

# METHAMPHETAMINE TREATMENT:

A Practitioner's Reference  
2007

Presented by:  
California Department of Alcohol and Drug Programs



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## A Practitioner's Reference 2007

**Produced by:**

**California Department of Alcohol  
and Drug Programs**

1700 K Street  
Sacramento, Ca 95814  
916-323-1706  
[www.adp.ca.gov](http://www.adp.ca.gov)

**University of California, Los Angeles  
Integrated Substance Abuse Programs**

1640 South Sepulveda Boulevard, Suite 200  
Los Angeles, Ca 90025  
310-267-5444  
[www.uclaisap.org](http://www.uclaisap.org)

This document can be found online at [www.adp.ca.gov](http://www.adp.ca.gov)

# Mission

To lead efforts to reduce alcoholism, drug addiction and problem gambling in California by developing, administering and supporting prevention, treatment and recovery programs.

# Vision

To have Californians understand that alcoholism, drug addiction and problem gambling are chronic conditions that can be successfully prevented and treated.



# Director's Letter

*Dear Practitioner:*

The California Department of Alcohol and Drug Programs (ADP) is pleased to provide California's counties, medical community, and methamphetamine treatment providers and facilities with this new publication: ***Methamphetamine Treatment: A Practitioner's Reference***.



While medical research on the effects of methamphetamine and treatment options for this serious form of drug addiction have been available, this is the first comprehensive compilation of background information and treatment strategies for practitioners ever produced in California. The clinical data and treatment options have been meticulously researched and collected from the foremost medical authorities in the field of methamphetamine addiction.

ADP developed this publication in keeping with the Department's Mission of supporting prevention, treatment and recovery programs for all Californians. The guide also reflects ADP's commitment to its Core Program goals:

- Preventing and reducing illicit drug use.
- Providing accessible, available treatment and recovery services.
- Ensuring safe, effective, efficient, and consistent treatment services that are responsive to client needs.
- Developing sources of information and education for providers, government agencies and the public.

This ***Methamphetamine Treatment: A Practitioner's Reference*** is organized into three segments. Section I provides an overview of methamphetamine and the effects of methamphetamine addiction. Section II offers guidelines for assessment, treatment and recovery, while Section III looks at the impact of methamphetamine on special populations in California. Each chapter in Sections II and III provides documented material on the significant clinical issues surrounding methamphetamine use, followed by a list of suggested treatment strategies – actual action steps – to assist practitioners and others who work with methamphetamine-addicted individuals.

I am immensely proud of this publication and its potential to help practitioners more fully understand methamphetamine addiction and enhance assessment, treatment and recovery services for individuals and families affected by methamphetamine use. We also believe this reference guide will serve as a model for translating the latest research findings into practice for addiction practitioners.

Sincerely,

A handwritten signature in black ink that reads "Kathryn P. Jett". The signature is fluid and cursive.

Kathryn P. Jett  
Director  
California Department of Alcohol and Drug Programs



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# Methamphetamine Use: An Overview

## 1. General Health Effects of Methamphetamine

Prolonged use of methamphetamine has severe psychological and physical effects on the user. In addition, individuals who produce methamphetamine and others who are exposed to methamphetamine lab sites or toxic waste products can suffer serious health consequences.

### Psychological Effects

The major presenting problems for methamphetamine users are psychological:

- Paranoia
- Depression
- Anxiety
- Delusions
- Hallucinations
- Suicidal ideation

Paranoia can progress from mild suspiciousness to a well-developed paranoid delusional condition with auditory hallucinations that often make users clinically indistinguishable from paranoid schizophrenics.<sup>1</sup>

Usually, psychotic symptoms occur only during or following extended binges of methamphetamine use with long-term sleep deprivation. For some people, “delusional flashbacks” occur during extended periods of sobriety. The paranoia and irritability that result from chronic methamphetamine use can lead to domestic abuse, child abuse and neglect, shootings, and knifings.

Chronic use can also lead to persistent symptoms of depression and anxiety. Suicide attempts can occur, especially when an individual is coming down from an extended period of use.

A significant negative consequence of prolonged methamphetamine use is that during the first four to six months after stopping use of the drug – and for some people, even longer – there is a profound inability to feel pleasure (anhedonia). Many recovering methamphetamine users say, “If this is how it’s going to feel to be sober for the rest of my life, I can’t live like this.” These feelings are among the most critical contributing factors to relapse, so it is important to educate clients that for most people, this condition improves with extended sobriety.<sup>2</sup>



### Physical Effects

Chronic use of methamphetamine changes the brain.

- Parts of the brain develop a tolerance to the drug, leading users to take higher doses.
- However, other parts of the brain become oversensitized to methamphetamine, so that with long-term use, even small amounts of the drug can produce delusions and hallucinations.
- Methamphetamine also affects the brain by reducing mental flexibility and the ability to manipulate information, solve problems and think abstractly.<sup>3</sup>
- Recent brain imaging studies have revealed the actual structural damage that methamphetamine inflicts on the brain.<sup>4</sup>

Regular methamphetamine use also can lead to numerous cardiovascular problems, including increased heart rate and blood pressure and irregular heartbeat.

- Smoking methamphetamine can lead to pulmonary hypertension or edema (fluid accumulation),<sup>5</sup> chronic obstructive pulmonary diseases, and other lung ailments.
- Acute methamphetamine intoxication or overdose can lead to severe hyperthermia and convulsions, renal failure, strokes, and heart attacks.<sup>6</sup>

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methamphetamine injectors often develop severe infections at injection sites.

Rates of HIV are relatively low among heterosexual methamphetamine users at this time. However, studies report high-risk sexual

behaviors among samples of methamphetamine-using heterosexual men, women and rural residents,<sup>8</sup> so those rates may increase. The drug-related sexual practices of men who have sex with men (MSM) and use methamphetamine place them at high risk for HIV.<sup>9</sup>

Methamphetamine use affects the skin and the mouth.

- Methamphetamine causes the skin to feel tingling due to blood vessel constriction. This can lead to vigorous scratching.
- Chronic users frequently believe the tingling is caused by bugs crawling under their skin.
- Compulsive scratching and even digging under the skin to remove the “meth bugs” often takes place at this stage and can seriously disfigure the skin and cause permanent damage.
- “Meth mouth,” the rapid decay of teeth and gums, is caused by the acidic nature of the drug, lowered saliva production, methamphetamine-related cravings for sugary soft drinks, poor dental hygiene, and other methamphetamine effects.<sup>10</sup>

The poor nutrition and prenatal care, high cigarette and alcohol use, and lack of sleep and exercise that often accompany methamphetamine use are clearly not conducive to a healthy pregnancy. Research on the effects of methamphetamine on pregnant women and fetuses is in the early stages, but preliminary results from one study have found that prenatal methamphetamine use may cause premature birth, growth problems and developmental disorders among children born to methamphetamine-addicted women.<sup>11</sup>

# Methamphetamine Use: An Overview

## Community Effects

The detrimental consequences of methamphetamine abuse and dependence extend beyond the individual user to his or her family, law enforcement, health and social service system, and the general community. Ingredients used in methamphetamine production are highly toxic, corrosive and/or flammable. For every pound of methamphetamine manufactured, about six pounds of toxic waste is created that is often deposited in backyards, storm drains, parks, or roadsides.<sup>12</sup>

Explosions and fires can occur at lab sites, which are often in homes, garages or barns. Toxic gases and wastes also found at these sites can cause poisoning, burns, lung irritation, organ damage, and cancer. At greatest risk are the residents of the sites, many of whom are children.

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## REFERENCES

1. Y. Sekine, M. Iyo, Y. Ouchi, et al., "Methamphetamine-related psychiatric symptoms and reduced brain dopamine transporters studied with PET," *American Journal of Psychiatry*, 158, No. 8, 2001, 1206-1214.
2. R.A. Rawson, *Methamphetamine: New Knowledge, New Treatments (Clinician's Manual)*, Center City, Minnesota: Hazelden, 2006.
3. T. Sim, S.L. Simon, C. Domier, K. Richardson, R.A. Rawson, and W. Ling, "Cognitive deficits among methamphetamine users with attention deficit hyperactivity disorder symptomology," *Journal of Addiction Disorders*, 21, 2002, 75-89; and S.L. Simon, C. Domier, T. Sim, K. Richardson, R.A. Rawson, and W. Ling, "Cognitive performance of current methamphetamine and cocaine users," *Journal of Addiction Disorders*, 21, 2002, 61-74.
4. P.M. Thompson, K.M. Hayashi, S.L. Simon, et al., "Structural abnormalities in the brains of human subjects who use methamphetamine," *Journal of Neuroscience*, 24, No. 26, 2004, 6028-6036.
5. R. Hong, E. Matsuyama and K. Nur, "Cardiomyopathy associated with the smoking of crystal methamphetamine," *Journal of the American Medical Association*, 265, 1991, 1152-1154.
6. B.B. Hoffman and R.J. Lefkowitz, "Catecholamines and sympathomimetic drugs," A.G. Gilman T.W. Rall, A.S. Nies, R. Taylor, eds., *Goodman and Gilman's The Pharmacological Basis of Therapeutics*, 8th ed., New York, NY: McGraw-Hill, 1993, pp. 187-220; K.C. Lan, Y.F. Lin, F.C. Yu, C.S. Lin, and P. Chu, "Clinical manifestations and prognostic features of acute methamphetamine intoxication," *Journal of Formosan Medical Association*, 97, 1998, 528-533; J.A. Perez, E.I. Arsura and S. Strategos, "Methamphetamine-related stroke: four cases," *Journal of Emergency Medicine*, 17, 1999, 469-471; R. Hong, E. Matsuyama and K. Nur, "Cardiomyopathy associated with the smoking of crystal methamphetamine."
7. R. Gonzales, P. Marinelli-Casey, S. Shoptaw, A. Ang, and R.A. Rawson, "Hepatitis C virus among methamphetamine-dependent individuals in outpatient treatment," *Journal of Substance Abuse Treatment*, 31, 2006, 195-202.
8. Centers for Disease Control and Prevention, "Methamphetamine use and HIV risk behaviors among heterosexual men—preliminary results from five Northern California counties, December 2001–November 2003," *Morbidity Mortality Weekly Report*, 55, No. 10, 2006, 273-277; F. Molitor, S.R. Truax, J.D. Ruiz, and R.K. Sun, "Association of methamphetamine use during sex with risky sexual behaviors and HIV infection among non-injection drug users," *Western Journal of Medicine*, 168, 1998, 93-97; and W. Zule, E. Costenbader, C. Coomes, et al., "Stimulant use and sexual risk behaviors for HIV in rural North Carolina," Manuscript submitted for publication, 2006.
9. G. Colfax, T.J. Coates, M.J. Husnik, et al., and the EXPLORE Study Team, "Longitudinal patterns of methamphetamine, popper (amyl nitrite), and cocaine use and high-risk sexual behavior among a cohort of San Francisco men who have sex with men," *Journal of Urban Health*, 82 (suppl 1), 2005, 62-70.
10. American Dental Association, "Methamphetamine use and oral health," *Journal of the American Dental Association*, 136, 2005, 1491. Available at: <http://www.ada.org/public/topics/methmouth.asp>.
11. A.M. Arria, C. Derauf, L.L. Lagasse, et al., "Methamphetamine and other substance use during pregnancy: preliminary estimates from the Infant Development, Environment, and Lifestyle (IDEAL) Study," *Maternal Child Health Journal*, 10, No. 3, 2006, 292-302.
12. W.C. Holton, "Unlawful lab leftovers," *Environmental Health Perspectives*, 109, No. 12, 2001, A576.



# Methamphetamine Use: An Overview

## 2. Methamphetamine and the Brain

During the past decade, some of the most important research in the drug abuse field has shown that methamphetamine use produces very profound changes in the human brain. These changes affect the way people think, feel and behave. Many of the challenges faced by patients in methamphetamine recovery are a result of how their brain has been affected by using the drug. The good news is that in most respects, the brain can recover from the changes caused by methamphetamine, but this healing takes time.

### CLINICAL ISSUES

#### How Methamphetamine Changes the Brain

During methamphetamine use, levels of key brain chemicals are elevated. Over time, these brain chemicals become depleted, and the nerve cells that produce them are damaged. Brain imaging studies such as PET scans and MRI scans, which essentially “take pictures” of the brain, have shown how methamphetamine changes the way the brain works.

Methamphetamine substantially affects two critical brain chemicals: dopamine and serotonin. Dopamine, the brain’s primary pleasure chemical, plays an important role in memory, judgment and emotions. Serotonin plays a major role in sleep, appetite, sexual behavior, and aggression. Damage to the nerve cells that produce these chemicals becomes increasingly severe as higher doses of methamphetamine are used over longer time periods. Methamphetamine-induced euphoria, psychosis, appetite suppression, and increased energy are all caused by changes in the nerve cells that produce dopamine and serotonin.

#### Effects on the Brain After Methamphetamine Use Stops

Brain imaging has shown that methamphetamine use results in significant injury to the brain. During the early months of recovery, clinical symptoms of brain injury may worsen. The parts of the brain that control memory, judgment, impulse control, and mood states are damaged. As a result, methamphetamine-addicted individuals in recovery show extensive memory problems and have difficulty making good judgments.

Clients also suffer from extreme emotional swings and a profound loss of ability to experience pleasure (anhedonia). One of the most problematic of symptoms during recovery, anhedonia is often expressed by patients with statements like, “If this is how it is going to feel to be sober, I don’t think I can live like this for the rest of my life.”

*Methamphetamine-addicted individuals in recovery show extensive memory problems and have difficulty making good judgments due to significant changes in the brain resulting from use of the drug. Clients also suffer from extreme emotional swings and a profound loss of ability to experience pleasure.*

#### Recovery of Brain Function

Many of the changes in brain functioning are reversible. However, not all effects are reversed according to the same timetable.

- Many, but not all, of the memory deficits appear to recover in the first few weeks of abstinence from methamphetamine.
- Sleep patterns and dream states are disrupted for several months.

- Heightened emotionality can also persist for the first few months of recovery.
- Anhedonia, the flatness and loss of enjoyment in life, lasts for a minimum of four to six months following discontinuation of methamphetamine

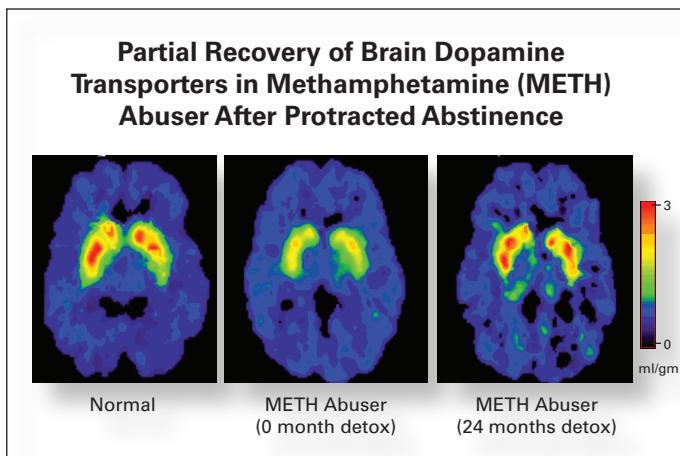
## IMPLICATIONS FOR CLINICIANS

Understanding the specific brain changes produced by methamphetamine and the timetable of the recovery can guide clinicians through the treatment interventions they use. Recent brain research provides useful information to improve treatment outcomes:

- Treatment materials should be simple; the information needs to be repeated to ensure

retention. During early weeks of treatment, clients have difficulty remembering information.

