

Emergency Department Care of Acute Stimulant Intoxication (Overamping)

Additional Clinical Guidance

- It is difficult to distinguish between stimulant-induced psychosis and primary psychosis; in the acute setting, the treatment is the same and includes de-escalation and antipsychotic and sedative medications.
- De-escalate mild to moderate agitation to keep the patient, yourself, and others safe until the patient is stabilized.
 - Create a calm and safe environment: quiet, low-light, clear exit.
 - Remain calm.
 - Maintain physical distance and a non-threatening posture.
 - Speak concisely; repeat and allow processing time.
 - Identify and acknowledge patient's wants and feelings.
 - Offer choices and control (food, water, blankets).
 - Provide reassurance of safety, that symptoms will resolve.
 - Set clear boundaries when staff safety is threatened.
 - Be consistent (e.g., designate one provider to attend to the patient).
 - Use restraints only when necessary to prevent harm to self/others.

Assessment

- Assess and monitor for suicidality, which may be increased in patients experiencing stimulant withdrawal or intoxication.
- Once stabilized, assess for stimulant use disorder (StUD) and offer treatment medications. See *Related Protocols*.

Pharmacotherapy

- Primary treatment for stimulant toxicity is GABAergic agents (e.g., benzodiazepines, phenobarbital, propofol). Benzodiazepines are generally considered first-line.
- Benzodiazepines (first-line for overamping)
 - Short-acting benzodiazepines, like lorazepam or midazolam, are effective for both psychiatric and hyperadrenergic symptoms of overamping.

Drug	Equivalent Dose
Lorazepam (IM or PO)	2 mg
Diazepam (IM)	10 mg
Midazolam (IM)	5 mg

- Antipsychotics (second-line for psychiatric symptoms):
 - Antipsychotics are second-line treatment for psychiatric symptoms and can be used in addition to benzodiazepines.
 - Aripiprazole, quetiapine, haloperidol, olanzapine, and risperidone effectively treat both positive and negative symptoms of stimulant-induced/associated psychosis.
 - **Avoid chlorpromazine and clozapine** due to increased seizure risk.
 - If presenting with or has a history of psychotic symptoms, consider prescribing olanzapine 5 mg daily for 2 weeks and refer to psychiatry (or any available provider) for follow up.
 - Second generation antipsychotics at this dose are safe and have no abuse potential.
 - Currently there is little data to support prescribing PRN antipsychotics at discharge for stimulant-induced psychosis, but some practitioners have reported positive outcomes.
- Alpha-2 adrenergic agonists (second-line for hyperadrenergic symptoms):
 - Alpha-2 adrenergic agonists can be effective in treating stimulant-induced agitation, hypertension, and tachycardia.
 - Clonidine is used for mild to moderate symptoms.
 - Dexmedetomidine IV may be used for severe symptoms.
 - Use of dexmedetomidine varies by institution and is sometimes reserved for the ICU. If available, follow institutional protocols or seek guidance from a pharmacist or intensivist.
 - If dexmedetomidine is unavailable, consider clonidine and a beta blocker with alpha-1 antagonist action.
- Beta blockers with alpha-1 antagonist action (third-line for hyperadrenergic symptoms):
 - If a beta blocker is used, one with alpha-1 antagonist action (e.g., labetalol carvedilol) is generally preferred.
 - This is due to a theoretical risk of unopposed alpha stimulation leading to increased blood pressure and/or coronary artery vasoconstriction.
 - If an unopposed beta blocker was already used, consider adding a coronary vasodilator (e.g., nitroglycerin, calcium channel blocker).
- **Avoid long acting antihypertensives** (e.g., lisinopril, losartan, amlodipine, metoprolol) due to risk of hemodynamic collapse in cases of hypertensive emergency.

Pathophysiology

- High-potency stimulants like cocaine and methamphetamine can be acutely and chronically vascular and neuro-toxic.
- Intoxication can result in:
 - Behavioral symptoms like confusion, paranoia, irritability, hypersexuality, and hyper vigilance.
 - Physiological signs and symptoms can include elevated body temperature, rapid heart rate, elevated blood pressure, chest pain, and neurologic problems.
- Acute toxicity:
 - Acute toxic effects of high dose or extended use of high-potency psychostimulants is referred to as overamping.
 - Overamping can be life-threatening. Complications include:
 - Psychosis, paranoia, hallucinations, agitated delirium
 - Cardiovascular events (e.g., ACS, hypertensive emergency, MI)
 - Seizure
 - Hyperthermia/heat stroke
 - Acidosis
 - Rhabdomyolysis
 - Renal failure
 - Treat physiological symptoms per clinical judgement and existing protocols.

Special populations

Pregnancy:

- This protocol can be used in pregnant patients with assessment of risks and benefits. Some medications may pose risks to the fetus, but the risk of untreated overamping may be higher.

Patient safety

Seclusion and physical or chemical restraints may only be used in accordance with federal and Washington state law and institutional policy. Seclusion and restraints must be:

- Used only as a last resort and only after less restrictive measures have failed
- Limited to the extent and duration necessary to ensure safety
- As least restrictive as possible
- Monitored frequently
- Ordered and periodically reviewed and renewed by a physician, physician assistant, or psychiatric advanced registered nurse practitioner

Discharge planning

- Help the patient schedule a follow-up appointment with primary care and/or offer information on available walk-in clinics, when available, to reduce barriers to care.
- Provide the [**Stimulants and Health**](#) handout.
- Provide naloxone, even without known opioid use. People who use unregulated stimulants are at risk for unknowingly consuming opioids.
 - In Washington, emergency departments are required to dispense naloxone to patients who are at risk of opioid overdose, in compliance with SB5195. Ensure patients are discharged with naloxone in hand.
- If possible, connect patients with additional support such as social work, care navigation, or peer support to improve patient experience and linkage to care.

Patient Education

- Discuss strategies for reducing the harms of drug use (see *Discharge Instructions*).
 - This should be done with empathy. Reducing or stopping use is often extremely difficult.
- Recommend safer sex practices, including condoms and PrEP.
- Educate on strategies to reduce harms related to other substance use, if any.