



Clinical Guidance: Stimulant Use

September 2023

Table 1: Characteristics of Commonly Used Stimulants in Nonpregnant Adults [a]

Stimulant Type [b]	Characteristics [c,d]
<i>Cathinone, Synthetic</i>	
<ul style="list-style-type: none"> • Source and forms: Synthetic substance chemically similar to natural cathinone (khat plant); available as a white or brown crystal-like powder; less expensive substitute for cocaine and amphetamines • Administration: Intravenous, oral, intranasal insufflation, smoking • Patient-reported reason for use: Produce euphoria and alertness; designed to imitate the effects of cocaine, MDMA, and methamphetamines (see below) • Street name: Bath salts 	<ul style="list-style-type: none"> • Onset of action: 30 to 60 minutes (oral) • Half-life: 3 to 6 hours • Symptoms of intoxication: Paranoia, hallucinations, excited delirium, panic attacks, dehydration, rhabdomyolysis, parkinsonism, bruxism, increased temperature, and chest pain • Effects of chronic use: Limited data are available [Riley, et al. 2020]. • Not routinely included in toxicology tests
<i>Cocaine</i>	
<ul style="list-style-type: none"> • Source and forms: Hydrochloride salt derived from the coca plant; available as a powder. Freebase cocaine (crack) is a form of cocaine boiled with another substance, usually baking soda; available as a powder or rock • Cocaine administration: Intravenous, intranasal insufflation, vaginal or rectal as a solution • Freebase cocaine (crack) administration: Can be smoked as a powder or rock; injectable if dissolved • Patient-reported reason for use: Attenuate sedation from other substances (heroin, fentanyl, alcohol), mood enhancement, work enhancement, withdrawal avoidance, euphoria • Street names: Blow, bump, C, candy, coke, girl, perico, piedra, scotty, and rock 	<ul style="list-style-type: none"> • Onset of action: Immediate • Half-life: 40 to 90 minutes • Symptoms of intoxication: Hypersensitivity to sight, sound, and touch; increased temperature; increased pulse rate; blood vessel constriction; tremor; twitching; myocardial infarction; and arrhythmia • Effects of chronic use: Cardiomyopathy, coronary artery disease, weight loss, nutritional deficiencies, erectile dysfunction, menstrual irregularities, chest pain, fatigue, paranoia, confusion, insomnia, depression, deficiencies in attention and response inhibition
<i>MDMA</i>	
<ul style="list-style-type: none"> • Source and forms: Synthetic; available as tablets, capsules, crystals, powder • Administration: Oral, intranasal insufflation • Patient-reported reason for use: Sexual enhancement, improving depression (including in low doses), interpersonal relationship enhancement co-use or collective use • Street names: Ecstasy, Molly, XTC, E, X, and Miley Cyrus • Slang for use: Raving, rolling, ate up (for long-term use) 	<ul style="list-style-type: none"> • Onset of action: 20 to 60 minutes • Half-life: 8 to 9 hours • Symptoms of intoxication: Excessive perspiration, dehydration, hypotension, panic attacks, seizures, loss of consciousness, altered mood and perception, bruxism, tachycardia, urinary retention, nausea, vomiting, fever, tachypnea, dry mouth, serotonin syndrome <ul style="list-style-type: none"> – “Mid-week blues” or “Tuesday blues” may be experienced 3 to 5 days after use and include depressed mood, fatigue, and decreased appetite [Sessa, et al. 2019]. • Effects of chronic use: Neurotoxicity, cognitive deficits, depression, anxiety, aggression, impaired coping, increased suicide risk, insomnia, vascular problems, valvular heart disease, cardiomyopathy • Potential for harms associated with cocaine, methamphetamine, or methcathinone if cut with those substances

