



# Methamphetamines

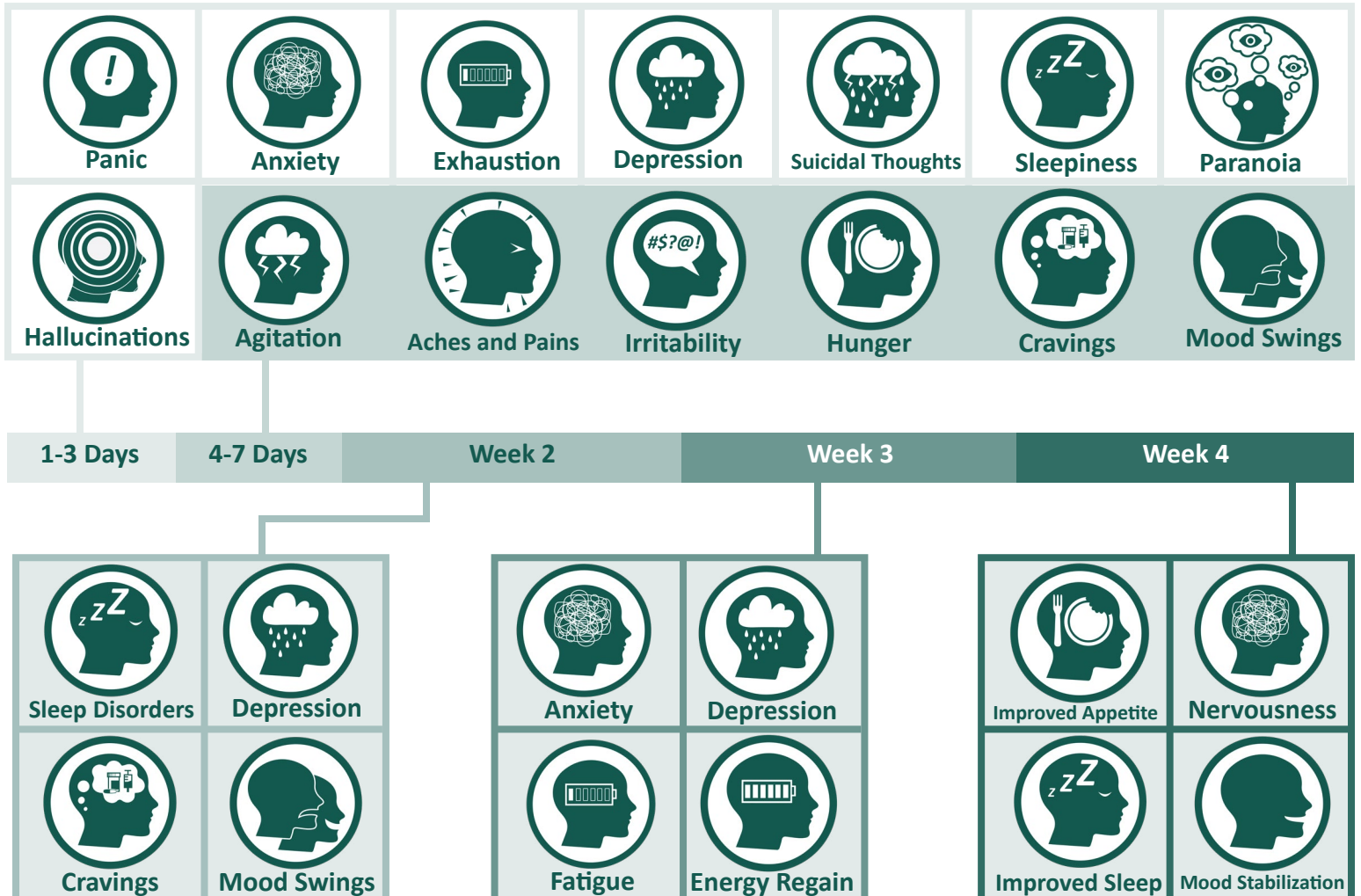
## Background



Over 14.7 million people reported having tried methamphetamine at least once<sup>1</sup>. In some areas of the country, it presents as greater risk than opioids, and the drug most associated with perpetrators of violent crimes.<sup>2-3</sup> Methamphetamine users, compared to users of other drugs, are at an increased risk of repeated contacts with law enforcement.<sup>4-5</sup> In 2017, an estimated 15% of all drug overdose deaths involved methamphetamines, and 50% of those deaths also involving an opioid.<sup>6</sup>