- Clients will need help structuring activities and scheduling their time – hour by hour at the beginning. Treatment techniques that provide very clear behavioral direction are useful.
- Strategies to help clients manage their emotions can be useful (e.g., support groups, physical exercise, engaging in new activities unrelated to drugs). Clients are likely to have heightened emotions during the initial weeks/months of methamphetamine recovery (e.g., anger, anxiety, sadness).
- In-depth, emotion-based counseling methods may be of limited usefulness during the early stages of recovery.
- Teaching clients about why they feel the way they do and making sure they know things will get better with abstinence from methamphetamine is important. Anhedonia is a reality during the initial six months. Encouraging physical exercise and healthy eating and sleeping habits can reduce the severity of this emotional state.



Source: *Journal of Neuroscience*, 2001.

## REFERENCES

Material for this chapter was taken in part from the following:

J.A. Jaffe, W. Ling and R.A. Rawson, "Amphetamines," B.J. Sadock and V.A. Sadock, eds., *Kaplan and Sadock's Comprehensive Textbook of Psychiatry*, Baltimore, Maryland: Lippincott, 2005.

W. Ling, R.A. Rawson and S. Shoptaw, "Management of methamphetamine abuse and dependence," *Current Psychiatry Reports*, 8, 2006.

R.A. Rawson, "Treatment of Stimulant Abuse," TIP #33, Rockville, Maryland: Center for Substance Abuse Treatment, U.S. Department of Health and Human Services, 1998.

R.A. Rawson, R. Gonzales and W. Ling, "Methamphetamine abuse and dependence: An update," *New Directions in Psychiatry*, 26, 2006.

N.D. Volkow, et al., *Journal of Neuroscience*, 21, 2001.



# Methamphetamine Use: An Overview

## 3. Prevalence of Use/Treatment Admissions in California

Estimates from national and state surveys, local public health surveillance information from three large California metropolitan areas, and other studies suggest that methamphetamine use is a growing problem in California.

The number and proportion of methamphetamine treatment admissions in California rose dramatically from 1992 to 1995, with a second rapid increase occurring from 2000 to 2004. The most recent increase may be due in part to additional treatment funds made available with passage of the Substance Abuse and Crime Prevention Act of 2000 (SACPA), also referred to as Proposition 36.

### CLINICAL ISSUES

#### Prevalence of Use: State and National Estimates

The following surveys estimate the number of individuals that used methamphetamine at some time during their life, during the previous year, or during the previous month in California and the nation:

**National Survey on Drug Use and Health (NSDUH).** The NSDUH reports that 7.3 percent of Californians age 12 or over used methamphetamine at some time during their life; 1.2 percent used methamphetamine at some time during the previous year; and 0.6 percent used the drug at some time during the previous 30 days.<sup>1</sup>

National rates were 4.9 percent for lifetime use, 0.6 percent during the previous year,

and 0.2 percent during the previous 30 days,<sup>2</sup> or between 30 percent and 50 percent of California rates.

From 2002 through 2005, the prevalence of use remained stable or declined slightly.<sup>3</sup> However, of those who reported using methamphetamine during the past 12 months, 59.3 percent met the criteria for illicit drug dependence or abuse in 2004 – up from 27.5 percent in 2002.<sup>4</sup>

**California Student Survey (CSS).** The 2005-2006 survey indicates that 7 percent of California 11th-graders had used methamphetamine/amphetamines at some time in their lives (down from about 7.6 percent in 2003-2004), and 3.9 percent had used methamphetamine/amphetamines in the previous 30 days (down from 5 percent in 2003-2004).<sup>5</sup>

#### Prevalence of Use: California Metropolitan Area Estimates

The Community Epidemiological Work Group (CEWG) publishes information about trends in methamphetamine and other drug use for 21 major metropolitan areas, three of which are in California. The following data are from the most recent CEWG report, covering the period to December 2004.

*Estimates from national and state surveys, local public health surveillance information from three large California metropolitan areas, and other studies suggest that methamphetamine use is a growing problem in California.*

**San Diego County.** According to the report, methamphetamine abuse indicators remain high in San Diego compared to indicators for other drugs.<sup>6</sup> The summary does not suggest whether there is a trend.

**San Francisco Bay Area.** The report reveals that methamphetamine use is high compared with other metropolitan areas of the United States, although it may now be leveling off after significant increases during 2001-2004.<sup>7</sup>

**Los Angeles County.** Data from the report suggests increasing patterns of methamphetamine use in Los Angeles County.<sup>8</sup> (Another study of Los Angeles County methamphetamine use relying on NSDUH data estimated that more than 400,000 people used methamphetamine at some time during their life; 60,000 used methamphetamine at some time during the previous year; and 33,000 used methamphetamine at some time during the previous month.<sup>9</sup>)

## Prevalence of Use: Other Findings

Findings from other sources addressing the impact of methamphetamine use in California include the following:

- Methamphetamine was the primary drug for over half of the nonviolent substance abuse offenders who chose treatment as opposed to incarceration under the SACPA in 2004.<sup>10</sup>
- Methamphetamine use in the workplace increased between 1997 and 2004 based on analysis of positive drug test results.<sup>11</sup>
- Methamphetamine-related emergency department visits in 2002 were 91 per 100,000 population in San Francisco (unchanged from 1995); 68 per 100,000 population in San Diego (up 43 percent

from 1995) and 39 per 100,000 population in Los Angeles (up 71 percent from 1995). National rates were 15 emergency department visits per 100,000 population (an increase of 40 percent).<sup>12</sup>

- Methamphetamine-related deaths in the three California Drug Abuse Warning Network (DAWN) monitoring areas (Los Angeles County, San Francisco and San Diego County) were unchanged between 1996 and 2002. (Note: DAWN did not report Los Angeles results after 2000.) However, an analysis of cause-of-death data from the National Center of Health Statistics indicates that statewide deaths increased almost 88 percent between 1999 and 2003.<sup>13</sup>
- Methamphetamine lab seizures declined in California from 1,857 in 2001 to 468 in 2005.<sup>14</sup> This trend may reflect greater reliance on methamphetamine labs in other states or Mexico rather than a decline in actual use of the drug.

## Treatment Admissions

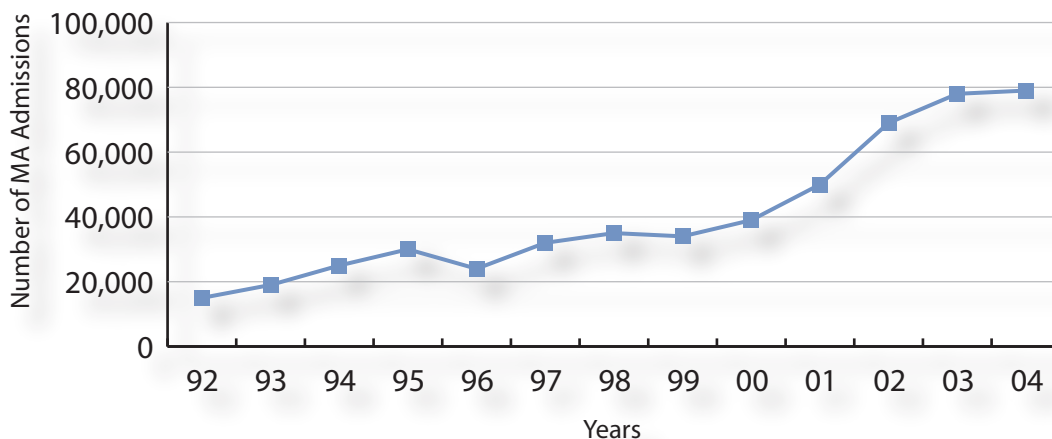
California collects detailed information about publicly funded substance abuse treatment program admissions. (Note: There is no statewide reporting system for privately funded treatment services.) In 2002, methamphetamine/amphetamines became the principal drug of abuse underlying treatment admissions. Changes in the state's demographics and voter approval of Proposition 36 during this period also affected the client characteristics of publicly funded treatment programs in California.<sup>15</sup>

Methamphetamine/amphetamine treatment admissions showed a 500 percent increase from around 13,800 in 1992 to almost 76,000 in 2004 (see Figure 1). For the same period,



# Methamphetamine Use: An Overview

**Figure 1: Treatment Admissions for Methamphetamine/Amphetamines in California**



Source: UCLA Analysis of CADDs Data, 1992-2004

methamphetamine/amphetamines admissions represented a growing proportion of all treatment admissions, increasing from 7 percent of all admissions in 1992 to 33 percent of all admissions in 2004.

Compared to 1992, clients entering methamphetamine/amphetamines treatment programs in 2004:

- Exhibited greater race/ethnic diversity (e.g., the number of Hispanics grew from 12 percent of methamphetamine admissions in 1992 to 33 percent in 2004).
- Were slightly older (the average age rose from 28 in 1992 to almost 32 in 2004).
- Were more likely to be under criminal justice supervision status (44 percent in 1992 vs. 70 percent in 2004).
- Were less likely to be injection drug users (30 percent in 1992 vs. 16 percent in 2004).<sup>16</sup>

## Treatment Outcomes

Researchers at the University of California, Los Angeles recently examined treatment program completion and retention outcomes for clients in treatment during 2000-2002. Their analysis found that 50 percent of residential treatment episodes and 30 percent of outpatient episodes resulted in completion of treatment goals.<sup>17</sup> Residential treatment programs reported an average of 75 treatment days per treatment episode, while outpatient programs reported an average of 130 treatment days per treatment episode.

This study also reported on the relationship between client characteristics and successful treatment outcomes. Researchers found that some client characteristics are associated with less successful treatment outcomes measured by treatment completion and program retention. Specifically, clients with the following characteristics tended to do less well in both residential and outpatient treatment programs:

- Clients with less than a high school degree
- Clients who were younger at treatment admission
- Clients who had a disability
- Clients who had greater severity of methamphetamine addiction
- Clients who were injection drug users<sup>18</sup>

Finally, the study found that clients with criminal justice supervision status at admission had higher completion rates and longer

- Semiannual reports from three major metropolitan areas in California that participate in a national drug surveillance program suggest that methamphetamine has a growing and disproportionate impact on the criminal justice system, health care system, and drug treatment system.

retention in residential and outpatient treatment than did clients without such supervision.<sup>19</sup>

These results underscore the continuing challenge facing the state's drug treatment system in a changing world.



retention in residential and outpatient treatment than did clients without such supervision.<sup>19</sup>

The identification of risk factors associated with noncompletion of treatment and

with shorter time in treatment can provide a basis for targeting specialized services to vulnerable subgroups.

## IMPLICATIONS FOR CLINICIANS

Survey data suggests that while California's rate of methamphetamine use is high when compared to other states and to other illegal drugs, self-reported methamphetamine use has not changed much in the recent years. However:

- Methamphetamine use in California remains higher than in the nation as a whole.

# Methamphetamine Use: An Overview

## REFERENCES

1. These estimates may be low for several reasons. First, there is a tendency for respondents to underreport their illegal behaviors. Second, the NSDUH underreports certain high-risk populations, such as individuals who are incarcerated or homeless. In addition, the prevalence estimates reported above, while recent, are not current. In addition, the state-level estimates use data from the *National Survey of Drug Use and Health, 2002-2004 Sample Based Prevalence Estimates*, Washington, D.C.: Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS), pp. 9-10. Downloaded September 27, 2006, from <http://www.oas.samhsa.gov/2k5states/statePE.doc>.
2. *Results from the 2005 National Survey on Drug Use and Health: National Findings*, 2006, Washington, D.C.: OAS, SAMHSA, DHHS, pp. 224-229. Downloaded September 27, 2006, from <http://www.oas.samhsa.gov/nsduh/2k5nsduh/2k5Results.pdf>.
3. Ibid.
4. *The NSDUH Report: Methamphetamine Use, Abuse, and Dependence, 2002, 2003 and 2004*, Washington, D.C.: OAS, SAMHSA, DHHS, p.1. Downloaded October 2, 2006, from <http://oas.samhsa.gov/2k5/meth/meth.pdf>.
5. The 2005-06 findings are unpublished results from the 11th Biennial California Student Survey. The 2003-04 data are from G. Austin and R. Skager, *10th Biennial California Student Survey of Drug, Alcohol and Tobacco Use 2003-04*, Sacramento, California: California Attorney General's Office, 2004. Downloaded September 28, 2006, from <http://www.safestate.org/index.cfm?navid=254>. The California Student Survey may not be representative of all California students because response rates range between 58 percent and 62 percent possibly due to the requirement that parents agree to allow their child to participate, and because the survey excludes children from most private schools and home-schooled children.
6. National Institute of Drug Abuse, Community Epidemiology Workgroup, "Epidemiological Trends in Drug Use," Rockville, Maryland: National Institutes of Health, June 2005, p 232. Downloaded September 27, 2006, from [http://www.drugabuse.gov/PDF/CEWG/Vol2\\_605.pdf](http://www.drugabuse.gov/PDF/CEWG/Vol2_605.pdf).
7. Ibid, p. 241.
8. Ibid, p. 106.
9. P. Ogawa, *Review of Methamphetamine Use and Costs in Los Angeles County*, 2006, which included data from the NSHUD.
10. D. Longshore, D. Urada, E. Evans, Y-H. Hser, M. Prendergast, and A. Hawken, *Evaluation of the Substance Abuse and Crime Prevention Act, 2004 Report*, UCLA Integrated Substance Abuse Programs, 2005.
11. M-L. Brecht, *Methamphetamine in the Workplace: Report to the California Department of Alcohol and Drug Programs*, UCLA Integrated Substance Abuse Programs, 2005, p. 10.
12. *Drug Abuse Warning Network: The DAWN Report*, Rockville, Maryland: OAS, SAMHSA, DHHS, July 2004. Downloaded September 29, 2006, from [http://dawninfo.samhsa.gov/old\\_dawn/pubs\\_94\\_02/shortreports/files/DAWN\\_tdr\\_amphetamine.pdf](http://dawninfo.samhsa.gov/old_dawn/pubs_94_02/shortreports/files/DAWN_tdr_amphetamine.pdf).
13. *Drug Abuse Warning Network, Mortality Report, 2000*, Washington, D.C.: OAS, SAMHSA, DHHS. Downloaded September 29, 2006, from [https://dawninfo.samhsa.gov/old\\_dawn/pubs\\_94\\_02/mepubs/files/DAWN2000/DAWN2000\\_ME\\_A.pdf](https://dawninfo.samhsa.gov/old_dawn/pubs_94_02/mepubs/files/DAWN2000/DAWN2000_ME_A.pdf)); and Drug Abuse Warning Network Mortality Report: 2002, Washington, D.C.: OAS, SAMHSA, DHHS. Downloaded September 29, 2006, from [https://dawninfo.samhsa.gov/old\\_dawn/pubs\\_94\\_02/mepubs/files/DAWN2002/DAWN\\_B\\_ME.pdf](https://dawninfo.samhsa.gov/old_dawn/pubs_94_02/mepubs/files/DAWN2002/DAWN_B_ME.pdf). Statewide methamphetamine-related deaths from unpublished data provided by California Department of Health Services (DHS), Vital Records Branch record system. The federal DAWN program death tracking system may use different criteria for identifying a death as methamphetamine related than does DHS. In addition, DAWN data are limited to three large counties – accounting for almost 38 percent of California's population – whereas DHS data reports statewide deaths where methamphetamine is a factor in the death of an individual.
14. Drug Enforcement Administration, "Briefs and Background: Drugs and Drug Abuse, State Fact Sheets, California." Downloaded October 2, 2006, from <http://www.dea.gov/pubs/states/californiap.html>.
15. California Department of Alcohol and Drug Programs (ADP), California Alcohol and Drug Data System (CADDs), 1992-2004. Drug treatment providers receiving state or federal funding as well as all providers licensed to provide narcotics replacement therapy must report data to ADP on each client admitted to their program. CADDs does not include information on most privately funded treatment programs. The admission trend analysis includes all admission records in calendar years 1992-2004 with either methamphetamine or other amphetamines as primary drug of abuse. This analysis does not distinguish multiple client admissions.
16. UCLA and ADP analysis of CADDs data.
17. M-L. Brecht, L. Greenwell and M.D. Anglin, "Methamphetamine treatment: trends and predictors of retention and completion in a large state treatment system, 1992-2002," *Journal of Substance Abuse Treatment*, 29, No. 4, 2005, 300. This analysis combined multiple CADDs records for each individual in treatment into single longitudinal episode records using data on admission to treatment and subsequent referral(s) to treatment. This analysis also used the last treatment type to define the episode.
18. M-L. Brecht, L. Greenwell and M.D. Anglin, "Methamphetamine treatment: trends and predictors of retention and completion in a large state treatment system, 1992-2002," *Journal of Substance Abuse Treatment*, 29, No. 4, 2005, 295-306.
19. Ibid., p. 302.



