GUIDELINES FOR THE ACUTE ASSESSMENT AND MANAGEMENT OF AMPHETAMINE-TYPE STIMULANT INTOXICATION AND TOXICITY

### Intoxication

**Important questions:**
1. In the last 24-48hrs, have you used:
   - amphetamines or methamphetamine?
   - other stimulants (eg high dose caffeine, cocaine, MDMA, prescription stimulants, other synthetic stimulants)?
   - other substances (eg EtOH, GHB, THC, synthetic cannabis, opioids, hallucinogens, solvents, OTC)?
   - other medications (especially SSRIs)
2. What time did you last use?
3. Dose? Route?

**Signs/symptoms of intoxication:**
- New or worsening mental health symptoms (anxiety, panic, hallucinations, paranoia)
- Alertness, hypervigilance, impulsivity
- Euphoria, ↑ confidence, excitement
- Agitation, irritability, anger, hostility
- Psychomotor agitation (pacing, restlessness), repetitive movements, tremor
- Rapid/ pressured speech
- Decreased appetite/need for sleep
- Flushed cheeks, sweating, dry mouth
- Teeth grinding, jaw clenching
- Dilated pupils or sluggish light reflex
- Hypersexuality, at risk sexual behaviours
- Hypertension, tachycardia
- signs of recent physical injury (head injury)
- Injecting sites for signs of infection

### Presentations of toxicity:
- Acute behavioural disturbance
- Medical complications
  - hyperthermia
  - serotonin syndrome (see bottom right)
  - electrolyte disturbances (↑ Na, ↓ K); ↓ BSL
  - rhabdomyolysis, renal failure
  - acute cardiac events
  - acute cerebrovascular events
  - delirium, seizures, coma, death

### Toxicity (medical emergency)

**Investigations:**
- Full set of physical observations
- Neurological examination including GCS, pupillary response, tone/power/tremor
- Finger-Prick Blood Sugar Level
- Urine Full Ward Test for proteinuria
- Pathology: FBVEEC, Mg, LFTs, CK (add troponin if chest pain)

Additional:
- ECG (if chest pain, SOB, SaO₂ dropping, hypertension, or tachycardia)
- CT brain (if altered conscious state, focal neurological signs, severe headache)

### Management of Medical Complications

**DRABC**
- Remain with patient
- Minimise stimulation in surrounding area
- Explain what is happening to patient and what they can expect (other clinicians arriving)

**Requires urgent medical care (+/- Code Blue) if:**
- BP ≥ 180/120 mmHg
- Chest pain, shortness of breath
- Severe headache
- Seizure
- Sudden neurological changes (eg. speech changes or limb weakness, facial droop, gait disturbance)

**Serotonin syndrome/toxicity:**
- Temp ≥38°C, flushing, sweating, tachycardia, mydriasis
- ↑ reflexes, shivering, tremor, clonus, myoclonus, ocular clonus, ↑ muscle tone/rigidity
- Altered conscious state (including delirium, confusion, disorientation)

### Withdrawal

Withdrawal symptoms can commence within 24 hours of the last dose, peak at day 2-3 after last use and can continue for 2 weeks. Consider polysubstance withdrawal.

Common signs/symptoms of stimulant withdrawal:
- Cravings
- Mood changes including irritability, agitation, low and/or anxious mood, anhedonia, affective instability
- Psychomotor agitation
- ↑ sleep, vivid dreams; ↑ appetite
- Poor memory/concentration
- Fatigue, lack of energy, generalised aches/pains

Management:
- Determine safest environment for withdrawal
- Supportive treatment including diazepam (should be continued for up to two weeks).
- Mx acute physical/MH issues

**Note a high risk of relapse/overdose during this period.**
# Guidelines for the Management of Acute Behavioural Disturbance Due to Amphetamine-Type Stimulant Intoxication

## Step 1 – (Arousal levels 2-3)
Mildly aroused, pacing, still willing to talk reasonably. Moderately aroused, agitated, becoming more vocal, unreasonable and hostile.

### Oral
(Benzodiazepine) **Diazepam** (peak effect at 1–1.5 hrs): 5 to 20mg, repeated every 2 to 6 hours, up to a maximum of 120mg in 24 hours.

### OR
(Anipsychotic) **Olanzapine** (peak effect at 1 to 3 hrs): 5-10mg wafer repeated if necessary every 2 hours to a maximum of 30mg in 24 hours.

Review after 30-60 minutes, repeat if necessary every 2 hours. **If still ineffective, consider Step 2**

## Step 2 – (Arousal levels 3-4)
Moderately aroused, agitated, becoming more vocal, unreasonable and hostile. Highly aroused, possibly distressed and fearful.

