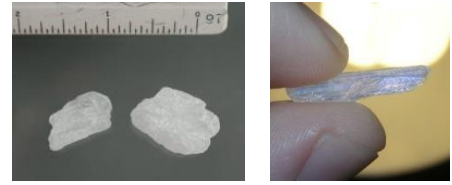




Amphetamines/ Methamphetamine

- **Amphetamine Common Names:** Bennies, hearts, pep-pills, dex, beabs, benn, truck-drivers, ice, jolly beans, black beauties, crank, pink football, dexies, crosses, hearts, LA turnaround)³
- **Methamphetamines Common Names:** Crystal Meth, speed, meth, uppers, crystal, shit, moth, crank, crosses, methlies quick, jib, fire, chalk, glass, go fast, tweak, yaba³



Characteristics (Stimulant)

Amphetamines

- Cause the release of amines dopamine, norepinephrine and serotonin (DA, NE, 5-HT) from central and peripheral neurons³
- Onset of action is 30 minutes after oral ingestion³
- Tolerance and psychic dependence occurs with chronic use³
- Usual dose is 10 to 30mg up to 2000mg/d for tolerant individuals⁵
- The half-life is very variable and depends on the urinary pH: it varies between 7 and 34 hours⁵
- Amphetamines are usually detected in the urine from 1 to 3 days to a maximum of almost 9 days⁵

Methamphetamines

- Synthetic drug chemically related to amphetamine and ephedrine that can be manufactured in “home laboratories” from common household items³
- It enhances the release of DA, NE, 5-HT³
- Crystal “ice” refers to methamphetamine washed in a solvent to remove impurities- smoked in a glass pipe, “chased” on aluminum foil, or injected
- Onset of action is very rapid and can last 10-12 hrs
- A “run” refers to the use of the drug several times a day over a period of several days³
- Usual dose is 5 to 10mg, but can be much higher for individuals who are tolerant.⁵
- Half-life varies between 10 and 30 hours
- 22mg of “ice” can be detected in the urine for up to 60 hours⁵

Presentation during intoxication

Common signs and symptoms of intoxication may include ^{2,3}

Constricted pupils	Sweating	Nausea
Euphoria	Anxiety	Watery eyes
Excitation	Alertness	Hallucinations
Paranoia		

Extreme intoxication signs and symptoms may include ^{2,3}

Aspiration due to depressed consciousness	Hallucinations
Convulsions	Agitation
Increased body temperature	Stroke
Possible death	

Monitoring and Interventions during intoxication

Goal ¹⁰

- Reduce risk of injury

Monitor^{3,10}

- Assess level of disorientation and if possible time of last ingestion and amount consumed
- Monitor for falls risk
- Monitor vitals every 15 minutes initially and less frequently as acute symptoms subside
- Monitor respiratory pathways