# Methamphetamine Use: An Overview

## 4. Methamphetamine Myths

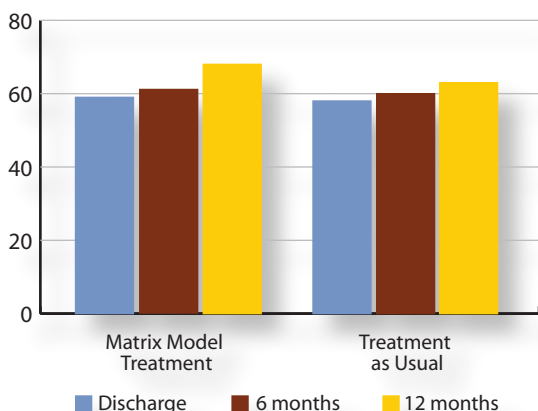
Methamphetamine has received a large volume of media attention recently, and the topic ranks among the most frequently presented issues at conferences around the country. This has led to the dissemination of a great deal of accurate information. Unfortunately, however, it has also led to the spread of many myths.

The information that follows presents a few of the most prevalent methamphetamine myths – and the facts.

### Myth #1: Methamphetamine dependence is not treatable.

**The Facts:** Across research studies with methamphetamine, relapse rates appear to be about equal to what is seen in studies of cocaine dependence. For example, in the Methamphetamine Treatment Project, funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), approximately 60 percent of participants reported no methamphetamine use in the previous month and provided a methamphetamine-negative urine sample<sup>1</sup> (see Figure 2).

**Figure 2. Abstinence Rates: Percent Reporting No Methamphetamine Use (past 30 days)**



### Myth #2: The average length of time from first use of methamphetamine to death is five years.

**The Facts:** There is no data available that details the average length of time between initiation of methamphetamine use and death from methamphetamine. However, in recent research studies conducted on more than 1,000 methamphetamine users, the average length of time of methamphetamine use for clients prior to entering the treatment study was about 7½ years. This number appears to be consistent across methamphetamine treatment studies.<sup>2</sup>

*Methamphetamine causes specific problems that must be addressed in treatment. Methamphetamine users often have memory and concentration problems, making it difficult for them to plan for appropriate activities ... [and] stay away from situations which may pull them back to use. Users may also fail to get treatment. Due to the high-energy, chaotic life that accompanies stimulant use, helping a methamphetamine user join a treatment program requires providers to take certain steps.*

### Myth #3: Methamphetamine causes holes in the brain.

**The Facts:** It is true that methamphetamine changes the way the brain functions. The idea that methamphetamine causes actual holes in the brain results from a misunderstanding of the images that are created using complex scanning machines.

Functional MRI (magnetic resonance imaging) scans showing brain activity depict areas of low or no activity as holes. These scans depict functional changes, not the actual structure of

the brain. In other words, the apparent “holes” in the image indicate areas in the brain that are inactive, not holes in the structure of the brain.

#### **Myth #4: Using methamphetamine once results in addiction.**

**The Facts:** It is true that methamphetamine is powerfully reinforcing and that people generally report positive effects on their first

use. However, as with all substances, dependence develops with repeated use.

This myth is very dangerous, especially to younger users. If people are able to use

methamphetamine once and then not use it again for a long period of time, they may come to one of two conclusions: (1) they can use methamphetamine and not become dependent, since this did not happen with their first use; or (2) since this message about addiction was not true, none of the messages about the dangers of methamphetamine should be believed.

#### **Myth #5: No special treatment is needed for methamphetamine users.**

**The Facts:** Methamphetamine causes specific problems for the user that must be addressed in treatment. For instance, methamphetamine users often have memory and concentration problems, making it difficult for them to plan for appropriate activities or manage their time

in such a way that they stay away from situations which may pull them back to use. Users may also fail to get treatment. Due to the high-energy, chaotic life that accompanies stimulant use, helping a methamphetamine user join a treatment program requires providers to take certain steps.

AMHSA’s Treatment for Stimulant Use Disorders (TIP 33) recommends establishing good treatment attendance by scheduling frequent contacts; using positive incentives to reinforce participation in treatment; calling no-shows to encourage attendance and reschedule sessions; and creating a comfortable, safe treatment environment.<sup>3</sup>

Additionally, highly structured interventions that guide the person from one step to the next in gaining sobriety and entering treatment increase the likelihood of success. About 1½ months after stopping use, clients often experience a prolonged period of significant depressive feelings and find it difficult to find pleasure in anything (anhedonia). These feelings are signs that the brain is healing. If the person can be helped to understand that this process is normal, and if support can be provided for getting through this period, he or she will experience relief on the other side. However, this sudden depressive shift can take unprepared users (and treatment providers) by surprise and lead to relapse.<sup>4</sup>

#### **Myth #6: Methamphetamine is used primarily by White male bikers and truck drivers.**

**The Facts:** Methamphetamine use in these populations is well-documented. However, methamphetamine has spread far beyond these groups, and high rates of use are seen among extremely diverse groups of people.



# Methamphetamine Use: An Overview

According to the California Alcohol and Drug Data System (CADDs), 43 percent of those entering treatment for amphetamines in California were female, and 11 percent were under the age of 21.<sup>5</sup> Ethnic groups other than Whites are also represented among treatment admissions, with 25 percent Latinos, 3.9 percent Asian Pacific Islanders, 4.4 percent American Indians, and 4.3 percent African-Americans.

## IMPLICATIONS FOR CLINICIANS

- A number of myths remain in circulation concerning the treatability, lethality and addictiveness of methamphetamine.
- Several myths also exist about the effect of methamphetamine on the brain and whether users need special treatment.
- While studies continue on many aspects of methamphetamine use, research has already provided facts on these issues that dispel these myths.

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## REFERENCES

1. R.A. Rawson, P. Marinelli-Casey, M.D. Anglin, et al., and the Methamphetamine Treatment Project Corporate Authors, "A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence," *Addiction*, 99, No. 6, 2004, 708-717.
2. Ibid.
3. *Treatment Episode Data Set (TEDS)*, Washington, D.C.: Office of Applied Studies (OAS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS), 2004. Available at: <http://www.dasis.samhsa.gov/webt/quicklink/CA04.htm>.
4. J.L. OJbert, M.J. McCann, P. Marinelli-Casey, et al., "The matrix model of outpatient stimulant abuse treatment: history and description," *Journal of Psychoactive Drugs*, 32, No. 2, 2000, 157-164.
5. *Treatment Episode Data Set (TEDS)*, Washington, D.C.: OAS, SAMHSA, DHHS, 2004. Available at: <http://www.dasis.samhsa.gov/webt/quicklink/CA04.htm>.





# Methamphetamine Use: An Overview

## 5. Methamphetamine and Criminal Justice

Methamphetamine-addicted individuals are involved in all forms of property crime and crimes of violence. Recent reports suggest that identity theft crime has also become widespread among methamphetamine users. The continuing spread of methamphetamine addiction has placed an increasing strain on all aspects of California's criminal justice system and presents a unique challenge to treatment professionals.

From a treatment perspective, however, it has been found to be a myth that people in the criminal justice system who are addicted to methamphetamine do not respond successfully to treatment. These individuals respond as well to treatment as do other criminal offenders involved with drugs.

### CLINICAL ISSUES

#### Prevalence of Methamphetamine Use Among California Offenders

The increasing use of methamphetamine among offenders is reflected in urine testing conducted with arrestees in California. Methamphetamine use rates almost tripled from 1991 to 2001<sup>1</sup> (see Table 1).

In 2003, the number of arrestees in four California cities (Los Angeles, Sacramento, San Diego, and San Jose) who tested positive for methamphetamine use was even greater. Among males, the positive rate ranged from 28.7 percent in Los Angeles to 37.6 percent in Sacramento. Among females, the positive rate ranged from 18.5 percent in Los Angeles to 47.1 percent in San Diego.<sup>2</sup>

#### Prison-Based Treatment and Aftercare

Nationwide, 21 percent of all individuals in prison are incarcerated for a drug-related offense.<sup>3</sup> Similarly, in the California prison system, 21 percent are incarcerated for a drug-related offense. An additional 21 percent are incarcerated for a property offense, which in many cases was related to drug use.<sup>4</sup> Yet, up to two-thirds of state prison inmates self-report a history of regular drug use, and one-half report using drugs daily in the month before arrest.<sup>5</sup>

Attempts to break the cycle of drug use and crime have included providing drug treatment to offenders in prison. The most common treatment modality used in prisons is the therapeutic community (TC). In California, TC programs provide treatment to a large number of methamphetamine-addicted clients.

**Table 1. Average Methamphetamine Positive Rates Among Arrestees Across Arrestee Drug Abuse Monitoring (ADAM) Project Sites, 1991 and 2001**

	1991	2001
All U.S. cities	2.1%	10.7%
California cities	11.1%	31.7%

Source: Yacoubian and Peters, *Journal of Drug Education*, 2004

Of the inmates in prison-based TC treatment programs, 55 percent reported having used methamphetamine. Among these inmates, it was found that:



- The average age of the time of first use was 20 years.
- 41 percent reported using methamphetamine daily in the six months prior to their incarceration.
- 53 percent reported methamphetamine as their primary problem drug.

Return-to-prison statistics reveal that methamphetamine-addicted individuals are among the highest at risk for re-offending and being returned to prison. However, in California, inmates who parole from in-prison TC treatment programs can choose to participate in six months of community-based treatment following release to parole (i.e., aftercare).

Data from a five-year evaluation of in-prison TC treatment programs revealed the following:

- More people addicted to methamphetamine and cocaine/crack chose to enter aftercare following prison-based TC treatment than did individuals addicted to other drugs (40 percent vs. 30 percent).
- Methamphetamine-addicted clients who entered aftercare remained in treatment longer than did people addicted to other drugs (134 days vs. 127 days).
- Methamphetamine-addicted clients who entered aftercare were also less likely to be returned to custody within 12 months of release from prison compared to methamphetamine-addicted individuals

who chose not to enter aftercare (23 percent vs. 29 percent).<sup>6</sup>

## Proposition 36 / Substance Abuse and Crime Prevention Act of 2000

In 2000, California voters approved the Substance Abuse Crime and Prevention Act (SACPA), also known as Proposition 36. SACPA requires that nonviolent adult drug offenders be offered treatment in lieu of incarceration.

- Since the law's implementation in 2001, more than 30,000 offenders have received SACPA treatment each year.<sup>7</sup>
- The majority of offenders entering SACPA treatment are methamphetamine users, and the number has risen slightly each year since the law was implemented.<sup>8</sup>
- In 2003-2004, 52.7 percent of these offenders reported methamphetamine as their primary drug of abuse. For 2004-2005, this number increased to over 55 percent.

About one-half of SACPA methamphetamine users were introduced to substance abuse treatment for the first time.<sup>9</sup> Successful treatment outcomes, wherein the client completes the prescribed course of treatment and complies with all treatment requirements, are as common among methamphetamine users as among users of other drugs. This contradicts the myth that methamphetamine users are more difficult to treat and less successful in treatment. In general, SACPA participants who completed treatment had fewer arrests and relapses to drug use than those who did not enter treatment or those who entered, but did not complete, treatment.<sup>10</sup>

# Methamphetamine Use: An Overview

## Drug Courts

Since the implementation of Proposition 36, many drug courts in California have assumed the task of handling more serious offenders who fail SACPA treatment or who are in need of higher levels of case management and judicial supervision.

- Drug courts involve either the immediate application of positive reinforcement in response to participants' successes or jail sanctions in response to failures.
- This structure benefits methamphetamine users, who have been shown to respond well to contingency-based treatment strategies and who may suffer cognitive impairment resulting from methamphetamine addiction.
- Drug courts offer long treatment periods, address co-occurring mental health disorders, and involve intensive judicial supervision and monitoring.
- Finally, like Proposition 36, the collaborative nature of the drug court promotes treatment planning and services integration.<sup>11</sup>

In a recent study, methamphetamine-addicted individuals were treated in eight clinic sites in California, Montana and Hawaii. Clients at one site were enrolled in drug court, while at all other sites clients voluntarily enrolled in non-drug court treatment. A comparison across sites indicated that methamphetamine users treated in the drug court program were retained in treatment longer, completed treatment at a higher rate, and gave fewer methamphetamine-positive urine samples than clients in the non-drug court programs.

At the 12-month, postadmission follow-up, the superior performance of the drug court clients

was sustained.<sup>12</sup> These data clearly support the use of drug courts for treating methamphetamine users.

## IMPLICATIONS FOR CLINICIANS

Various treatment initiatives in California over the last decade, combined with the increasing epidemic of methamphetamine addiction in California and across the nation, have resulted in a substantial

increase in the number of methamphetamine-addicted clients seeking and receiving treatment. The continued treatment of methamphetamine-addicted individuals at all stages of the criminal justice system is critical to helping break the cycle of drug use and crime.

The good news is that treatment for methamphetamine users in the criminal justice system is effective.

- Prison-based TC treatment combined with aftercare has been shown to reduce relapse to drug use and return of offenders to prison.
- Proposition 36 has shown that close, proactive collaboration between law enforcement, courts, probation/parole, and treatment providers is possible and can lead to successful treatment for nonviolent adult offenders addicted to methamphetamine.

*Attempts to break the cycle of drug use and crime have included providing drug treatment to offenders in prison. The most common treatment modality used in prisons is the therapeutic community (TC). In California, TC programs provide treatment to a large number of methamphetamine-addicted clients. Of the inmates in prison-based TC treatment programs, 55 percent reported having used methamphetamine.*

Successes from the implementation of SACPA and drug courts can be modeled to effectively combat methamphetamine addiction. A piecemeal approach targeting only the criminal justice system or only the treatment system is ineffective.