### Oral
(Anipsychotic) **Olanzapine** (peak effect at 6hrs): 10-20mg wafer repeated if necessary every 2 to 6 hrs up to a maximum of 30mg in 24 hours.

### PLUS
(Benzodiazepine) **Diazepam** (peak effect at 1–1.5 hrs): 5 to 20mg, repeated every 2 to 6 hours, up to a maximum of 120mg in 24 hours.

Review after 30-60 minutes, repeat if necessary. **If still ineffective, consider Step 3**

## Step 3 – (Arousal levels 4-5)
Refusing oral medication, moderately aroused, agitated, becoming more vocal, unreasonable and hostile. Highly aroused, distressed and fearful; violent toward self, others or property.

### Intramuscular
(Anipsychotic) **Olanzapine** (peak effect at 15 to 45 mins): 10mg may repeat every 2 hrs to a max. of 30mg in 24 hrs

**OR**
**Droperidol** (peak effect at ≤30 mins) 2.5-10 mg IMI, may repeat every 20 mins. to a max. of 20mg in 24 hrs

**OR**
**Zuclopenthixol Acetate** (onset ≤2h, peak effect ~24h) Note: Use only if first psychotic disorder, high likelihood of recurrent agitation/aggression, and maximum daily dose of IM olanzapine inadequate.

1st dose 100mg (lower in elderly or small stature). 2nd dose after 48-72 hrs (min. 24 hrs). 3rd dose after 48-72 hrs (min. 24 hrs). Concurrent IM Benzodiazepine (in separate syringe). Avoid giving other IM antipsychotics.

(Benzodiazepines) **Clonazepam** (peak effect at 3 hrs): 1-2 mg, may repeat after 2 hrs, then every 4 hrs up to 4mg in 24 hrs. **OR**, if more rapid but shorter effect is required, consider **Midazolam** 0.1mg/kg.

## Precautions:
- **Lower doses should be considered in the elderly, patients with low body weight, dehydration or no previous exposure to antipsychotic medication.**
- **Monitor respiratory function when benzodiazepines are administered, especially parenterally.**
- **Monitor postural BP 30 min post-dose.**
- **Monitor ECG, K & Mg, especially if using droperidol & high doses of other antipsychotics.**
- **Monitor ECG, FBE, U&E, Mg, CK and troponin if using zuclopenthixol acetate.**

## Alerts:
- Vigilantly monitor for signs of airway obstruction, respiratory depression and hypotension (esp. Acuphase)
- EPSEs must be monitored and treated.
- Anticholinergic agents NOT to be used routinely but ‘as required’ (PRN); Benztpine 2mg IM may be used for acute dystonias (Max 6 mg/24 hrs).
- Combined use of Olanzapine IMI plus a benzodiazepine is potentially dangerous: a gap of 2 HOURS IS REQUIRED BETWEEN THEIR IM USES.
- IM Midazolam should only ever be prescribed by a consultant and special precautions MUST be followed
- Zuclopenthixol acetate should be prescribed as a course, **NOT as a PRN. ≤4 IMIs, ≤400mg in 2 wks**

