

Fact Sheet: Methamphetamine

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02/24/2025



What Is Methamphetamine?

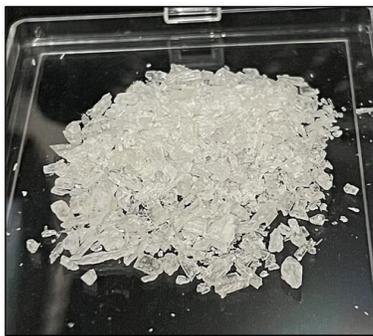


Figure 1. Shards of Methamphetamine Hydrochloride, the Common Version of Crystal Meth

Source: WikiLinuz, CC0, via Wikimedia Commons.

Methamphetamine, or meth, is a powerful stimulant that speeds up the central nervous system, causing increases in heart rate, blood pressure, and how fast the body uses energy (Figure 1). Some forms of amphetamines, similar to meth, can be found in very low doses in medicines to treat health conditions such as attention deficit hyperactivity disorder (ADHD), obesity, or sleep disorders. However, illegal meth is much stronger, more addictive, and very dangerous. Meth use can cause severe damage to the brain and body, leading to addiction, serious health problems, and potentially, death (National Institute on Drug Abuse [NIDA], n.d.-b).

Common Street Names for Methamphetamine

Methamphetamine is commonly referred to as “meth,” “speed,” “crank,” “chalk,” “ice,” “crystal,” or “Tina” (MedlinePlus, 2016).

Be aware of these terms if you are taking substances from friends or people you do not know.

How Habit-Forming or Addictive Is Methamphetamine?

Methamphetamine is one of the most addictive or habit-forming substances ever created. This means that it carries a high risk of causing people to become dependent on using methamphetamine or having a substance use disorder. When a person takes meth, the brain releases a very high amount of the “feel-good” chemical called dopamine, which makes the person feel really excited and euphoric at first. However, over time, the brain gets used to these high amounts of dopamine and starts needing more and more meth just to feel normal or to avoid withdrawal symptoms like nausea, headache, and fever. This makes it especially hard to stop using meth, even when a person wants to quit (NIDA, n.d.-b; Substance Abuse and Mental Health Services Administration [SAMHSA], n.d.-b).

The following table compares the addictiveness of several substances to show how meth, which can release up to 12 times the normal amount of dopamine, is the most addictive of any substance.

Table 1. Comparing Dopamine Release and the Addictiveness of Common Substances

Substance	Increase in Dopamine Release Compared to Normal Activity	Estimated Dopamine Release (nM)*	Addictiveness
Methamphetamine	Up to 1,200%	~1,000–10,000	Extremely high
Cocaine	Up to 350%	~300–500	Very high
Heroin	Up to 200%	~150–200	Very high
Nicotine	Up to 200%	~150–200	High

Sources: Adapted from Volkow & Morales, 2015; Di Chiara & Imperato, 1988.

* nanomolar (nM).

How Is Methamphetamine Misused?

Methamphetamine can be inhaled, smoked, injected, snorted, or taken by mouth. Smoking or injecting meth makes it enter the bloodstream quickly to reach the brain fast, which increases the chance of becoming addicted and can lead to serious health problems (NIDA, n.d.-b).

What Does Methamphetamine Do to Your Body?



Methamphetamine affects chemicals in the brain, like dopamine and serotonin, making the brain want to repeat the activity. While meth gives a quick rush of pleasure and extra energy, it also can increase anxiety, paranoia, and fear, impacting decision-making and mental health. Meth stays in the body long after the intoxication wears off, leading many users to keep taking more to stay intoxicated. This increases the risk of heart attack, stroke, and death (NIDA, n.d.-b). Meth use can also dramatically impact oral health by increasing the risk for severe dental problems, including dental cavities, tooth decay, and missing or filled teeth (American Dental Association, n.d.).

What Is Overamping?

Overamping happens when someone overdoses on methamphetamine, causing dangerous effects on the body and mind. Read below for a summary of the signs and symptoms (National Harm Reduction Coalition, n.d.-a, n.d.-b).

Physical Symptoms

- **High body temperature:** The body can get very hot, which can harm organs.
- **Seizures:** Uncontrolled shaking or convulsions may occur.

- **Heart problems:** A person may experience a fast heartbeat, high blood pressure, chest pain, or even a heart attack.
- **Breathing issues:** Trouble breathing or very fast breathing may occur.
- **Dehydration:** Extreme sweating, vomiting, and diarrhea can make the body lose too much water.

Mental and Behavioral Symptoms

- **Aggressions:** The person might get very angry or violent.
- **Psychosis:** A person may see or hear things that aren't there or feel extremely paranoid.
- **Confusion:** A person may have trouble thinking clearly or feeling lost.
- **Panic:** Feeling very scared or anxious can occur.

What to Do



If you think someone is overamping, call 911 for medical help immediately. Emergency responders might need to cool their body, help with breathing, or treat seizures. If the user mixed meth with opioids, you could administer Narcan® (if available) to temporarily reverse opioid overdose (National Harm Reduction Coalition, n.d.-a, n.d.-b).

Finding Resources and Learning More

- [Overamping Prevention](#) (National Harm Reduction Coalition, n.d.-a).
- [Responding to Stimulant Overamping](#) (National Harm Reduction, n.d.-b).
- [Reducing Harm of Methamphetamine Use](#) (New Hampshire Department of Health and Human Services, 2021).
- Treatment referral and information: [FindTreatment.gov](https://www.findtreatment.gov) (SAMHSA, n.d.-a).
- Utah State University Extension video: "[Opioids and Stimulants in Utah.](#)"

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February 2025
Utah State University Extension
Peer-reviewed fact sheet

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