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## REFERENCES

1. G.S. Yacoubian and R.J. Peters, "Exploring the prevalence and correlates of methamphetamine use: findings from Sacramento's ADAM program," *Journal of Drug Education*, 34, No. 3, 2004, 281-294.
2. Z. Zhang, "Drug and alcohol use and related matters among arrestees," Washington, D.C.: National Institute of Justice, 2003. Available at: <http://www.ncjrs.gov/nij/adam/ADAM2003.pdf>.
3. *Prisoners in 2004* (NCJ 210677), Washington, D.C.: Office of Justice Programs, Bureau of Justice Statistics, U.S. Department of Justice, 2005.
4. L. Lowe, "A profile of the young adult offender in California prisons as of December 31, 1989-1994" (Prepared for the Substance Abuse Research Consortium), Sacramento: Office of Substance Abuse Programs, California Department of Corrections, Spring 1995.
5. A. Beck, D. Gilliard, L. Greenfield, C. Harlow, T. Hester, L. Jankowski, T. Snell, and J. Stephan, *Survey of state prison inmates, 1991*, Washington, D.C.: Bureau of Justice Statistics, U. S. Department of Justice, 1993; and M.R. Chaiken, *In-prison programs for drug-involved offenders* (NCJ 117999), Washington, D.C.: National Institute of Justice, U. S. Department of Justice, 1989.
6. M.L. Prendergast and D. Anglin, "Evaluation of the 1,000-bed expansion of therapeutic community treatment programs for prisoners," Unpublished raw data, 2006.
7. D. Longshore, D. Urada, E. Evans, Y. Hser, M. Prendergast, and A. Hawken, *Evaluation of the Substance Abuse and Crime Prevention Act: 2004 Report*, University of California, Los Angeles (UCLA), Integrated Substance Abuse Programs (ISAP), 2005; D. Longshore, D. Urada, E. Evans, Y.I. Hser, M. Prendergast, A. Hawken, T. Bunch, and S. Ettner, *Evaluation of the Substance Abuse and Crime Prevention Act: 2003 Report*, UCLA, ISAP, 2004; and D. Longshore, E. Evans, D. Urada, C. Teruya, M. Hardy, Y.I. Hser, M. Prendergast, and S. Ettner, *Evaluation of the Substance Abuse and Crime Prevention Act: 2002 Report*, UCLA, ISAP, 2003. Available at: <http://www.uclaisap.org/Prop36/html/reports.html>.
8. Ibid.
9. A. Bailey and J.M. Hyes, "Who's in prison?: The changing demographics of incarceration," *California Counts: Population Trends and Profiles*, 8, No. 1, 2006, 1-25.
10. D. Longshore, A. Hawken, D. Urada, and M.D. Anglin, SACPA Cost Analysis Report (*First and Second Years*), prepared for the Department of Alcohol and Drug Programs, California Health and Human Services Agency, UCLA, ISAP, 2006.
11. *Drug courts: An effective strategy for communities facing methamphetamine* (NCJ 209549), Washington, D.C.: Office of Justice Programs, Bureau of Justice Assistance, U.S. Department of Justice, 2005.
12. R.A. Rawson, P. Marinelli-Casey, M.D. Anglin, A. Dickow, Y. Frazier, C. Gallagher, G.P. Galloway, J. Herrell, A. Huber, M.J. McCann, J. Obert, S. Pennell, C. Reiber, D. Vandersloot, J. Zweben, and the Methamphetamine Treatment Project Corporate Authors, "A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence," *Addiction*, 99, 2004, 708-717.

## 6. Guidelines for Assessment and Treatment Planning

Providing effective treatment typically requires appropriate assessment across a range of factors. Although methamphetamine has properties similar to those of other stimulants (e.g., cocaine), it also has unique characteristics that should be noted during assessment and treatment.

Patients may benefit from recent research suggesting who may need more extensive/intensive treatment episodes. However, since research has not provided definitive answers, comprehensive assessment of methamphetamine-addicted clients must be based on a common sense approach and should include the collection of information across multiple domains – demographic, drug use and treatment characteristics – to be addressed in treatment planning and the recovery process.

### CLINICAL ISSUES

The following critical assessment issues are of particular concern with clients addicted to methamphetamine and should be included in the initial assessment process.

#### Psychotic Characteristics

Methamphetamine users frequently become psychotic (i.e., gross mental impairment characterized by delusions, hallucinations incoherent speech, agitated behavior, loss of touch with reality) from using methamphetamine.

- Psychotic individuals require the immediate attention of a physician and should not be admitted into substance abuse treatment that does not have on-site medical/psychiatric staffing.

- Psychotic individuals can be dangerous to themselves and others around them.
- Facilities without medical/psychiatric staff should arrange to have psychotic individuals transported to an appropriate facility (e.g., hospital emergency room, mental health center with emergency services, etc.).

#### Paranoid Characteristics

Methamphetamine-addicted individuals very commonly present at substance abuse treatment centers with substantial levels of anxiety and paranoia. Typically, the symptoms do not reach the level of psychosis, but thinking is impaired, and clients experience considerable anxiety.

Care should be taken in interviewing these clients as they can be somewhat unpredictable and suspicious. A very nonaggressive, nonconfrontational interview style should be used to avoid exacerbating client anxiety and fearfulness.

#### Current Physical Safety

Many methamphetamine-addicted adults live in settings of severe violence and physical danger (e.g., labs or drug sales locations). When a methamphetamine-addicted client being assessed currently lives with another





active methamphetamine user, he or she is at very high risk for violence. This is particularly true for women, who are at risk for physical and sexual assault. Any treatment plan has to begin by making the foremost effort to ensure that the client will be living in a safe environment.

## Safety and Well-being of Dependent Minors

Children living in an environment where methamphetamine is being used or manufactured are at very high risk for abuse and neglect.

When assessing a methamphetamine-addicted client for treatment, it is critically important to determine if the children in the household are currently safe and/or if there is any indication of neglect or violence. If this is the case, proper reporting requirements must be followed to ensure the children's safety.

*Comprehensive assessment of methamphetamine-addicted clients must be based on a common sense approach and should include the collection of information across multiple domains – demographic, drug use and treatment characteristics – to be addressed in treatment planning and the recovery process.*

## Cognitive Dysfunction

Research has established that when methamphetamine-addicted individuals discontinue drug use, their memory and other cognitive functions are not operating normally. Very severe cognitive/memory impairment will make it impossible for clients to remember any treatment instructions. During assessment and initial treatment sessions, having a family member or close friend accompany the client to assist him or her in remembering treatment plan details can prove helpful.

## Medical and Dental Condition

Methamphetamine causes medical problems for individuals addicted to the drug. Medical evaluations are a desirable element in the assessment process because methamphetamine produces damage to the brain, heart, lungs, liver, and skin. In addition, use of the drug results in very rapid and severe damage to the teeth. Referrals to dentists are valuable elements in treatment plans for methamphetamine-addicted clients.

## Recent Sexual History

Because the drug promotes sexual activity, users of methamphetamine are at risk for sexual trauma and sexually transmitted diseases. A sensitive, professional assessment of these issues is important. If problems related to sexual history are suspected, referrals to appropriate medical personnel are required.

## Route of Administration

Injection methamphetamine use is accompanied by far more severe medical and psychiatric dysfunction than intranasal and smoking routes of administration. Injectors should be considered for the most intensive level of care available whenever possible.

## Daily Methamphetamine Use

Addicted individuals who use methamphetamine on a daily basis (minimum 25 of the past 30 days) have a poorer prognosis than individuals who use the drug on a more episodic basis. For these clients, who need more intensive care, strategies to promote patient engagement and retention are essential.

# Assessment, Treatment and Recovery

## TREATMENT STRATEGIES

### Assessment Methods

Typically, the first assessment task is to determine the severity of drug use and the status of client functioning in important life areas (e.g., legal, family, medical, psychiatric).

- Use assessment interviews such as the Addiction Severity Index (ASI), which can determine patterns and severity of use and current use. ASI can also assess client functioning in six other important domains.
- Conduct biological tests (e.g., urine tests), which are important tools for providing objective evidence of drug use and getting information on how recently drugs were used by the client.

### Essential Treatment Elements

For all clients, practitioners should:

- Include a range of treatment components, particularly those that address cognitive deficits.
- Suggest social support such as that found in 12-Step groups.
- Offer medical and psychiatric care, to include acute emergency situations.
- Tailor individualized treatment plans to the client's use history, including severity of dependence and mode of administration.

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## REFERENCES

Material for this chapter was taken in part from the following:

*Diagnostic and Statistical Manual of Mental Disorders*, 4th ed., DSM-IV, Washington, D.C.: American Psychiatric Association, 2002.

K.R. Dyer and C.C. Cruickshank, "Depression and other psychological health problems among methamphetamine dependent patients in treatment: implications for assessment and treatment outcome," *Australian Psychologist*, 40, 2005.

M. Hillhouse, P. Marinelli-Casey, C. Reiber, and R.A. Rawson, *The CSAT Methamphetamine Treatment Project: Predictors of Outcome*, Poster presented at 65th Annual Meeting of the College on Problems of Drug Dependence, Bar Harbor, Florida, June 2003.

P. Marinelli-Casey, M. Hillhouse and R.A. Rawson, *Assessing psychological disorders among methamphetamine users: the Multiyear Methamphetamine Treatment Follow-Up Study*, Poster presented at 67th Annual Meeting of the College on Problems of Drug Dependence, Orlando, Florida, June 2005.

A.T. McLellan, H. Kushner, D. Metzger, et al., Addiction Severity Index, 5th ed., *Journal of Substance Abuse Treatment*, 9, 1992.

N. Petry, J.M. Peirce, M.L. Stitzer, et al., "Effect of prize-based incentives on outcomes in stimulant abusers in outpatient psychosocial treatment programs," *Archives of General Psychiatry*, 62, 2005.

R.A. Rawson, R. Gonzales, P. Marinelli-Casey, A. Ang, and the Methamphetamine Treatment Project Corporate Authors, *Methamphetamine dependence: a closer look at route of administration*, University of California, Los Angeles, Integrated Substance Abuse Programs, Manuscript submitted for publication, 2006.

R.A. Rawson, R. Sodano and M. Hillhouse, "Assessment of amphetamine use disorders," D. Donovan and G.A. Marlatt, eds., *Assessment of Addictive Disorders*, New York: Guilford Press, 2005.





## 7. Treating Methamphetamine-Dependent Individuals

Best practices for treating methamphetamine-dependent individuals have much in common with those used in treating clients with other substance use disorders, especially cocaine dependence. Indeed, various effective psychosocial treatments for cocaine use are also effective in treating methamphetamine dependence. However, treatment providers must address a number of important clinical issues unique to methamphetamine users.

### CLINICAL ISSUES

#### Characteristics of Methamphetamine Users

Methamphetamine-addicted individuals differ from other substance abusers in that they enter treatment with far more symptoms of paranoia and even psychosis than other substance-abusing groups, and that they are more likely to:

- Be female.
- Suffer cognitive impairment during the early weeks and months of recovery.
- Have clinically significant associations between their drug use and sexual behavior, including risky sexual behavior.
- Be at risk for noninjection transmission of HIV (especially for men who have sex with men).
- Be the victims (especially women) and/or perpetrators of violence.

Fundamental strategies for treating psychostimulant users are available from the Substance Abuse and Mental Health Services Administration.<sup>1</sup>

#### Psychosocial Treatments

There are no medications currently approved for the treatment of methamphetamine-addicted patients.

However, research has shown that effective psychosocial treatments for treating cocaine users are also appropriate in treating methamphetamine use, including:

- Community Reinforcement Approach<sup>2</sup>
- 12-Step Facilitation Therapy<sup>3</sup>
- Manualized Individual Drug Counseling plus Group Drug Counseling<sup>4</sup>

Evidence supports several approaches that have been specifically tested on methamphetamine-addicted individuals, including:

- Contingency Management<sup>5</sup>
- Cognitive Behavioral Therapy<sup>6</sup>
- Matrix Model<sup>7</sup>

### TREATMENT STRATEGIES

In addition to those specific models, a number of fundamental principles for treating methamphetamine users have been supported by empirical evidence:

- Use treatment strategies that enhance treatment engagement. Individuals addicted to methamphetamine enter treatment programs with severe paranoia and anxiety and almost universal ambivalence about stopping their drug use. Clinical techniques,



including contingency management and motivational interviewing, should be used to promote treatment entry.

- Employ operational procedures that speed the admission process into the clinic (e.g., same-day appointments for an initial appointment, evening appointments for

working patients, and provision of child care services for parents).

- Focus efforts on retention in treatment and promoting program completion. There is a strong relationship between length of time in treatment and positive outcomes (i.e.,

clients who complete treatment programs have better outcomes than those who do not, and the longer clients stay in treatment, the better the outcomes). Consider treatment involvement that is long enough to be effective (4-6 months minimum), but not so long as to make program completion unlikely.

- Following program completion, encourage and support clients' efforts to stay in long-term support activities (e.g., Alcoholics

Anonymous, Narcotics Anonymous, counseling, religious or spiritual activities, and recreational programs).

- Consider urine testing an essential, required component of treatment for methamphetamine users. Urine testing can monitor client progress and provide clear, objective information on drug use status. In addition, providing positive incentives, as in contingency management techniques, for drug-free test results is a powerful tool in promoting drug abstinence. Methamphetamine-positive drug test results should alert providers that possible changes in the treatment plan may be needed.
- Promote family involvement in treatment. Helping family members and close friends understand the process of addiction and recovery can be extremely useful in promoting a client's treatment progress. Successfully involving families in the process enhances treatment outcomes, but intensive family therapy is not required to make family involvement useful.
- Firmly encourage abstinence from alcohol and other drugs. Achievement and maintenance of methamphetamine abstinence is strongly related to abstinence from alcohol, marijuana and other drugs.

*Individuals addicted to methamphetamine enter treatment programs with severe paranoia and anxiety and almost universal ambivalence about stopping their drug use. Clinical techniques should be used to promote treatment entry.*

## REFERENCES

1. *Treatment for Stimulant Use Disorders, Treatment Improvement Protocol Series, No. 33*, Publication No. (SMA) 99-329, Washington, D.C.: Center for Substance Abuse Treatment, U.S. Department of Health and Human Services, 1999.
2. S.T. Higgins, A.J. Budney, W.K. Bickel, J. R. Hughes, F. Foerg, and G. Badger, "Achieving cocaine abstinence with a behavioral approach," *American Journal of Psychiatry*, 150, No. 5, 1993, 763-769.
3. R. D. Weiss, M.L. Griffin, R.J. Gallop, et al., "The effect of 12-step self-help group attendance and participation on drug use outcomes among cocaine-dependent patients," *Drug and Alcohol Dependence*, 77, No. 2, 2005, 177-184.
4. P. Crits-Christoph, L. Siqueland, J. Blaine, et al., "Psychosocial treatments for cocaine dependence: National Institute on Drug Abuse Collaborative Cocaine Treatment Study," *Archives of General Psychiatry*, 56, No. 6, 1999, 493-502.
5. N.M. Petry, J.M. Peirce, M.L. Stitzer, et al., "Effect of prize-based incentives on outcomes in stimulant abusers in outpatient psychosocial treatment programs: a national drug abuse treatment clinical trials network study," *Archives of General Psychiatry*, 62, No. 10, 2005, 1148-1156.
6. R.A. Rawson, M. McCann, F. Flammino, et al., "A comparison of contingency management and cognitive-behavioral approaches for stimulant-dependent individuals," *Addiction*, 101, No. 2, 2006, 267-274.
7. R.A. Rawson, P. Marinelli-Casey, M.D. Anglin, et al., and the Methamphetamine Treatment Project Corporate Authors, "A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence," *Addiction*, 99, No. 6, 2004, 708-717.

## 8. Effects of Route of Administration

Methamphetamine is a powerfully addictive stimulant that has long-term negative effects when used over time. The drug can be snorted, smoked, injected, or ingested orally. The method of use determines: (1) the speed at which the drug reaches the brain; (2) the dose that is delivered; and (3) the intensity and duration of the drug's effects.

The route of administration may also influence the rate of progression from abuse to dependence, with more rapid movement to dependence for those who smoke or inject the drug. In addition, how the drug is used has implications for medical consequences and treatment prognosis.

### CLINICAL ISSUES

#### Medical Effects

Each specific method of use is associated with its own set of medical complications and risks. Injection drug use is particularly problematic

from a public health perspective since it contributes to multiple health and social problems<sup>1</sup> (see Table 2).

A methamphetamine user's decision on how to administer the drug may be influenced by drug-using friends, local traditions, culture, and geography. For example, injecting methamphetamine is now common in certain geographic areas of the northwestern United States, whereas smoking is the predominant method of use in Hawaii. These patterns of methamphetamine use will probably change over time.

