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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.jpg](http://upload.wikimedia.org/wikipedia/commons/b/b1/M%C3%A9thamph%C3%A9tamine_pure.jpg)[File:Blue Crystal Meth.jpg](http://upload.wikimedia.org/wikipedia/commons/7/75/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**   |  |  |  | | --- | --- | --- | | 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  Increased body temperature  Possible death | Agitation  Stroke | |
| **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**   |  | | --- | | * 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 Symptoms3,4**   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | 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) | |  |  | | --- | --- | | **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 | |
| **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 |

**References**

1. Kahan, M. (2014). Physical Effects of Alcohol and Other Drugs. In M.Herie & W. Skinner (Ed.), *Fundamentals of Addiction: A Practical Guide for Counsellors* (4th ed., pp. xiii-xviii). Canada: Centre for Addiction and Mental Health.
2. Publishers Group West. (2015). Streetdrugs: a drug identification guide. Long Lake: Publishers group West, LLC
3. Bezchlibnyk-Butler, K., Jeffries, J., Procyshyn, R., Virani, A. (2014). Clinical Handbook of Psychotropic Drugs (20th ed). Toronto: Hogrefe Publishing
4. U.S. Department of Justice Drug Enforcement Administration.(2011). Drugs of Abuse. Retrieved on February 23, 2015, from http://www.dea.gov/pr/multimedialibrary/publications/drug\_of\_abuse.pdf
5. Dean, A. (2006). Illicit Drugs and Drug Interactions. Volume 25, Number 9. Retrieved on February 23, 2015 from https://www.erowid.org/psychoactives/health/health\_article1.pdf
6. Sussex Partnership NHS Foundation Trust. (2014). *Psychotropic Drug Interactions With Illegal Drugs/Non-Drugs*. Retrieved on March 3, 2015, from http://www.sussexpartnership.nhs.uk/sites/default/files/documents/ psychotropics\_and \_non\_drug\_interactions\_-\_feb\_14\_0.pdf. Accessed March 22, 2015.
7. Prior, F.H., Isbister, G.K., Dawson, A.H., Whyte, I.M. (2002). Serotonin toxicity with therapeutic doses of dexamphetamine and venlafaxine. *Med J Aust*, 176(5), 240-1.
8. Lindsey, W.T., Stewart, D., Childress, D. (2012). Drug interactions between common illicit drugs and prescription therapies. *Am J Drug Alcohol Abuse*. 38(4), 334-43.
9. Hales, G., Roth, N., & Smith, D. (2000). Possible fatal interaction between protease inhibitors and methamphetamine. *Antiviral therapy*, *5*(1), 19-22.
10. Townsend, M.C. (2015). *Psychiatric Nursing: Assessment, Care Plans, and Medications.* Oklahoma: F.A. Davis Company.