

MEDETOMIDINE (meh-deh-TOH-mih-deen)

Reason for this information sheet

- Medetomidine can cause cardiac and respiratory depression and deep prolonged sedation.
- It is increasingly found in community drug checking samples, confirmatory provincial and national drug testing, and police-seized sample testing.
- It's also being found in combination with highly potent opioids (e.g., fentanyl) in drug poisoning deaths in BC.

What we know about medetomidine

Medetomidine is a non-opioid sedative (Central Nervous System [CNS] depressant) approved for use in Canada in veterinary medicine. It's around 200 times stronger than xylazine.

In the unregulated drug supply:

- It's nearly always detected in samples with fentanyl and other opioids, xylazine, or benzodiazepines. It's commonly found in drugs bought or sold as fentanyl or 'down'.
- Samples vary in colour and form: powder, chunks, pebbles, paste.
- It can be identified by Fourier Transform Infrared Spectroscopy (FTIR) in community drug checking, but there's often not enough in a sample for it to be detected, so it's not identified.
- It can be detected by specialized test strips; however, these are not yet available for community use.
- It is not detected as part of a standard urine drug screen.

How medetomidine may affect people

- Drug effects include low heart rate, slowed breathing, initial high blood pressure followed by low blood pressure, sedation, dry mouth, and hypothermia.
- Complex drug poisoning involves deep and prolonged sedation and **very low or no pulse**.
- Other reported experiences include dizziness, nausea, vomiting, fear, and delusions.
- Effects can last from 90 minutes to up to several hours or longer when taken with other CNS depressants (e.g., fentanyl).

Drug poisoning response and medetomidine

- Intensifies sedative or euphoric effects of other drugs (e.g., opioids).
- Complicates drug poisonings.

How medetomidine interactions with other substances

Does naloxone work on medetomidine?

No, because medetomidine is not an opioid. However, medetomidine is nearly always found with opioids, so giving naloxone can reverse respiratory depression associated with opioids (but the person may still be heavily sedated or unconscious).

Responders should:

- Call 911
- Check breathing: give breaths (1 every 5 seconds) if not breathing normally (<12 breaths/min or unusual breathing sounds like gurgling or snoring)
- Check pulse: start chest compressions if no pulse, use AED if available
- Give naloxone if not breathing normally
- Give oxygen if available and trained to do so
- Ensure transfer to hospital for monitoring and assessment

Other information

- May be referred to as dexmedetomidine or levomedetomidine, which are components of medetomidine. Dexmedetomidine is approved for use in humans in specific acute care settings. Little is known about the effects of levomedetomidine in humans. It's difficult for drug checking technologies to differentiate between these substances.
- May also be called "mede".
- No antidote (reversal agent) approved for use in humans.
- Withdrawal symptoms in humans are not well known, but are likely to include high blood pressure, fast heart rate, and agitation.

Medetomidine can cause complex drug poisonings involving deep and prolonged sedation, decreased breathing, and low or no pulse.

Sources

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