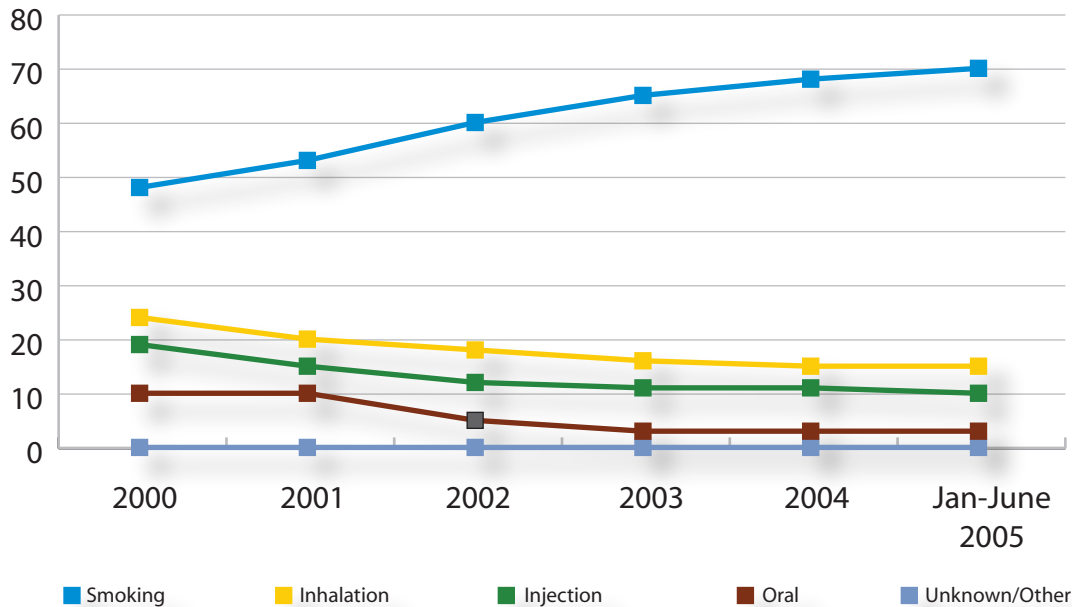
#### Trends

Data collected from the California Alcohol and Drug Data System suggest that methamphetamine treatment admissions in California have been rising.<sup>2</sup> Smoking methamphetamine has steadily increased, while injection, intranasal and other methods of use show a decreasing trend (see Figure 3).

**Table 2. Medical Effects of Methamphetamine by Route of Administration**

Route of Administration	Medical Effects
<b>Orally</b>	Severe tooth decay.
<b>Intranasal (snorting)</b>	Sinusitis, loss of sense of smell, congestion, atrophy of nasal mucosa, nosebleeds, perforation or necrosis of the nasal septus, hoarseness, problems swallowing, and throat ailments.
<b>Smoking</b>	Hoarseness, problems swallowing, throat ailments, and a productive cough with black sputum.
<b>Injecting</b>	HIV, hepatitis, tuberculosis, lung infections, pneumonia, bacterial or viral endocarditis (inflammation of the lining of the heart), cellulitis, wound abscesses, sepsis (the toxic spreading of infection), thrombosis (blood clot), renal infarction (partial or whole kidney death), and thrombophlebitis (inflammation of a vein wall).

**Figure 3. Percentage of Primary Methamphetamine Treatment Admissions by Route of Administration in California**



Source: California Alcohol and Drug Data System

## Research Findings

Research studies have examined differences in characteristics and treatment outcomes among methamphetamine users by route of administration.

*The route of administration may also influence the rate of progression from abuse to dependence, with more rapid movement to dependence for those who smoke or inject the drug. In addition, how the drug is used has implications for medical consequences and treatment prognosis.*

The analysis found that injection use is associated with considerably more detrimental health and psychological problems than noninjection routes. One study found that methamphetamine injectors are a high-risk group exhibiting more severe pathologies and poorer

treatment prognoses than smokers and intranasal users.<sup>3</sup>

However, smokers also had poor treatment engagement, retention and completion rates when compared to intranasal users. A Japanese study found differences between smokers and injectors.<sup>4</sup> Injectors used methamphetamine for longer periods of time, had lower levels of education, had more extensive criminal records, and experienced more auditory hallucinations compared to methamphetamine smokers. A study conducted in the United States in 2000 found that methamphetamine injectors reported experiencing more adverse consequences related to health, legal and psychological factors as compared to non-injectors.<sup>5</sup>

# Assessment, Treatment and Recovery

## TREATMENT STRATEGIES

- Apply individualized assessments that consider all pretreatment factors, including route of administration. This is important when determining treatment placement and planning decisions. The motivational interviewing techniques developed by W.R. Miller and S. Rollnick<sup>6</sup> are extremely valuable in building a successful therapeutic relationship with methamphetamine-addicted individuals.
- Use the route of administration as one factor in developing an individualized treatment plan. Injection drug users may require specialized services that address their complex medical and psychological needs.
- Arrange small incentives to encourage treatment return and improve treatment engagement rates. Bus tokens, movie tickets, fast food coupons, coffee and snacks at treatment sessions, and other small, inexpensive rewards can make a major impact on treatment engagement rates. The technique described as contingency management has been shown to be the most powerful technique currently available to increase treatment participation of methamphetamine-dependent clients.<sup>7</sup>
- Consider route of administration when placing methamphetamine users in the most appropriate level of care. Patients who snort methamphetamine may do well in outpatient settings, whereas those who inject the drug may require residential care where their severe medical and psychological impairments can be addressed.
- Promote “same day” admissions and “walk-in” admissions. These can dramatically reduce no-show rates.
- Arrange evening clinic hours for clients who work or who need to make family child care arrangements. This can increase the ease with which clients can access treatment.

## REFERENCES

1. Centers for Disease Control and Prevention, “Public health and injection drug use,” *Morbidity and Mortality Weekly Report*, 50, 2001, 377. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5019a1.htm>; and J.W. Shaner, “Caries associated with methamphetamine abuse,” *Journal of the Michigan Dental Association*, 84, No. 9, 2002, 42-7.
2. California Department of Alcohol and Drug Programs, California Alcohol and Drug Data System, unpublished admissions data for January 2000-June 2005 and 2006. These figures are for admissions to programs that receive public funding and/or are licensed to provide narcotic replacement therapy. Many private treatment admissions, including those for hospitals, are not included in these statistics.
3. R.A. Rawson, R. Gonzales, P. Marinelli-Casey, A. Ang, and the Methamphetamine Treatment Project Corporate Authors, *Methamphetamine dependence: a closer look at route of administration*, University of California, Los Angeles, Integrated Substance Abuse Programs, Manuscript submitted for publication, 2006.
4. T. Matsumoto T, A. Kamijo, T. Miyakawa, et al., “Methamphetamine in Japan: the consequences of methamphetamine abuse as a function of route of administration,” *Addiction*, 97, No. 7, 2002, 809.
5. C.P. Domier, S.L. Simon, R.A. Rawson, A. Huber, and W. Ling, “A comparison of injecting and non-injecting methamphetamine users,” *Journal of Psychoactive Drugs*, 32, 2000, 229-232.
6. W.R. Miller, *Enhancing Motivation for Change in Substance Abuse Treatment*, TIP #35, Publication No. 02-3693, Rockville, Maryland: Center for Substance Abuse Treatment, U.S. Department of Health and Human Services, 2002.
7. J.R. Roll, N. Petry, M. Stitzer, et al., “Contingency management for treatment of methamphetamine use,” *American Journal of Psychiatry*, 163, 2006, 1993-1999.



## 9. Methamphetamine and Co-Occurring Disorders

Methamphetamine-addicted clients often present for treatment with symptoms of psychiatric disorders. Medical, mental health and substance abuse treatment professionals should be aware of the overlapping symptoms of methamphetamine addiction and psychiatric disorders to adequately assess for co-occurring disorders.

### CLINICAL ISSUES

Co-occurring psychiatric disorders are common among methamphetamine-addicted individuals.<sup>1</sup> Methamphetamine use frequently produces symptoms common to depression, anxiety, attention deficit hyperactivity disorder, and schizophrenia. This makes assessment, diagnosis and treatment challenging.

Depressive symptoms are very common among methamphetamine users, but it is difficult to distinguish methamphetamine-induced symptoms from underlying mood disorders. In one of the few reports of co-occurring disorders in methamphetamine users, 28 percent of the study participants (gay and bisexual males) had experienced a major depressive disorder at some time in their lives.<sup>2</sup> This high rate of depression is consistently found in studies of methamphetamine clients. Also, the depressive symptoms resulting from methamphetamine use persist for several years after treatment for many individuals.<sup>3</sup>

### Mental Health Symptoms During Methamphetamine Use

Methamphetamine-addicted individuals may present with psychotic symptoms such as:

- Anxiety
- Hypervigilance
- Paranoia
- Delusions
- Hallucinations (usually auditory or tactile)

Such a presentation is often similar to that of paranoid schizophrenics. Psychotic symptoms in most methamphetamine users appear to be substance-induced and

remit after a few days of abstinence. However, some cases of psychotic symptoms persist for months or years after cessation of methamphetamine use and require treatment with anti-psychotic medications.



### Mental Health Symptoms After Methamphetamine Use Is Stopped

Methamphetamine clients in recovery may exhibit depressive symptoms:

- Fatigue
- Increased sleep periods
- Inability to experience pleasure
- Impaired focus or concentration
- Impaired memory
- Impaired decision-making ability



It is very difficult to determine if these symptoms preceded the methamphetamine addiction. If depression preceded methamphetamine use, drug abuse treatment will likely be unsuccessful if underlying depression goes untreated.

*Many methamphetamine-addicted clients will enter treatment exhibiting an array of psychiatric symptoms, including feelings of anxiety, depression, irritability, etc. It is difficult to determine if these symptoms result from methamphetamine or are symptoms of an underlying psychiatric disorder (e.g., clinical depression, etc.).*

Unfortunately, there are currently no FDA-approved medications for the treatment of methamphetamine-related depression. Indications are that selective serotonin reuptake inhibitors (SSRIs) are not effective in combating methamphetamine-induced depressive symptoms.<sup>4</sup>

Dopamine/norepinephrine reuptake inhibitors such as bupropion (trade name, Wellbutrin XL) may be effective.

## TREATMENT STRATEGIES

Many methamphetamine-addicted clients will enter treatment exhibiting an array of psychiatric symptoms, including feelings of anxiety, depression, irritability, etc. It is difficult to determine if these symptoms result from methamphetamine or are symptoms of an underlying psychiatric disorder (e.g., clinical depression).

Specific treatment protocols for co-occurring methamphetamine addiction and mood, anxiety or psychotic disorders have not been developed. However, the following recommendations are suggested for all medical, mental health and substance abuse treatment providers.

## General Strategies for Assessing Users With Co-occurring Disease

- Assess suicidality. Clients who express thoughts or intentions of suicide must be taken very seriously. Whether suicidal thoughts or intentions result from transient methamphetamine effects or are the result of an underlying psychiatric disorder is irrelevant.
- Get an accurate history. Often the most important diagnostic “clue” is which came first – the methamphetamine use or psychiatric symptoms. A useful part of this history is family history of psychiatric illness (e.g., parents or siblings who have been diagnosed with depression or schizophrenia).

Due to the very high rate of historic and recent sexual and physical violence associated with methamphetamine addiction, symptoms of post-traumatic stress disorder are very common. To address these concerns, treatment programming should be “trauma-informed” and employ appropriate techniques.<sup>5</sup>

## Strategies for Clients With History of Psychiatric Disorders

Clients who have a pre-methamphetamine use history of psychiatric illness (e.g., depression during adolescence) and individuals with a family history of psychiatric illness are at greater risk to have a persistent co-occurring disorder. With these clients, it is important to:

- Involve a mental health professional for assessment.
- If available, admit the client to a dual diagnosis treatment service.



# Assessment, Treatment and Recovery

- Encourage client to comply with medication recommendations if a physician has determined that the client could benefit from medication for the psychiatric disorder.
- Ensure that there are no conflicting messages about the importance and usefulness of medication.
- Seek support from family and close friends to ensure client compliance regarding medication.
- At a minimum, coordinate substance abuse care with mental health care and integrate the two treatments as much as possible.
- Repeat the assessment of these symptoms during the initial weeks of treatment to ensure that they improve.
- Have an assessment conducted by a mental health professional if symptoms do not improve within the first several weeks.
- Have an assessment conducted by a mental health professional if at any time during treatment clients experience any extended period of significant psychiatric symptoms (more than the expected anhedonia).

## Strategies for Clients Without History of Psychiatric Disorders

Clients who have no history of pre-methamphetamine psychiatric illness, nor any family history of psychiatric illness, may have symptoms such as feelings of sadness, irritability, anxiety, nervousness, low energy, and paranoia that frequently resolve within the first two weeks of abstinence with proper nutrition and sleep.

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## REFERENCES

1. C.W. Meredith, C. Jaffe, K. Ang-Lee, and A.J. Saxon, "Implications of chronic methamphetamine use: a literature review," *Harvard Review Psychiatry*, 13, No. 3, 2005, 141-154; and J.C. Maxwell and R.T. Spence, "Profiles of club drug users in treatment," *Substance Use and Misuse*, 40, 2005, 1409-1426.
2. J.A. Peck, X. Yang, C.J. Reback, E. Rotheram-Fuller, and S. Shoptaw, "Sustained reductions in drug use and depression symptoms from treatment for drug abuse in methamphetamine-dependent gay and bisexual men," *Journal of Urban Health*, 2 (Suppl), 2005, 100-108.
3. R.A. Rawson, A. Huber, P. Brethen, et al., "Status of methamphetamine users 2-5 years after outpatient treatment," *Journal of Addictive Diseases*, 21, 2002, 107-119.
4. S. Shoptaw, A. Huber, J. Peck, X. Yang, J. Liu, J. Dang, et al., "Randomized, placebo-controlled trial of sertraline and contingency management for the treatment of methamphetamine dependence," *Drug and Alcohol Dependence*, 2006. Available at: <http://www.sciencedirect.com>.
5. L.M. Najavits, M. Schmitz, S. Gotthardt, and R.D. Weiss, "Seeking Safety plus Exposure Therapy: an outcome study on dual diagnosis men," *Journal of Psychoactive Drugs*, 37, No. 4, December 2005, 425-35; and C. Zlotnick, L.M. Najavits, D.J. Rohsenow, and D.M. Johnson, "A cognitive-behavioral treatment for incarcerated women with substance abuse disorder and posttraumatic stress disorder: findings from a pilot study," *Journal of Substance Abuse Treatment*, 25, No. 2, September 2003, 99-105.



## 10. Methamphetamine Detoxification

Initiation of abstinence from methamphetamine is the first stage in the recovery process. During withdrawal, which lasts about two weeks after the person has stopped using,<sup>1</sup> numerous neurocognitive, emotional and physical issues must be addressed. Withdrawal from methamphetamine can be a challenging process. By understanding the needs of their clients, clinicians can assist them in stopping their use and beginning the recovery process.

### CLINICAL ISSUES

#### Physical Issues in Methamphetamine Withdrawal<sup>2</sup>

Withdrawal from methamphetamine is not, by itself, medically dangerous. Generally, people need more sleep during this period and within a few days will begin feeling much better. However, a thorough medical examination that includes evaluation of the following is recommended:

**Medical complications from methamphetamine use.** Upon beginning detox from methamphetamine, users may have medical issues that are caused or exacerbated by the drug. For instance, attention must be given to infections, including abscesses (from injection) or skin infections (from picking). Also common are lung problems, including painful or difficult breathing, and burns resulting from methamphetamine use (e.g., pipe burns on the lips) or manufacturing (e.g., chemical burns).

In addition, methamphetamine users frequently have significant dental problems that

must be addressed. These problems stem, in part, from the acidic nature of the drug, lowered saliva production, methamphetamine-related cravings for sweet soft drinks, and poor dental hygiene.<sup>3</sup> These problems may go unnoticed during acute intoxication, but after detoxification, they can be a constant source of pain, which may trigger relapse.



**Secondary infections.** Methamphetamine users are frequently involved in behaviors that place them at risk for a variety of infections. These include HIV and other sexually transmitted infections and hepatitis C, making careful screening and treatment for these infections critical.