## Effects

Methamphetamine is an extremely addictive psychostimulant, with euphoric effects lasting between 6 to 24 hours.<sup>7</sup> It can be smoked, snorted, injected, or orally ingested. Effects include: decreased appetite, aggressive and/or violent behavior, a feeling of power and self-control, faster breathing, fast or irregular heartbeat, and skin sores from intense itching. Up to 50% of the dopamine-producing cells in the brain can be damaged after prolonged exposure to even very low levels of this drug.<sup>8</sup> Overdose is possible for individuals on methamphetamines, with symptoms such as a higher than average body temperature and increase and irregular heart rate resulting in a heart attack and seizures. If not treated immediately, an overdose can result in organ failure and death. This risk of an overdose can be compounded by poly-substance use.<sup>9</sup>





## Withdrawal

Medical staff should assess the level of prior and recent use, level of substance abuse or dependence, and gauge any symptoms of withdrawal. Screening is key as most users do not think they have a problem. Withdrawal symptoms of methamphetamine can be debilitating and painful. Often the user will take more of the drug to counteract the withdrawal process. Common withdrawal symptoms include: agitation, fever, severe depression, paranoia, insomnia, psychosis, hallucinations, and suicidal thoughts. The acute phase of withdrawal peaks around 2-3 days after last use and usually begins to ease after a week. However, psychological symptoms tend to persist for a longer, some up to a year. Although there are no specific medical treatment for methamphetamine addiction, many withdrawal symptoms can be mitigated by certain medications (e.g. Modafinil, Aripiprazole, and Trazodone).<sup>12 13</sup>

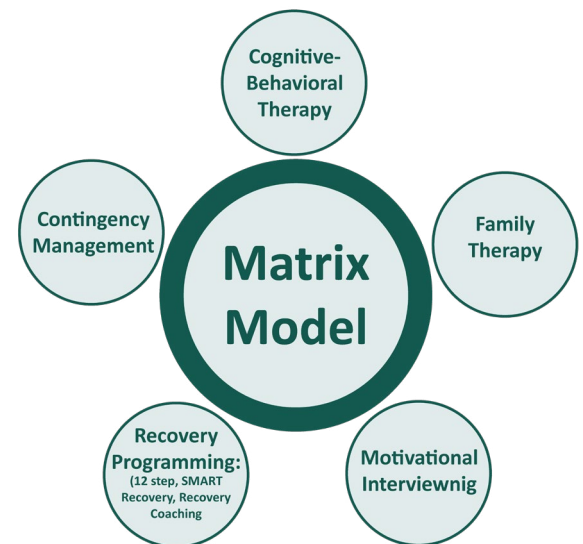
### POST ACUTE WITHDRAWAL SYNDROME (PAWS)

## 3 - 6 Months



## Treatment

The most effective evidence-based treatment model to date is the Matrix Model. The Model combines a number of evidence-based treatments for substance abuse, including cognitive behavioral therapy, contingency management, motivational interviewing, and 12-step facilitation therapy. It also brings together various different components of addiction treatment such as relapse prevention, family and group therapy, addiction education, and peer support groups. The model seeks to establish a positive and collaborative relationship between the therapist and the individual in recovering by working to provide structure and consistency. Individuals learn about the nature of addiction, how their drug use has affected their brain, and what changes they can expect over the course of recovery. This include an understanding of cravings and triggers and how to manage them, as well as building a sober support network. The Model's approach has been proven ideal for treating people addicted to stimulants such as cocaine and methamphetamines.<sup>15</sup> It was also shown to substantially reduce drug use 2 to 5 years after treatment.<sup>16</sup>



People can and do recover from methamphetamine addiction with access to effective treatments that address the many of medical and behavioral health issues resulting from long-term use.

