# Guidance for Managing Medetomidine Exposure

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## There has been a rapid shift in the Philadelphia drug supply from Xylazine → Medetomidine.

### Drug Supply

- May 2024: 29% of samples contained medetomidine
- Nov 2024: 87% of samples contained medetomidine
- Found in bags with fentanyl (fentanyl dose ~13,000 mcg/bag)
- Medetomidine dose/bag: 1,000–10,000 mcg (typical dexmedetomidine max dose in ICU: 1.5 mcg/kg/hr infusion)

### Pharmacology

- Clandestine production of racemic mixture of levo- and dexmedetomidine
- Central α2-adrenergic agonist (similar to clonidine and xylazine)
- Much more potent than xylazine and associated with profound CNS depression and hemodynamic instability

### Overdose

- Sedation not reversed by naloxone (still give naloxone for opioid associated respiratory depression)
- Prolonged bradycardia, hypotension, and sedation – may require extended period of observation
- Airway monitoring may be required

### Withdrawal

- Rapid transition from intoxication to withdrawal (6-8 hours)
- Fever, tachycardia (>120 bpm), hypertension (SBP >200), tremor, intractable vomiting, encephalopathy (aphasia is a common feature)
- Most patients have required ICU level care

## Treatment of Medetomidine Withdrawal

- Aggressive opioid withdrawal management:
  - Start methadone 40-60mg PO daily plus 10mg PO Q 6 PRN COWS >4
  - Alternatively, for NPO patients: start methadone 20-30mg IV daily or hydromorphone 1mg/hr continuous infusion and titrate to effect
- Alpha-2 agonist therapy
  - Clonidine 0.3 mg PO Q8 scheduled PLUS 0.3 mg/24 hr patch
  - For symptoms refractory to clonidine, start dexmedetomidine infusion and rapidly titrate to 1.5mcg/kg/hr
- Aggressive withdrawal management is preferred over isolated BP control
- Agitation management:
  - Consider PRN antipsychotics (olanzapine) and/or benzodiazepines
  - Or phenobarbital 10mg/kg loading dose