## NOTE:
These guidelines are reflective of the local Australian context: other jurisdictions might have other preferred medications.
<table>
<thead>
<tr>
<th>Stage</th>
<th>Definition</th>
<th>Characteristics</th>
<th>Intervention/Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>Individual has no intention to change behaviour in the near future and may not identify a problem with their behaviour.</td>
<td>May appear unmotivated or resistant</td>
<td>Engage; avoid being judgmental</td>
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<td>Avoid information, discussion or thoughts regarding the behaviour</td>
<td>Raise doubt; ↑ awareness of risks/problems a/w using</td>
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<td>Defensive or sometimes passive</td>
<td>Brief interventions: educ⁻, harm red⁻</td>
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<td>Offer DirectLine no.: 1800 888 236</td>
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<td>Contemplation</td>
<td>Individual considering change; ambivalent. Although they may be aware of the benefits, they remain focussed on the costs of change.</td>
<td>Ambivalent about using/stopping</td>
<td>Motivational interviewing, incl:</td>
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<td>Dissonance between “good” and “less good” aspects of using</td>
<td>Decisional balance: evoke reasons for change, risks of not changing; facilitate pt to develop discrepancy</td>
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<td>Might procrastinate</td>
<td>Strengthen self-efficacy for change</td>
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<td>Provide DirectLine no.: 1800 888 236</td>
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<tr>
<td>Determination / Preparation</td>
<td>Making of decision, making plans. Individuals intend to take steps toward change (eg within the next month). This stage is viewed as a transitional rather than a stable phase.</td>
<td>Planning and intending to change</td>
<td>Offer options and assist in developing strategies to change; may incl. discussion of detox, psychotherapy, pharmacotherapy, lifestyle changes</td>
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<tr>
<td>Action</td>
<td>Individual has firmly decided and is making change. May be considered to be within this stage if these modifications have occurred for less than 6 months.</td>
<td>Modifications in behaviour</td>
<td>Support implementation of a plan</td>
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<td>Commitment (verbalised or demonstrated)</td>
<td>Use skill base; problem solve</td>
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<td>Open to suggestions</td>
<td>Support self-efficacy</td>
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<td>Begin to discuss lapses/relapses</td>
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<tr>
<td>Maintenance</td>
<td>Individual’s change in behaviour has been sustained over a period of time.</td>
<td>Works to prevent relapse</td>
<td>Identify and use strategies to prevent relapse; consolidate other activities</td>
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<td>Reports higher levels of self-efficacy</td>
<td>Resolve associated issues/ problems (e.g. mental illness)</td>
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<td>Consolidates gains achieved in the Action stage</td>
<td>Help set new goals</td>
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<td>Less frequently tempted to use</td>
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<tr>
<td>Lapse/Relapse</td>
<td>Individual returns to the behaviour, temporarily (lapse) or for a longer period of time (relapse).</td>
<td>Lapses → Action stage</td>
<td>Anticipate and plan for both</td>
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<td>Relapses → any other stage</td>
<td>Normalise relapse as a common occurrence; empathise, encourage</td>
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<td>Particular feelings of failure/guilt may appear</td>
<td>Assist person to look at why it occurred and make plans to cope with similar situations in the future</td>
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<td>Both can provide valuable learning opportunities</td>
<td>Assist person to renew motivation and efforts</td>
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GUIDELINES FOR THE LONG-TERM MANAGEMENT OF AMPHETAMINE MISUSE AND DEPENDENCE

Assess current patterns of substance use
What, how much, how often (?days off), route, past withdrawal or treatment, past abstinence

2. Assess for and treat comorbidity
- Other substances
- Mental health (eg psychosis, depression)
- Physical health (eg infection, dental, cardiac)

3. Assess risks
- Overdose, toxicity
- Local/systemic infection incl. blood-borne viruses, cardiac/cerebrovascular events, poor dentition, STIs, poor nutrition, dehydration
- Accidental injury, violence (incl. sexual)
- Psychosis, suicidal ideation, worsening of mental state
- Poverty, homelessness, relationship breakdown, unemployment
- Legal difficulties (drug driving, illicit activities to fund use, possession/dealing)

4. Assess for evidence of dependence
A person may be at higher risk of dependence if they:
- Use crystal methamphetamine (“ice”)
- Use frequently and in higher doses
- Inject

5. Assess stage of change and reasons for use
(for each substance)

6. Assess goals of treatment
- Cessation vs cutting back
- Continue or cease other drug use
- Other goals including improving sleep, mental health, physical health, social/occupational functioning

Management

- Harm reduction advice
- Education about stimulants and the potential impact on physical and mental health
- Motivational interviewing matched to stage of change
- Mental and physical health screens (can also be used as part of education)
- Drug and alcohol counselling (may include referral to Addiction Medicine or an external agency)

The management of amphetamine withdrawal is largely supportive, as there is no specific pharmacotherapy at this time. Although many people can safely be managed at home, consider an environment with increased supports in the setting of:
- The use of, or withdrawal from, multiple substances
- Mental health needs requiring immediate management, including an increased risk of harm to self or others
- Physical health needs requiring immediate management
- A lack of a suitable supportive environment in the community

Medication
No specific substitution therapy. Consider mirtazapine, particularly if co-existing anxiety/depression.

Psychosocial interventions
- Motivational Interviewing (MI)
- Cognitive behaviour therapy (CBT)
- Relapse prevention strategies
- Mindfulness-based cognitive therapy (MBCT)
- Acceptance and Commitment therapy (ACT)
- Consider referral to AOD Counselling

Self-help/Peer support groups
- Narcotics Anonymous
- SMART Recovery
- Crystal Meth Anonymous
- New Life Program

Carer support groups
- Family Drug Help (incl. Sibling Support)
- Family Drug Support Australia

Residential Rehabilitation
- DirectLine (1800 888 236) for 24hr info. & referral advice for patients, carers, and clinicians.

Supportive withdrawal management of dependence
Self-help/Peer support groups
- Narcotics Anonymous
- SMART Recovery
- Crystal Meth Anonymous
- New Life Program

Carer support groups
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