Clinical Practice Guidelines: Toxicology and toxinology/ Psychostimulant emergencies

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Date	September, 2024
Purpose	To ensure a consistent approach to the management of psychostimulant emergencies.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Psychostimulant emergencies

September, 2024

Psychostimulants are compounds that activate the sympathetic nervous system. They are often abused, with amphetamines being the second most commonly used illicit drug in Australia after cannabis.[1] They can be administered orally, intravenously or inhaled. Intravenous drug use typically suggests a higher level of dependence and has a greater potential for toxicity.

Psychostimulants can be prescribed or obtained illicitly. Common pharmaceutical psychostimulants include caffeine, dexamphetamine, methylphenidate, ephedrine and pseudoephedrine. Illicit examples include cocaine, methylenedioxymethamphetamine (MDMA), amphetamine and methamphetamine.

Acute psychostimulant intoxication causes significant morbidity. Agitation and paranoia are common, particularly with more potent preparations like methamphetamine. In severe cases, an acute behavioural disturbance can occur which requires urgent sedation. These features, including psychosis, usually resolve with the resolution of toxicity.[2] Psychostimulant intoxication can lead to life threatening complications such as hyperthermic crisis, myocardial ischaemia, and intracranial haemorrhage.[3]

Clinical features

Mild	• Euphoria • Restlessness • Mydriasis (dilated pupils) • Tachycardia • Bruxism (MDMA)
Moderate	• Paranoia • Psychomotor agitation • Diaphoresis • Hypertension
Severe	• Acute behavioural disturbance • Psychosis • Hyperthermia • Myocardial infarction • Intracranial bleed • Seizures • Rhabdomyolysis • Renal failure • Hypertensive crisis • Refractory tachyarrhythmia • Severe respiratory distress • Altered level of consciousness

Additional information

- Managing patients presenting with symptoms of psychostimulant emergencies may be challenging due to the high risk of rapid clinical deterioration and/or contributing environmental factors.
- When managing a complex patient, it is important to delegate roles, practice clear and concise communication, and complete continuous clinical assessment which includes monitoring the patient's airway, breathing and circulation.
- Methamphetamine derivate consumption is the most common life-threatening presentation of psychostimulant emergencies. These patients typically exhibit acutely disturbed behaviour which is compounded by gross vital sign aberrancy. This patient cohort will often require physical restraint and sedation, which must be performed in alignment with *CPP: Emergency sedation – acute behavioural disturbance*.
- In instances where one or more severe clinical features are noted, ambulance clinicians must consider the following:
  - The involvement of a CCP and/or HARU if not already present on scene.
  - If unavailable, clinicians should have a low threshold for contacting the *QAS Clinical Consultation and Advice Line* for case specific management.
  - Have a low threshold for intravenous cannulation.
  - Have careful consideration of the requirement for intravenous fluids.
  - Perform active cooling if hyperthermia is identified.

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CPG: Clinician safety
CPG: Standard cares

Acute behavioural disturbance or evidence of severe toxicity?

Y

Consider:

- Verbal de-escalation
- QPS assistance
- Physical restraint
- EEA
- CCP/Supervisor involvement
- Contacting QAS Clinical Consultation & Advice Line
- Delegation of roles to ensure continuous clinical assessment

Manage as per appropriate:

- CPG: Sedation – Acute behavioural disturbance
- CPG: Hyperthermia

N

Provide:

- Reassurance, continual reassessment & monitoring
- Symptomatic treatment

Features of sympathetic hyperstimulation?

- Severe headache
- Chest pain
- Hyperthermia
- Focal neurology

Y

Manage as per appropriate CPG:

- CPG: Hyperthermia
- CPG: Acute coronary syndrome (do not give thrombolysis)
- CPG: Seizures

N

Transport to hospital
Pre-notify as appropriate

Note: *Clinicians must only perform procedures for which they have received specific training and authorisation by the QAS.*