#### Medical issues avoided or ignored during methamphetamine use.

Methamphetamine use generally leads to a great deal of chaos in a person's life. Users often neglect many areas of their lives and/or fail to take care of themselves in a variety of ways. As with the general population, individuals who use methamphetamine may neglect health issues. They may have a chronic condition such as diabetes, high blood pressure or asthma that needs to be brought under control. They also may have any number of acute conditions (e.g., flu or an infection). By having these acute conditions cared for, the individual may feel more comfortable during a very difficult period.

## Psychiatric and Emotional Issues in Methamphetamine Withdrawal

In addition to these medical issues, a person withdrawing from methamphetamine may face a number of psychiatric or emotional issues.<sup>4</sup> A thorough assessment for the following is critical:

**Psychotic symptoms.** Methamphetamine use is known to cause psychotic symptoms. Most typical is paranoid thinking or paranoid delusions. Users

*Upon beginning detox from methamphetamine, users may have medical issues that are caused or exacerbated by the drug. Attention must be given to infections, including abscesses (from injection) or skin infections (from picking). Also common are lung problems, including painful or difficult breathing, and burns resulting from methamphetamine use (e.g., pipe burns on the lips) or manufacturing (e.g., chemical burns).*

become terrified that the police are after them or that they are being watched and someone is listening to them. These fears may be associated with panic reactions. This combination makes it difficult for these individuals to feel safe leaving their home. Methamphetamine users sometimes experience other psychotic symptoms such as auditory, visual and tactile hallucinations.

**Depression.** The other common psychiatric issue faced by people withdrawing from methamphetamine is depression. Methamphetamine impacts the dopamine system, which controls the feeling of pleasure. When methamphetamine is removed from the user's body abruptly, the result is significant feelings of depression.<sup>2</sup>

## Neurocognitive Issues in Methamphetamine Withdrawal

The neurocognitive impact of methamphetamine dependence is well-documented. As individuals withdraw from methamphetamine, key among the symptoms they experience are feelings of confusion, difficulty thinking or concentrating, and problems remembering things. Evidence is also mounting that, particularly early in the recovery process, users may have trouble making effective decisions due to methamphetamine's impact on the prefrontal cortex.<sup>5</sup> Helping clients create a structure for themselves that includes scheduling their time can help reduce the need to think through complicated issues or to make important decisions.<sup>6</sup>

## Environment for Methamphetamine Withdrawal

Because methamphetamine detoxification is not medically dangerous, people do not necessarily need a hospital stay unless they are a danger to themselves or others or are so agitated or cognitively impaired that they cannot safely travel to the treatment center. In these cases, psychiatric hospitalization is indicated. In most instances, however, detox can occur in a residential program or in an intensive outpatient or partial hospitalization treatment program.

## TREATMENT STRATEGIES

There are a number of interventions to help clients go through detoxification from methamphetamine:

- Conduct a medical and psychiatric evaluation.

# Assessment, Treatment and Recovery

- Develop a plan to address the medical and psychiatric issues identified.
- Work with clients to determine the nature of their fears. Helping them explore ways of dealing with these fears (whether real or paranoid) increases the likelihood that clients will continue in treatment.
- Evaluate clients withdrawing from methamphetamine frequently to determine the level of depression and to assess for suicidal ideation.
- Refer clients to a psychiatrist/psychologist for additional evaluation and treatment if indicated.
- Create a self-designed structure to help reduce anxiety, counter the addictive lifestyle, eliminate avoidable triggers, and reduce decision-making.

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## REFERENCES

1. J.L. Obert, R. Rawson, M.J. McCann, and W. Ling, *Intensive Outpatient Alcohol and Drug Treatment: A 16-week Individualized Program*, Center City, Minnesota: Hazelden, 2005.
2. A. Kalechstein, T. Newton and M. Green, "Methamphetamine dependence is associated with neurocognitive impairment in the initial phases of abstinence," *Journal of Neuropsychiatry and Clinical Neuroscience*, 15, 2003, 215-220.
3. American Dental Association, "Methamphetamine use and oral health," *Journal of the American Dental Association*, 136, 2005, 1491. Available at: <http://www.ada.org/public/topics/methmouth.asp>.
4. J. Zweben, J. Cohen, D. Christian, et al., "Psychiatric symptoms in methamphetamine users," *American Journal on Addiction*, 13, 2004, 181-190.
5. T. Nordahl, R. Salo and M. Leamon, "Neuropsychological effects of chronic methamphetamine use on neurotransmitters and cognition: a review," *Journal of Neuropsychiatry and Clinical Neuroscience*, 15, 2003, 317-325.
6. J.L. Obert, R. Rawson, M.J. McCann, and W. Ling, *Intensive Outpatient Alcohol and Drug Treatment: A 16-week Individualized Program.*



## 11. Essential Elements of Outpatient Treatment

The majority of individuals who receive treatment for methamphetamine addiction in California – about 80 percent – are treated in outpatient settings. Using techniques that produce the best possible treatment outcomes in outpatient settings is critical. Many of these principles are not unique to treating methamphetamine-addicted clients, but are of great importance to successful treatment for this group.

### CLINICAL ISSUES

#### The Treatment Environment

It is not an easy decision to enter treatment. Methamphetamine-addicted adults often come to treatment suffering from the effects of methamphetamine use, including symptoms of depression, paranoia, anxiety, and irritability. Business hours should be made client-friendly (including evenings and weekends). Long waits should not be required for intake appointments, and same-day admissions should be made, if possible.

#### Initial Assessment

It is important to thoroughly assess the specific nature of the methamphetamine problem. Route of administration, days used in past 30, etc., should be determined. The extent of other drug and alcohol use, medical and dental problems, psychiatric symptoms and history, employment and legal issues, and living circumstances should be ascertained. Because more women use methamphetamine than other drugs, issues surrounding domestic violence, and child safety and child care are important to explore.

#### Retention, Retention, Retention

Retention of clients is critical. The longer a methamphetamine user is retained in treatment, the better the outcome will be. Clinic procedures, staff attitude and clinical approaches should be oriented to promote client retention.

**Client Education.** Methamphetamine-addicted individuals who are informed

about the nature of their illness are more compliant with treatment recommendations. There is a lot of information about methamphetamine addiction that can be of value to clients (and their families). Knowledge about the effects of methamphetamine use on the brain, triggers and cravings, relapse issues (including the role of alcohol and marijuana), infectious diseases, sex and recovery, and how addiction affects the family are all important topics.

**Family Involvement.** Methamphetamine addiction affects the entire family. Clients' recovery from addiction to the drug can greatly benefit from the support of informed family and friends. Special groups for the children of methamphetamine users in treatment can help these children cope with the chaos of addiction and the challenges of the recovery.

*Retention of clients is critical. The longer a methamphetamine user is retained in treatment, the better the outcome will be. Clinic procedures, staff attitude and clinical approaches should be oriented to promote client retention.*

**12-Step Programs.** Recent research has provided some very strong support for the value of 12-step program involvements in assisting substance users in achieving and sustaining recovery. Recent data from University of California, Los Angeles extend these findings to treatment outcome with methamphetamine addiction. Methamphetamine users who became involved with 12-step programs had better treatment outcomes than those who did not, and the greater the involvement, the better the outcome.

## Monitoring Results

Urine testing is an essential component of treatment for methamphetamine users. Results should be used to monitor progress and reward abstinence. Urine tests indicating methamphetamine (or other drug) use should be used as evidence that the treatment plan needs to be changed.

## TREATMENT STRATEGIES

- Make treatment accessible and welcoming. Streamline admission procedures as much as possible.
- Conduct a complete, but efficient, assessment.
- Include techniques in the treatment plan to address issues identified in this assessment.
- Have staff use motivational interviewing techniques, positive incentive techniques (contingency management), and liberal positive verbal reinforcement. Minimize use of confrontational procedures and punitive clinical policies (e.g., discharging clients for drug use).
- Educate clients about their illness. Present information with simple, clear materials that focus on the unique properties and effects of methamphetamine.
- Encourage participation by family and close friends. Clients whose family and friends are involved in treatment are retained longer in treatment and have better outcomes.
- Encourage client participation in 12-step programs. However, despite the benefits of these programs, it is not advised to sanction or terminate treatment for clients who refuse to attend 12-step meetings.
- Conduct urine testing regularly and adjust the treatment plan if necessary.

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## REFERENCES

Material for this chapter was taken in part from the following:

- A.H. Brown, C.P. Domier and R.A. Rawson, "Stimulants, sex, and gender," *Sexual Addiction & Compulsivity*, (in press).
- Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment Manual for People with Stimulant Use Disorders*, Publication No. 06-4152, Rockville, Maryland: Center for Substance Abuse Treatment (CSAT), Substance Abuse Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS), 2006.
- R. Foreman, C. Dackis and R.A. Rawson, "Twelve principles of outpatient addiction treatment," *Current Psychiatry*, 1, 2002.
- M.J. McCann, J.L. Obert, P. Marinelli-Casey, and R.A. Rawson, *Meth: The Basics*, Center City, Minnesota: Hazelden, 2005.
- NIATX: A SAMHSA-Robert Wood Johnson Program called Network for the Improvement of Addiction Treatment (NIATx; <http://www.niatx.net>).
- R.A. Rawson, *Methamphetamine: New Knowledge, New Treatments*, Center City, Minnesota: Hazelden, 2006.
- R.A. Rawson, "Treatment of Stimulant Abuse," TIP #33, Publication No. (SMA) 99-3296, Rockville, Maryland: CSAT, SAMHSA, DHHS, 1998.
- R.A. Rawson, A.M. Washton and C. Domier, "Sexual behavior and drug effects," *Journal of Substance Abuse Treatment*, 22, 2002.



## 12. Engaging Methamphetamine Clients in Treatment

Failure to successfully engage methamphetamine clients early in treatment is the biggest missed opportunity in a methamphetamine treatment program. If new patients feel that starting treatment means entering a steady, consistent and supportive environment, they will stay with the program. Use of motivational interviewing and contingency management techniques can increase engagement rates.

### CLINICAL ISSUES

#### Initial Treatment Sessions

Engaging methamphetamine users into treatment is obviously an essential first step in any treatment process. Initial treatment sessions can be challenging because these clients can be difficult to manage, and often they appear resistant to treatment procedures and recommended activities.

Methamphetamine-addicted adults often enter outpatient treatment programs while they are still under the influence of the drug or when they are in the early stages of methamphetamine withdrawal. As a result, they are often quite emotionally volatile and behaviorally erratic during assessment and treatment sessions in the first weeks of treatment.

- Clients often appear suspicious, angry, hyperactive, uncommunicative or excessively talkative, manic, tearful, fatigued, or unable to concentrate.
- In severe cases, they may even be paranoid and/or suffering from delusions.

- Completing necessary administrative and treatment admission procedures with these individuals can be difficult, as their symptoms can be quite disruptive.

In outpatient treatment for methamphetamine addiction, the first session is the point at which the greatest numbers of potential clients are lost to treatment.

Common explanations for the failure to successfully engage these individuals into treatment are that they are “unmotivated,” “resistant” or “not ready for treatment.” In many ways, this is a form of “blaming clients for their disease.”

Methamphetamine clients need to be able to enter treatment with the fewest possible obstacles.

- Some treatment programs have developed administrative policies and procedures over the years that increase the number of “hoops” clients must go through in order to successfully enter treatment.
- Long waiting times for appointments, limited intake hours, excessive paperwork, or clinic hours that conflict with work or child care responsibilities, etc., can all provide hurdles that clients must overcome to get into treatment.



## Therapist Attitude and Style

Therapist attitude strongly influences a client's behaviors and expectations. It is important for counselors to communicate their support and expectation of success to clients. If new clients feel that treatment is going to provide an environment of support and hope, they will return

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for treatment. If they feel the treatment process will be one of criticism and confrontation, they will not.

Therapist mannerisms and style are important elements in working with clients during this period.

- This requires treating clients with dignity and respect, and listening

attentively and reflectively to their unique experience without imposing judgment.

- It is important to speak slowly and clearly and to maintain a calming demeanor.
- Use of humor can sometimes be misinterpreted, and sarcasm is never appropriate.
- Steady, consistent expressions of support and encouragement are essential to establishing a positive relationship with methamphetamine clients in early treatment.

The motivational interviewing techniques developed by W.R. Miller and S. Rollnick are extremely valuable in building a successful therapeutic relationship with methamphetamine clients in outpatient treatment. The

clinical skills incorporated within this approach are of tremendous value throughout the treatment course with methamphetamine users, but especially during the early sessions of treatment.

## Maximizing Treatment Engagement

A major goal of the assessment session and early treatment sessions should be to increase the odds that the client will return for the next session. If small incentives can be arranged to encourage treatment return, treatment engagement rates can be improved. Bus tokens; movie tickets; fast food coupons; coffee and snacks at treatment sessions; and other small, inexpensive rewards can have a major impact on treatment engagement rates.

The method described by J.M. Roll and others as contingency management has been shown to be the most powerful technique currently available to increase treatment participation of methamphetamine-dependent clients. Contingency management has very strong research evidence to support its use with methamphetamine users. When applied successfully, the technique will produce substantial improvements in treatment engagement rates.

A Substance Abuse and Mental Health Services Administration (SAMHSA) / Robert Wood Johnson Program called Network for the Improvement of Addiction Treatment (NIATx; <http://www.niatx.net>) offers recommendations for methods that can improve engagement and retention of clients in treatment. Although many of these techniques have not specifically been developed for methamphetamine users, a number of the procedures described have great value for addressing the challenges faced in engaging methamphetamine-addicted individuals in treatment.

# Assessment, Treatment and Recovery

## TREATMENT STRATEGIES

Providing treatment for methamphetamine users can certainly be challenging, and while this often makes the engagement process difficult, a number of techniques can improve engagement rates.

- Make admission procedures and access to care as easy as possible. Promoting “same day” admissions and “walk-in” admissions can dramatically reduce no-show rates. Evening clinic hours for clients who work or who need to make family child care arrangements can increase the ease with which clients can access treatment.
- Examine your treatment organization’s policies and procedures. Many treatment programs have found that many of their “traditional” practices are unnecessary and can be eliminated.
- Build a positive and collaborative relationship by actively listening to each client’s concerns and opinions and attempting to see the world from his or her perspective.
- Avoid the use of confrontational techniques, sarcasm or a demanding style that will create an adversarial relationship and result in a client’s failure to engage in treatment.
- Provide incentives for clients to return for appointments. Why clients come back for treatment appointments is far less important than whether they come back for treatment.
- Remember that methamphetamine clients in early sessions are often very emotionally and cognitively impaired. Receiving concrete and clear benefits from treatment can deliver a very positive message about treatment.

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## REFERENCES

Material for this chapter was taken in part from the following:

W.R. Miller, *Enhancing Motivation for Change in Substance Abuse Treatment*, TIP #35, Publication No. 02-3693, Rockville, Maryland: Center for Substance Abuse Treatment, U.S. Department of Health and Human Services, 2002.

W.R. Miller and S. Rollnick, *Motivational Interviewing: Preparing people to Change Addictive Behavior*, New York: Guilford Press, 1991.

R.A. Rawson, *Methamphetamine: New Knowledge, New Treatments*, Center City, Minnesota: Hazelden, 2006.

J.M. Roll, N.M. Petry, M.L. Stitzer, M.L. Brecht, J.M. Peirce, M.J. McCann, J. Blaine, M. Macdonald, J. Dimaria, L. Lucero, and S. Kellogg, “Contingency management for the treatment of methamphetamine use disorders,” *American Journal of Psychiatry*, 163, No. 11, November 2006.



## 13. Methamphetamine and Dental Disease

One of the most striking health effects of methamphetamine addiction is the change in the physical appearance of methamphetamine users.

An emaciated look and rampant dental disease manifesting as decayed, discolored and broken down teeth and inflamed gums are associated with methamphetamine use. In short stretches of time – sometimes just months – healthy teeth turn a grayish-brown, develop extensive decay, and reach a state of such decay that causes them to be unsalvageable and require extraction.