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<i>Methamphetamine</i>	
<ul style="list-style-type: none"> • Source and forms: Synthetic; available as a white or clear odorless substance (powder, crystals, or pressed pills) that dissolves easily in water or alcohol • Administration: Intravenous, intranasal insufflation, smoked, oral ingestion, vaginal or rectal as a solution • Patient-reported reason for use: Sexual enhancement, increased work duration and stamina, wakefulness, weight loss, depression, withdrawal avoidance, enhancement of other drug effects, improved function and self-image, sensory enhancement • Street names: Meth, crank, crystal, ice, Tina, speed, water, dope, and ice cream • Slang for use: Tweaking, amping, spun, booty bumping (rectal use of dissolved methamphetamine) 	<ul style="list-style-type: none"> • Onset of action: Immediate • Half-life: 10 hours • Symptoms of intoxication: Euphoria, increased alertness, hypertension, chest pain, tachycardia, seizures, paranoid reactions, aggressive behavior, psychosis, hallucinations (shadows, auditory and visual), grandiosity, delusions, formication, elevated temperature, severe liver damage, overdose • Effects of chronic use: Hypertension, acute coronary syndromes, pulmonary hypertension, cardiomyopathy, skin abscesses, paranoia, anxiety, insomnia, social and occupational deterioration • Bupropion is a cathinone and can cause a false positive result for amphetamines/methamphetamines [FDA 2017].
<i>Prescribed: Amphetamines and Amphetamine Derivatives</i>	
<ul style="list-style-type: none"> • Source and forms: Synthetic medications that may be prescribed for treatment of ADHD or narcolepsy [e]. Includes: Dextroamphetamine-amphetamine (e.g., Adderall, generics), dextroamphetamine sulfate (e.g., Dexedrine, generics), lisdexamfetamine (e.g., Vyvanse), methylphenidate hydrochloride (e.g., Ritalin, Concerta, generics) • Administration: Oral, intravenous, intranasal insufflation • Patient-reported reason for use: Performance enhancement, weight loss, treating depression • Street names: Addies, bennies, dexies, crank, pep pills, ice, speed, uppers, Superman, vitamin R • Slang for use: Speeding, tweaking, spun 	<ul style="list-style-type: none"> • Onset of action: 20 to 60 minutes • Half-life: 6 to 13 hours (depending on formulation) • Symptoms of intoxication: Increased attention, alertness and energy, anorexia, insomnia, weight loss, headache, nausea, vomiting, increased blood pressure and heart rate, motor tics, tremor, agitation, dry mouth, bruxism, irritability • Effects of chronic use: Appetite loss, headache, GI distress, tolerance • Often purchased online
<p>Abbreviations: ADHD, attention-deficit hyperactivity disorder; GI, gastrointestinal; HBV, hepatitis B virus; HCV, hepatitis C virus; MDMA, 3,4-methylenedioxy-methamphetamine; SAMHSA, Substance Abuse and Mental Health Services Administration.</p> <p>Notes:</p> <ol style="list-style-type: none"> For information on the effects of stimulant use on pregnancy, see SAMHSA: Treatment Improvement Protocol (TIP) 33: Treatment for Stimulant Use Disorders > Treatment Considerations for Special Populations > Women (Including Those Who Are Pregnant) and Stimulant Use in Pregnancy: An Under-Recognized Epidemic Among Pregnant Women [Smid, et al. 2019]. Common names and slang for stimulants vary widely and evolve constantly (see Resources, below, for online resources for current information on stimulants, trends in use, and language). Sources: SAMHSA: Treatment Improvement Protocol (TIP) 33: Treatment for Stimulant Use Disorders and Novel Psychoactive Treatment UK Network: NEPTUNE Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances. Sharing of drug-use equipment and stimulant use with sex may increase the risk of acquiring and transmitting HIV, HCV, HBV, and other sexually transmitted and bloodborne diseases. Concerta is indicated for ADHD treatment, not narcolepsy. Lisdexamfetamine (Vyvanse) is also indicated for the treatment of moderate to severe binge eating disorders in adults. 	

References

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