<sup>1</sup>Nicosia, Nancy, Rosalie L. Pacula, Beau Kilmer, Russell Lundberg, and James Chiesa. The economic cost of methamphetamine use in the United States, 2005. No. MG-829-MPF/NIDA. RAND HEALTH SANTA MONICA CA, 2009.

<sup>2</sup>U.S. Department of Justice DEA, Diversion Control Division. National Forensic Laboratory Information System (NFLIS) 2015 Annual Report. 2016.

<sup>3</sup>CHIANG, SHU-CHUAN, HUNG-YU CHAN, CHIUNG-HSU CHEN, HSIAO-JU SUN, HUNG-JUNG CHANG, Wei J. Chen, SHIH-KU LIN, and CHIH-KEN CHEN. "Recidivism among male subjects incarcerated for illicit drug use in Taiwan." *Psychiatry and clinical neurosciences* 60, no. 4 (2006): 444-451.

<sup>4</sup>Håkansson, Anders, and Mats Berglund. "Risk factors for criminal recidivism—a prospective follow-up study in prisoners with substance abuse." *BMC psychiatry* 12, no. 1 (2012): 111.

<sup>5</sup>Cartier, Jerome, David Farabee, and Michael L. Prendergast. "Methamphetamine use, self-reported violent crime, and recidivism among offenders in California who abuse substances." *Journal of interpersonal violence* 21, no. 4 (2006): 435-445.

<sup>6</sup>CDC Wonder Multiple Cause of Death 1999-2018. <https://wonder.cdc.gov/mcd.html>

<sup>7</sup>NIDA. Methamphetamine DrugFacts, 2020. <https://www.drugabuse.gov/publications/drugfacts/methamphetamine>

<sup>8</sup>Methamphetamine Drug Info <https://www.narconon.org/drug-information/methamphetamine-meth.html>

<sup>9</sup>Ibid (CDC Wonder)

<sup>10</sup>Cumming, Craig, Lakkhina Troeung, Jesse T. Young, Erin Keltz, and David B. Preen. "Barriers to accessing methamphetamine treatment: A systematic review and meta-analysis." *Drug and alcohol dependence* 168 (2016): 263-273.

<sup>11</sup>Ibid (Cumming)

<sup>12</sup>Lee, Nicole K., Linda Jenner, Angela Harney, and Jacqui Cameron. "Pharmacotherapy for amphetamine dependence: A systematic review." *Drug and alcohol dependence* 191 (2018): 309-337.

<sup>13</sup> Karila, Laurent, Aviv Weinstein, Henri-Jean Aubin, Amine Benyamina, Michel Reynaud, and Steven L. Batki. "Pharmacological approaches to methamphetamine dependence: a focused review." *British journal of clinical pharmacology* 69, no. 6 (2010): 578-592.

<sup>14</sup>Obert, Jeanne L., Michael J. McCann, Patricia Marinelli-Casey, Ahndrea Weiner, Sam Minsky, Paul Brethen, and Richard Rawson. "The matrix model of outpatient stimulant abuse treatment: history and description." *Journal of Psychoactive Drugs* 32, no. 2 (2000): 157-164.

<sup>15</sup>Huber, Alice, Walter Ling, Steven Shoptaw, Vikas Gulati, Paul Brethen, and Richard Rawson. "Integrating treatments for methamphetamine abuse: A psychosocial perspective." *Journal of Addictive diseases* 16, no. 4 (1997): 41-50.

<sup>16</sup>Rawson, Richard A., Alice Huber, Paul Brethen, Jeanne Obert, Vikas Gulati, Steven Shoptaw, and Walter Ling. "Status of methamphetamine users 2–5 years after outpatient treatment." *Journal of Addictive Diseases* 21, no. 1 (2001): 107-119.