### CLINICAL ISSUES

#### Dental Disease

Many media reports have provided details about a distinctive pattern of unchecked tooth decay among methamphetamine users. Described variously as blackened, stained, rotting, or crumbling teeth, the association of this pattern of dental disease with methamphetamine addiction has earned it the media moniker “meth mouth.”

Methamphetamine limits saliva production. The presence of saliva in the mouth inhibits bacterial growth, gum disease and tooth decay. For methamphetamine users, the widespread decay at the gum line so weakens the teeth that crowns frequently snap off, leading to generalized infection of the mouth. Attempts at dental reconstruction for these clients are vastly complicated by factors such as the extreme state of disrepair of the teeth by the time the user seeks dental care.

#### Causes of Meth Mouth

It is believed that the vapor of smoked methamphetamine includes the drug plus traces of precursor chemicals, including acids and other very destructive substances. While under the influence of methamphetamine, users frequently experience “bruxism” or grinding of their teeth. In addition, methamphetamine-addicted individuals often eat very poorly, consuming vast quantities of junk foods and soft drinks that contain large amounts of sugar which promote tooth decay. All of these factors, plus poor dental hygiene practices, result in the severe dental disease seen in methamphetamine users.

When methamphetamine users enter treatment, they frequently have a tremendous array of problems that all require urgent attention. Bills, legal difficulties, severe family problems, plus the challenge of stopping methamphetamine use and preventing relapse all seem to be top priority issues. Taking care of dental problems often seems like a low priority and is thus often ignored.

The severity of the dental disease results in a very painful condition. However, active users are unaware of the dental pain that results from the methamphetamine, because the drug causes numbing of the mouth and dulling of the pain. When recovery begins, there is no methamphetamine to blunt the dental pain, and significant discomfort begins.

*Methamphetamine users should be encouraged to go to the dentist within the first 30-90 days of treatment (and with clients in serious pain, the sooner the better). Getting these users to the dentist is an essential step for many clients.*

This pain can affect the methamphetamine user's ability to eat and greatly impact sleep and performance at work. Severely discolored and broken teeth are extremely damaging



to self-esteem and make some methamphetamine-addicted adults avoid social settings. As recovery continues and clients become

more involved in work and social situations, they can be very self-conscious and embarrassed about the appearance of their teeth.

- Remember to encourage methamphetamine clients to make and keep dental appointments when assisting them with planning their daily activities.
- When clients resist such efforts, use motivational interviewing strategies to help reduce this resistance.
- When clients keep their dental appointments, be sure to reinforce these activities with praise and encouragement.

## TREATMENT STRATEGIES

- If possible, encourage methamphetamine users to go to the dentist within the first 30-90 days of treatment (and with clients in serious pain, the sooner the better). Getting to the dentist is an essential step for many clients.
- Have dental referral information available, preferably for dentists who are experienced with the problems of methamphetamine treatment clients and those who accept MediCal and payment plans. Many methamphetamine users in recovery have serious financial problems and will not be able to afford dental treatment, so this information can be extremely helpful.

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## REFERENCES

Material for this chapter was taken in part from the following:

American Dental Association, "ADA warns of methamphetamine's effect on oral health," August 2005. Available at [http://www.ada.org/public/media/releases/0508\\_release01.asp](http://www.ada.org/public/media/releases/0508_release01.asp).



## 14. Coping With Methamphetamine Craving

Craving for methamphetamine is a very powerful component of methamphetamine addiction and can often contribute to a client's relapse, particularly in the case of users in recovery who smoked or injected the drug. The good news is that the craving for methamphetamine decreases over time as abstinence time increases.

### CLINICAL ISSUES

#### Characteristics of Craving

Methamphetamine-addicted individuals often do not understand craving, why the feeling occurs, how to reduce its frequency, or how to cope with craving when it happens. For many, craving is an overpowering feeling that inevitably leads to methamphetamine relapse during treatment.

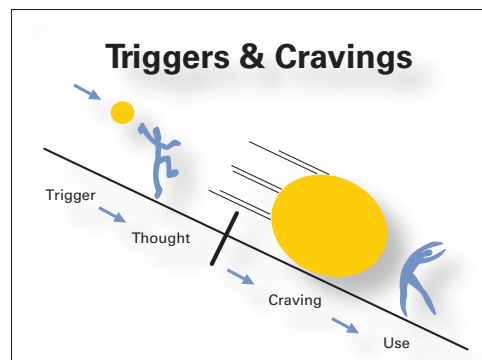
Many methamphetamine users in recovery assume that once they begin to crave methamphetamine the feeling will get stronger and stronger until they use. These clients have a sense of powerlessness in the face of craving. Some of the most important pieces of information that need to be given to methamphetamine users in recovery are: (1) the fact that they can influence how often the craving process occurs; (2) how they can prevent craving; and (3) what they can do to prevent relapse once craving starts.

#### The Development of Craving

Craving develops as a result of classical (Pavlovian) conditioning process that is automatic and unavoidable. Craving for methamphetamine does not occur at random, but rather in response to a collection of stimuli,

including people, places, things, time periods, and emotional states that have become associated with methamphetamine over the course of the addiction.

These stimuli, called "triggers," are the beginning of a sequence of events that frequently leads to methamphetamine relapse. When a recovering methamphetamine user encounters one of these triggers, he or she often begins to think about using the drug. After a number of seconds, this thought (a cognitive event) is accompanied by a physical response (increased heart rate, feeling of increased energy, and a powerful urge to use methamphetamine), and if the sequence is allowed to follow its normal course, use of the drug typically follows.



Source: *Meth, The Basics*, 2005.

The sequence is:  
*Trigger ... Thought ... Craving ... Use.*

#### Dealing With Methamphetamine Craving

Methamphetamine users typically feel there is nothing they can do to prevent this process or to stop it once it begins. However, many of the major triggers that set off the craving sequence can be avoided, thus minimizing the onset of craving. Some events such as a client's payday or the day that government checks arrive are trigger events that cannot be avoided, but many can be planned for.

Since it is impossible to avoid all triggers, at some point recovering methamphetamine users will begin to think about the drug. While the thought is still a cognitive event and before

*Craving for methamphetamine is a very powerful component of addiction and can often contribute to a client's relapse, particularly in the case of users in recovery who smoked or injected the drug. The good news is that the craving decreases over time as abstinence time increases.*

the physiological response of craving begins, it is possible to switch off the thought. This technique, called “thought stopping,” can interrupt the trigger ... thought ... craving ... use sequence. Some people are unable to use this cognitive

thought-stopping technique, but they can interrupt the thought by jarring their thought process with a preplanned action.

If the trigger cannot be avoided, and if the thought becomes a craving, “urge surfing” can provide another coping method. Cravings will only last 30-90 seconds unless a person starts moving toward drug use. If clients can ride the craving to the end, they can actually learn that they are not helpless in the face of cravings.

## TREATMENT STRATEGIES

- Identify each methamphetamine user's personal triggers such as drug-using friends, drug paraphernalia, places where drugs are used, and handling cash (a major trigger for almost all users in recovery).

- Help clients minimize the frequency of craving by avoiding their triggers.
- Develop a plan with clients to deal with unavoidable triggers. For example, having a nonaddicted or abstinent friend receive checks and manage the client's money so the recovering user can avoid handling cash can help prevent a relapse.
- Use the “stop the thought” technique to prevent the thought from becoming a craving. Clients can be taught to visualize the thought as a TV screen image for which they have the ability to “switch to another channel” on the TV. Thus, they can “stop the thought” before it turns into craving.
- Teach clients who have trouble with the stop-the-thought process to take a preplanned action. Some clients put a rubber band around their wrist, and when they recognize they are thinking about methamphetamine, they snap the rubber band to jog their thinking process and prevent the momentum toward craving and eventual use.
- Help clients learn to gain mastery over their craving if it starts through “urge surfing.” Have them view the craving as a “wave” of feelings that can be “ridden” through until it reduces in intensity.

Other techniques to address craving can be found in the Matrix Manuals and the National Institute on Drug Abuse manual on cognitive behavioral therapy.

## REFERENCES

Material for this chapter was taken in part from the following:

Kathleen Carroll, *A Cognitive Behavioral Therapy Approach: Treating Cocaine Addiction*, Publication No. 98-4308, Rockville, Maryland: National Institute on Drug Abuse, National Institutes of Health, 1998.

*Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment Manual for People with Stimulant Use Disorders*, Publication No. (SMA) 06-4152, Rockville, Maryland: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, 2006.

M.J. McCann, J.L. Obert, P. Marinelli-Casey, and R.A. Rawson, *Meth: The Basics*, Center City, Minnesota: Hazelden, 2005.

R.A. Rawson, *Methamphetamine: New Knowledge, New Treatments*, Center City, Minnesota: Hazelden, 2006.



## 15. Methamphetamine Recovery and Relapse

Recovering from methamphetamine addiction is a life-long challenge. Very few people addicted to methamphetamine are able to successfully stop using permanently the first time they try. Even when people enter treatment, it is not easy for them to stop using methamphetamine and stay off the drug. For some individuals addicted to methamphetamine, learning how to remain off the drug is learning a new skill, like riding a bicycle. Nobody learns to ride a bicycle without falling off a few times (and sometimes more than a few times).

### CLINICAL ISSUES

#### Defining Relapse

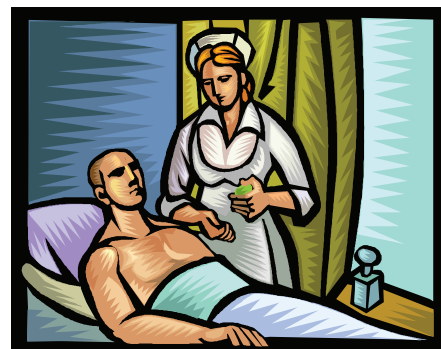
When people “fall off” in recovery, practitioners call it a relapse. Relapse is part of the methamphetamine recovery process. One goal of treatment is to teach clients how to avoid relapse. However, if relapse occurs (and many good, sincerely committed people in recovery do relapse, often more than once), treatment provides the support and helps clients pick themselves up and get back into recovery.

**Relapse Does Not Mean Failure.** When a methamphetamine-addicted individual relapses, it is completely natural for the person (and his or her family and counselor) to be upset and feel discouraged. However, relapse is a sign that the recovery plan needs some adjustments.

**Relapse Does Not Mean Poor Motivation.** Good people can make bad mistakes. There are many factors that can contribute to a methamphetamine relapse. Methamphetamine addiction changes the brain. One area of the brain affected by

addiction is the part that controls judgment and decision-making. During the early months of methamphetamine recovery, clients often make bad and impulsive decisions as their brain recovers.

**Relapse Does Not Mean a Person is “In Denial.”** Methamphetamine addiction produces a very powerful conditioned response in the brain called “craving.” Powerful craving can lead to relapse regardless of race, gender, age, intelligence, or motivation. Some very motivated and committed clients who are sincerely working on recovery from methamphetamine addiction find that their craving for methamphetamine plays a big role in their relapse.



Methamphetamine users who inject or smoke the drug experience extremely severe craving during recovery. This craving can feel overpowering and irresistible. It is important for the client and counselor to know that combating these cravings is part of methamphetamine addiction recovery.

**Relapse Does Not Mean All Progress in Recovery Has Been Wasted.** Sometimes when a methamphetamine client in recovery relapses, he or she thinks, “I am back at day zero of recovery, and I haven’t made any progress.” Another way to look at this is to think, “I have been sober 30 of the past 31 days. Compared to any 31-day-period before I came

to treatment, this is tremendous progress.” The trick is now to stay sober today and make sure the relapse stops now.

## Common Relapse Scenarios in Methamphetamine Recovery

Individuals in methamphetamine recovery do not wake up in the morning and say, “I want to return to being a methamphetamine addict

*Relapse is part of the methamphetamine recovery process. However, if relapse occurs (and many good, sincerely committed people in recovery do relapse, often more than once), treatment provides the support and helps clients pick themselves up and get back into recovery.*

today.” They have patterns of thinking that allow them to say to themselves, “If I just use a little, I can ...

... get enough energy to clean the house.

... cut my hunger and stop gaining weight.

... have some good sex and feel good again.

... get out of this hopeless, boring, gray world for at least a few hours.”

There are other relapse justifications. Teaching methamphetamine-addicted clients in recovery about relapse justification can help them recognize how their own thinking can lead them to relapse.

## Other Recovery Issues

**Methamphetamine and Sex.** Methamphetamine is a drug that is uniquely connected to sex. During active addiction, methamphetamine users (both male and female) frequently involve methamphetamine use with their sexual activity. During recovery, sexual thoughts, feelings and behaviors can “trigger” methamphetamine relapse. Methamphetamine recovery can mean deprivation of sexual

activity, loss of pleasure from sex, sexual performance problems, guilt and shame from previous methamphetamine-related sex, compulsive masturbation, or involvement with pornography.

All of these issues create the potential for methamphetamine relapse. It is important for methamphetamine clients in recovery to have someone to talk with about these concerns. Frequently they are embarrassed to bring up these issues and certainly are often reluctant to discuss them in mixed gender groups. Single gender groups and individual counseling sessions are often useful to address these issues in an effective manner. Counselors must discuss these issues in a professional and nonjudgmental manner.

**Secondary Drug/Alcohol Use.** Recovering from methamphetamine addiction requires abstinence from marijuana and alcohol. Most clients in methamphetamine recovery have used marijuana and alcohol along with methamphetamine. Many times clients entering treatment for methamphetamine addiction recognize their problem with methamphetamine, but fail to recognize the use of alcohol or marijuana as a problem. Research studies have shown that stimulant users (methamphetamine and cocaine) who fail to stop alcohol and marijuana use have great difficulty achieving any abstinence from stimulants. Even if they do successfully temporarily stop their stimulant use, they relapse at a much higher rate than methamphetamine users who abstain from marijuana and alcohol.

**Fatigue or Weight Gain.** Many methamphetamine users become attracted to methamphetamine because it helps them increase their energy and lose weight. During the first four to six months of recovery, a

# Assessment, Treatment and Recovery

common complaint is an almost constant sense of fatigue or low energy. Similarly, weight gain frequently occurs during early recovery, and this can often be very upsetting. Both of these problems can lead to relapse. Among the most helpful interventions for both of these issues is a program of physical exercise and good nutritional habits.

## TREATMENT STRATEGIES

- If a client in methamphetamine treatment relapses, work with him or her to find out what went wrong and make a new plan that will prevent future relapse.
  - Recognize and explain to the client that combating cravings is part of the methamphetamine addiction recovery process.
  - If a recovering client relapses, reassure him or her that this does not mean failure. Encourage the client to think in terms of the success achieved so far and to stop the relapse immediately.
  - Teach recovering methamphetamine users about relapse justification and help them recognize how their own thinking can lead them to relapse.
- Provide methamphetamine clients in recovery with single gender support groups or individual counseling to discuss potentially embarrassing issues related to sex. Always address these concerns in a professional and nonjudgmental manner.
  - Help clients entering treatment for methamphetamine recognize that their use of alcohol or marijuana also poses a serious problem.
  - Encourage clients to establish a regular program of exercise and good eating habits to help reduce methamphetamine relapse.

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## REFERENCES

Material for this chapter was taken in part from the following:

*Counselor's Treatment Manual: Matrix Intensive Outpatient Treatment Manual for People with Stimulant Use Disorders*, Publication No. (SMA) 06-4152, Rockville, Maryland: Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS), 2006.

M.J. McCann, J.L. Obert, P. Marinelli-Casey, and R.A. Rawson, *Meth: The Basics*, Center City, Minnesota: Hazelden, 2005.

R.A. Rawson, *Methamphetamine: New Knowledge, New Treatments*, Center City, Minnesota: Hazelden, 2006.

R.A. Rawson, "Treatment of Stimulant Abuse," TIP #33, Publication No. (SMA) 99-3296, Rockville, Maryland: CSAT, DHHS, 1998.

