because medetomidine can keep someone sedated even after naloxone is given. Call 911, continue to support breathing (one breath every five seconds), and stay with the person until help arrives. There is no reversal medication for medetomidine approved for use in humans.



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Key Messages

- Medetomidine is a potent non-opioid veterinary sedative that is heavily contaminating Ontario's unregulated opioid (fentanyl) supply.
 - Medetomidine withdrawal and severe cases of exposure are medical emergencies requiring urgent medical care.
 - A concerning effect of medetomidine is that it can cause extended sedation, and withdrawal symptoms can worsen quickly.
 - The only way to know if medetomidine is mixed with opioids or other drugs is through a drug checking service or drug test strips. **Some drug checking technologies may not pick up medetomidine in drug samples.**
 - Opioid overdose and medetomidine exposure and withdrawal can be further complicated by other substances like benzodiazepines and fentanyl analogues.
 - Medetomidine can show up unexpectedly in the drug supply, so people may be exposed without knowing it. This makes it hard to know when withdrawal might happen.
 - Unusual overdose symptoms may mean medetomidine or other non-opioid adulterants are involved.
 - Medetomidine withdrawal can begin soon after overdose-related sedation and may overlap with overdose recovery.
 - **Always carry naloxone to reverse the effects of opioids.** Naloxone will not reverse the effects of medetomidine or medetomidine withdrawal. **If giving naloxone, call 911.**
 - When giving naloxone it's also important to support the individual's breathing right away. Naloxone is not a substitute for rescue breathing and/or CPR.
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Implement Safety Planning

Safety planning means thinking ahead about factors that could affect an individual's safety or increase their risk of harm. It involves identifying supports and practical actions that are most effective when tailored to the individual. **This is an example of what may be included in a safety-planning discussion between a harm reduction worker and an individual who uses opioids.**

Identified risk	Risk of medetomidine in the Ontario unregulated opioid supply.
Create a plan to reduce risk and harm. Question: <i>What steps can an individual plan to help lower risk?</i>	• Knowing the signs and symptoms of medetomidine and withdrawal. • Identifying trusted people to feel safe with while using substances. • Planning for possible prolonged sedation for safety reasons and for protection of belongings. • Knowing where you can get drug test strips or use drug checking services (if they are available in your area). • Carrying and knowing how to use naloxone. Making sure others with you have naloxone and know how to use it. • Keeping your phone charged and accessible.
Actions to take when there is immediate risk. Question: <i>What protective actions can an individual take when facing risk?</i>	• Test a small amount first—start low and go slow. • Pay attention to how your body feels. • Avoid mixing substances whenever possible. • Avoid using alone. Use with people you trust who can recognize and respond to an emergency. • If using alone, ask someone to check on you, or call a spot-checking service like the National Overdose Response Service (NORS) 1-888-688-6677. • Use medetomidine drug test strips and/or a drug checking service, if available. • If medetomidine exposure is suspected: (Because medetomidine exposure can cause severe symptoms and withdrawal can worsen quickly) ○ Call 911, or your local emergency medical service in your area. • If the person is unresponsive ○ Give naloxone. ○ Provide rescue breathing if needed (one breath every five seconds). ○ Begin CPR if needed and continue until medical support arrives.

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