Monitoring and Interventions during intoxication (con't)	<ul style="list-style-type: none"> • Monitor risk for seizures Supportive Interventions^{3,10} <ul style="list-style-type: none"> • Provide reassurance and supportive care • Provide privacy if possible to preserve dignity and ensure safety • Institute seizure precaution strategies • Antipsychotics and minor tranquilizers may be used. Antipsychotics should be administered with caution due to their propensity to lower seizure threshold. • Repeated seizures may be treated with intravenous diazepam 																							
Withdrawal presentation (Withdrawal effects peak in 2-3 days)	Withdrawal Symptoms^{3,4} <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Psychosis</td> <td style="width: 25%;">Preoccupation with one's own thoughts</td> <td style="width: 25%;">Distorted sleep</td> <td style="width: 25%;">Difficulty concentrating</td> </tr> <tr> <td>Paranoia</td> <td>Auditory/visual hallucinations</td> <td>Anxiety</td> <td>Depression</td> </tr> <tr> <td>Picking at skin</td> <td>Agitation</td> <td>Chronic fatigue</td> <td>Suicidal/Homicidal Ideation</td> </tr> <tr> <td>Nausea</td> <td>Diarrhea</td> <td>Anorexia</td> <td>Hunger</td> </tr> <tr> <td>Myalgias</td> <td>Diaphoresis</td> <td>Convulsions</td> <td>Headache</td> </tr> </table>				Psychosis	Preoccupation with one's own thoughts	Distorted sleep	Difficulty concentrating	Paranoia	Auditory/visual hallucinations	Anxiety	Depression	Picking at skin	Agitation	Chronic fatigue	Suicidal/Homicidal Ideation	Nausea	Diarrhea	Anorexia	Hunger	Myalgias	Diaphoresis	Convulsions	Headache
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Monitoring and interventions during withdrawal	Goal¹⁰ <ul style="list-style-type: none"> • Reduce drug cravings and manage depression Monitor^{3,10} <ul style="list-style-type: none"> • Mental status (including suicide risk and agitation) • Physical status (including hydration, electrolytes, seizures and possible serotonin syndrome) Interventions^{3,10} <ul style="list-style-type: none"> • Provide a calm and quiet environment • Allow client to eat and sleep as much as desired • Use calming techniques/ reassurance/ supportive measures • Suicide precautions may need to be instituted • Supportive care of excessive sympathomimetic stimulation may be required • Antipsychotics have been used for psychotic symptoms • Antidepressants have been used for depressive symptoms • Dimenhydrinate and Loperamide have been used for GI distress 																							
Potential Complications³	<ul style="list-style-type: none"> • Psychosis can sometimes become chronic • Strokes may occur • Retinal damage may occur due to intense vasospasm • Vasculopathy with or without parenchymal infarction • Hypertensive encephalopathy • Hemorrhage • Chronic intoxication may result in a psychotic state with delusions, hallucinations, and delirium 																							
Drug interactions	With Antidepressants (SNRIs and SSRIs)^{6,7} <ul style="list-style-type: none"> • May enhance general antidepressant effects • May enhance the stimulant effects of tricyclic antidepressants. • Risk of Serotonin syndrome • Most antidepressants inhibit CYP2D6, increasing amphetamine effects (Fluoxetine especially) 		With Varenicline⁸ <ul style="list-style-type: none"> • Reduced effectiveness of varenicline With Moclobemide⁶ <ul style="list-style-type: none"> • Hypertensive Crisis • Serotonin Syndrome With Sodium oxybate⁸ <ul style="list-style-type: none"> • Seizures With Procarbazine⁸ <ul style="list-style-type: none"> • Hypertensive crisis 																					



Drug interactions (Continued)	With Amitriptyline/TCAs⁶ <ul style="list-style-type: none">• Serious risk of arrhythmias and acute elevation in blood pressure• May enhance the stimulatory effect of amphetamines⁸ With MAOIs⁶ <ul style="list-style-type: none">• Hypertensive Crisis• Serotonin syndrome With Antipsychotics³ <ul style="list-style-type: none">• May decrease the effects of both agents With Anticonvulsants⁸ <ul style="list-style-type: none">• Lowers seizure threshold and may cause With Lithium⁶ <ul style="list-style-type: none">• Decrease in amphetamine effect seizures With Ketamine⁸ <ul style="list-style-type: none">• Increases hallucinatory behaviour	With Guanethidine⁸ <ul style="list-style-type: none">• Reduced neuronal blockade With Ritonavir⁹ <ul style="list-style-type: none">• Ritonavir may inhibit CYP2D6-mediated methamphetamine metabolism, increasing risk of toxicity With Cannabis³ <ul style="list-style-type: none">• Increased heart rate• Blood pressure increased with high doses of both drugs• Increased plasma level of cocaine• euphoria With Alcohol⁵ <ul style="list-style-type: none">• May reduce subjective effects of ethanol and may increase blood pressure
Psychiatric effects	<ul style="list-style-type: none">• Stimulants can cause euphoria, exhilaration, alertness, improved task performance, and exacerbation of obsessive-compulsive symptoms³• Amphetamines can cause nervousness, anxiety, insomnia, irritability, restlessness, panic, impulsive or aggressive behaviour³• Methamphetamine may induce anxiety, agitation, confusion, insomnia, delirium, hallucinations, paranoia, and aggressive behaviour³	



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