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| **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
* File:Méthamphétamine pure.jpgFile:Blue Crystal Meth.jpg**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-HT 3
* 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**

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| --- | --- | --- |
| 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 |
| ConvulsionsIncreased body temperaturePossible death | AgitationStroke |

 |
| **Monitoring and Interventions****during intoxication****Monitoring and Interventions****during intoxication (con’t)** | **Goal 10*** Reduce risk of injury

**Monitor3,10*** 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
* Monitor risk for seizures

**Supportive Interventions3,10**

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| * 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
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| **Withdrawal presentation**(Withdrawal effects peak in 2-3 days) | **Withdrawal Symptoms3,4**

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| --- | --- | --- | --- |
| 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 |
|  |  |  |  |

 |
| **Monitoring and interventions during withdrawal** | **Goal10*** Reduce drug cravings and manage depression

**Monitor**3,10* Mental status (including suicide risk and agitation)
* Physical status (including hydration, electrolytes, seizures and possible serotonin syndrome)

**Interventions**3,10* 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 Complications**3 | * 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****Drug interactions**(Continued) |

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| --- | --- |
| **With Antidepressants (SNRIs and SSRIs)** 6,7* 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 Amitriptyline/TCAs6*** Serious risk of arrhythmias and acute elevation in blood pressure
* May enhance the stimulatory effect of amphetamines8

**With MAOIs6*** Hypertensive Crisis
* Serotonin syndrome

**With Antipsychotics**3* May decrease the effects of both agents

**With Anticonvulsants8*** Lowers seizure threshold and may cause

**With Lithium6*** Decrease in amphetamine effect seizures

**With Ketamine8*** Increases hallucinatory behaviour
 | **With Varenicline8*** Reduced effectiveness of varenicline

**With Moclobemide6*** Hypertensive Crisis
* Serotonin Syndrome

**With Sodium oxybate8*** Seizures

**With Procarbazine8*** Hypertensive crisis

**With Guanethidine8*** Reduced neuronal blockade

**With Ritonavir9*** Ritonavir may inhibit CYP2D6-mediated methamphetamine metabolism, increasing risk of toxicity

**With Cannabis** 3* Increased heart rate
* Blood pressure increased with high doses of both drugs
* Increased plasma level of cocaine
* euphoria

**With Alcohol**5* May reduce subjective effects of ethanol and may increase blood pressure
 |

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| **Psychiatric effects** | * Stimulants can cause euphoria, exhilaration, alertness, improved task performance, and exacerbation of obsessive-compulsive symptoms.3
* 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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