R.A. Rawson, R. Gonzales and W. Ling, "Methamphetamine abuse and dependence: An update," *New Directions in Psychiatry*, 26, 2006.



# Methamphetamine and Special Populations

## 16. Methamphetamine Addiction Among Women

Methamphetamine is a drug that creates some unique and severe problems for women, for whom rates of methamphetamine use are much higher than for other classes of illicit drugs. Women who become addicted to methamphetamine tend to have histories of physical and sexual abuse. They often have problems with depression, anxiety and self-esteem. Treatment outcomes for females addicted to methamphetamine can be improved by addressing the specific challenges associated with addiction to the drug in a setting that provides safety for women and their children.

### CLINICAL ISSUES

Methamphetamine, more so than other drugs of abuse, has a special allure for women. Reviews of clinical research studies and treatment samples have consistently found that women make up a much higher proportion of methamphetamine users than among users of other drugs such as cocaine, heroin or marijuana. With the other drug categories, 25 percent to 30 percent of samples are female, but with methamphetamine the numbers are frequently over 40 percent and sometimes approach 50 percent. Some samples of teens and young adults have reported that over 50 percent of the methamphetamine users are female.

### Why Methamphetamine Appeals to Women and Girls

Certain factors are common in the reasons why women initiate methamphetamine use. Methamphetamine:

- Is often introduced by a boyfriend. Trying methamphetamine is presented as an

expression of affection and bonding. “Meth is great for partying, and we can have a great time.”

- Reduces appetite and can produce rapid and substantial weight loss.
- Enhances mood. Since rates of depression are higher among women, the mood elevation produced by methamphetamine can be a way to “self-medicate” feelings of depression.
- Increases energy and reduces fatigue. Many women face challenging work demands and family/personal responsibilities that cause feelings of fatigue and the inability to be productive. In early stages of use, methamphetamine can appear to improve productivity, which reinforces its addictive potential.

- Provides a way to escape painful feelings and situations. There is evidence to suggest that many women who become methamphetamine addicts have past and current situations where they experience very high rates of abuse, violence and trauma. The highs produced by methamphetamine can deceive addicts that the feelings related to their traumatic experiences have gone away.



## Women and Girls at Greatest Risk of Becoming Addicts

Historically, female methamphetamine users were white and in their thirties. Recently, there have been major shifts such that more

*Recent data suggests that for pregnant women entering drug treatment in California, methamphetamine is the most commonly used drug. There is particular concern regarding methamphetamine addiction among these women because prenatal methamphetamine consumption may cause premature birth, growth problems in newborns, and developmental disorders among children born to methamphetamine-addicted mothers.*

and other groups of women are vulnerable to methamphetamine addiction. Young (18-25 years old) Latina and Asian women are among the groups where methamphetamine addiction has been increasing the most. Also, evidence suggests that methamphetamine addiction is increasing among young Native American and African-American women.

## Effects of Methamphetamine on Women's Health

Methamphetamine addiction takes a toll on the health of women, including:

- Dramatic weight loss to the point of emaciation
- Severe damage to the teeth
- Badly scarred skin from compulsive scratching and trauma
- Insomnia and other sleep disturbance

Long-term methamphetamine addiction causes psychosis and almost universal feelings of anxiety, paranoia, depression, and hopelessness. The high rate of sexual behavior associated with methamphetamine (mostly unprotected) results in an increased rate of sexually trans-

mitted diseases (STD), pregnancy and risk of HIV infection.

Recent data suggests that for pregnant women entering drug treatment in California, methamphetamine is the most commonly used drug. There is particular concern regarding methamphetamine addiction among these women because prenatal methamphetamine consumption may cause premature birth, growth problems in newborns, and developmental disorders among children born to methamphetamine-addicted mothers.

## Effects of Methamphetamine on a Woman's Family Life

Methamphetamine addiction rapidly shatters and degrades every aspect of the family.

**Relationships With Partners.** These relationships are characterized by physical violence and emotional abuse, usually caused by a male partner. In many cases, methamphetamine-addicted males may demand riskier sexual acts of their female partners. Noncompliant women may experience physical violence and bodily trauma. Women's sex drives are increased by methamphetamine intoxication, and this can promote sexual experimentation and acting out that can lead to physical trauma and sexual transmission of diseases. The paranoia created by long-lasting addiction creates suspicion and accusation, increasing the likelihood of domestic abuse.

**Relationships With Family and Friends.** Parents and friends are ignored and victimized. As methamphetamine addiction continues, all nonusing family and friends are alienated, and women become mired in an entire world of methamphetamine seeking and use.



# Methamphetamine and Special Populations

**Relationships With Children.** It is impossible to function adequately as a parent when addicted to methamphetamine. The paranoia, anxiety and irritability created by methamphetamine addiction seriously impair good parenting skills. Extended “runs” of methamphetamine use, during which time little attention is given to food, sleep or hygiene all detrimentally affect the health, safety and well-being of the children involved. Frequently, the harmful impact of a mother’s methamphetamine addiction on children brings children’s protective services into the situation; a common consequence for the woman is loss of custody over the children.

All of these factors can produce tremendous guilt and shame for women and profoundly damage their self-esteem. The conflicts and guilt related to parenting issues for women addicted to methamphetamine must be addressed in the treatment and recovery program.

## Issues Affecting Methamphetamine-Addicted Women

- History of sexual abuse, physical abuse and trauma
- Polydrug use
- Mental health issues (e.g., depression, anxiety, paranoia, emotional disassociation, verbal communication difficulty, hypersexuality, antisocial behavior, and violent behavior)
- Relationship issues (e.g., risky sexual behaviors, domestic violence)
- Pregnancy and parenting problems; contact with child welfare system
- Medical issues (e.g., dental problems, weight loss, skin problems)

## Treatment Imperatives for Methamphetamine-Addicted Women

Treatment outcomes for methamphetamine-addicted women appear to be similar to those of men and similar to women who are addicted to other categories of drugs. While the response of methamphetamine-addicted women to treatment is generally quite positive, some specific clinical issues require attention:

- Placement in women-only treatment groups or programs
- Nonconfrontational treatment processes
- Securing a safe place to live for the recovering client and her children
- Separation from environmental and relationship triggers of methamphetamine addiction

## TREATMENT STRATEGIES

Many of the required treatment elements that are important to successful treatment with women who are addicted to methamphetamine are common to good quality treatment with substance-abusing women in general. However, several should be emphasized:

- Adopt an “empowerment” approach in which women are supported for developing their self-esteem and sense of value. Women who enter treatment for methamphetamine addiction often have histories of exposure to abuse and violence, sometimes extending back to childhood or adolescence. Avoid confrontational and aggressive therapies that can re-traumatize women who have histories of trauma.
- Use therapies that integrate trauma-informed techniques (e.g., manuals developed by Najavits or Covington).

These approaches address how substance use becomes a way to “mask” or medicate painful feelings related to trauma. Focus treatment on identifying how feelings related to trauma can “trigger” the urge to use and developing coping strategies for dealing with these painful feelings and the cues associated with them.

- Assist women in developing improved nutritional and exercise practices as well as self-esteem work related to body image. Weight gain can frequently be a major relapse trigger.
- Make women-only treatment sessions available (at least as one element of treatment). At a minimum, any treatment should provide women with an

opportunity to have a safe place to discuss issues in a women-only venue.

- Recognize that one of the most common relapse scenarios for women in methamphetamine recovery involves a woman’s return to a relationship with a methamphetamine-addicted partner. Discuss alternatives to this scenario and encourage and support either bringing the partner into treatment or avoiding a return to this situation. This is important in relapse prevention.

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## REFERENCES

Material for this chapter was taken in part from the following:

- A.M. Arria, C. Derauf, L.L. Lagasse, et al., “Methamphetamine and other substance use during pregnancy: preliminary estimates from the Infant Development, Environment, and Lifestyle (IDEAL) Study,” *Maternal and Child Health Journal*, 5, 2006.
- M-L. Brecht, A. O’Brien A, C. von Mayrhauser, and M.D. Anglin, “Methamphetamine use behaviors and gender differences,” *Addictive Behaviors*, 29, 2004.
- A.H. Brown, C. Domier, R.A. Rawson, “Stimulants, sex, and gender,” *Sexual Addiction and Compulsivity*, 12, 2005.
- J.B. Cohen, A. Dickow, K. Horner, J.E. Zweben, J. Balabis, D. Vandersloot, and C. Reiber for the Methamphetamine Treatment Project, “Abuse and violence history of men and women in treatment for methamphetamine dependence,” *The American Journal on Addictions*, 12, 2003.
- R. Dwyer, D. Richardson, M.W. Ross, A. Wodak, M.E. Miller, and J. Gold, “A comparison of HIV risk between women and men who inject drugs,” *AIDS Education and Prevention*, 6, 1994.
- Y-I. Hser Y-I, E. Evans, Y-C. Huang, “Treatment outcomes among women and men methamphetamine abusers in California,” *Journal of Substance Abuse Treatment*, 28, 2005.
- A.C. Morrill, L. Kasten, M. Urato, and M. Larson, “Abuse, addiction, and depression as pathways to sexual risk in women and men with a history of substance abuse,” *Journal of Substance Abuse*, 13, 2001.
- S.J. Semple, I. Grant, and T.L. Patterson, “Female methamphetamine users: social characteristics and sexual risk behavior,” *Women & Health*, 40, 2004.
- C.E. Sterk, H. Klein and K.W. Elifson, “Predictors of condom-related attitudes among at-risk women,” *Journal of Women’s Health*, 13, 2004.
- C.E. Sterk, K.P. Theall, K.W. Elifson, and D. Kidder, “HIV risk reduction among African-American women who inject drugs: a randomized controlled trial,” *AIDS and Behavior*, 7, 2003.
- Treatment Episode Data Set (TEDS)*, Washington, D.C.: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, 2004. Available at: <http://www.dasis.samhsa.gov/webt/quicklink/CA04.htm>.



# Methamphetamine and Special Populations

## 17. Methamphetamine Use Among Adolescents and Young Adults

Criminal justice, health care and treatment data sources indicate that methamphetamine use among youth 25 years old and younger is becoming a major problem within California. The high rates of methamphetamine-related treatment admissions, increasing rates of methamphetamine use among juvenile arrestees, and rising rates of methamphetamine in emergency department mentions suggest that clinicians need to be aware of the risk factors associated with methamphetamine-using adolescents as well as the unique challenges inherent among these groups. In particular, adolescent females may require specialized treatment and prevention approaches. Recommendations for good quality adolescent treatment could serve as the best guides for methamphetamine treatment.<sup>1</sup>

### CLINICAL ISSUES

A little over two million adolescents, or 8.9 percent of the total adolescent population, suffered from substance abuse problems in the United States in 2003.<sup>2</sup> These numbers do not account for certain subgroups of adolescents, including school drop-out, foster care and delinquent or runaway youth.

There is very little published literature on treatment-involved adolescents, especially specific to methamphetamine users. Data from the Matrix adolescent programs in San Bernardino and Los Angeles Counties found that adolescent methamphetamine users, especially females, experienced more severe psychiatric distress, legal problems and problems in school at treatment admission

than adolescents who did not use methamphetamine.<sup>3</sup> In addition, methamphetamine-using youth were less likely to complete outpatient treatment and remain drug-free during treatment compared to users of drugs other than methamphetamine.



### Risk Factors for Methamphetamine Abuse Among Youth

Results from a study conducted with youth aged 8 to 22 suggest the following reasons why females may be more attracted to methamphetamine than males:

- Females are likely to have higher levels of depression, anxiety, low self-esteem, past physical or sexual abuse, and weight concerns.<sup>4</sup>
- Females become dependent upon methamphetamine faster and suffer more adverse effects sooner than their male counterparts.

Anecdotal reports from clinicians support these research findings, adding that family dysfunction and parental drug use, peer/social pressures, clinical psychopathology or co-morbid diagnoses as well as personality disorders serve as additional risk factors for the initiation and acceleration of methamphetamine use among youth. Recent research

from Yen and Chong indicates that male methamphetamine-using youth are more likely to exhibit antisocial disordered behaviors and

*The allure of methamphetamine among youth groups can also, in part, be attributed to its convenience. Like fast food, methamphetamine is easy to attain, simple to make, and relatively cheap to buy. As one youth from Phoenix House stated, “When I first tried methamphetamine, the stuff was pretty cheap and very easy for me to get.”*

attention deficit and hyperactivity disorder, whereas females tend to display mood and eating disorders.<sup>5</sup>

The allure of methamphetamine among youth groups can also, in part, be attributed to its convenience. Like fast food, the drug is easy to attain, simple to make, and relatively cheap to buy. As one youth from Phoenix

House, a large drug treatment center, stated, “When I first tried methamphetamine, the stuff was pretty cheap and very easy for me to get.”<sup>6</sup>

## Effects of Methamphetamine Use on Youth

Common physical consequences and clinical symptoms associated with methamphetamine use among youth include:

- Agitation
- Aggressive behavior
- Rapid mood swings
- Hyperactivity and impulsivity
- Lesion-marked skin
- Depression, paranoia and psychoses (e.g., auditory and visual hallucinations)

Methamphetamine use has also been implicated in increasing the likelihood for participation in risky behaviors. One study found that methamphetamine use heightens the risk for engaging in violence, multiple sex

partners, and unprotected sexual intercourse among young adult adolescents (18-24 years old).<sup>7</sup> These associations may be explained by the fact the methamphetamine use tends to have a disorganizing effect on the participant’s cognitive functions.<sup>8</sup>

## Criminal Justice and Emergency Department Data

The 2002 Arrestee Drug Abuse Monitoring System (ADAM) showed that in Los Angeles County, 22 percent of adolescent male arrestees between the ages of 18 and 21 tested positive for methamphetamine.<sup>9</sup> (Note: Females were not tested.) For other California sites in 2000, ADAM reported methamphetamine-positive urine tests of the under-21 and 21-25 age groups were represented by the following percentages: Sacramento, 25.2 percent and 24.5 percent; San Diego, 20 percent and 24.1 percent; San Jose, 19.1 percent and 33.7 percent.

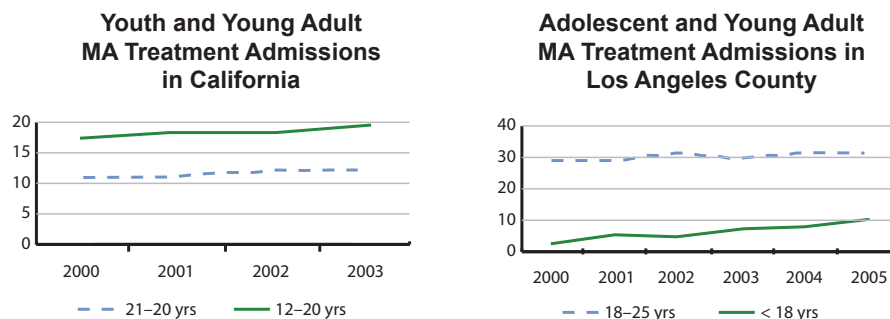
According to the Drug Abuse Warning Network (DAWN), which gathers data from selected metropolitan areas nationwide, methamphetamine-related emergency room visits involving youth 6-17 years old increased 88 percent (from 2,338 to 4,394) between 1995 and 2002. For example, methamphetamine-related emergency department episodes in 2002 within Los Angeles County accounted for the highest percentage of all admissions among young adults 18-25 (33 percent) and third highest among younger youth, 12-17 years old (8.1 percent).

## Treatment Admission Data

Treatment admissions for methamphetamine use in California have been on the rise since 2000 among adolescent and young adult populations,<sup>10</sup> as depicted by the graphs below (see Figure 4). Data from Los Angeles County

# Methamphetamine and Special Populations

**Figure 4. Methamphetamine Treatment Admissions for Young Adults**



Sources: California Department of Alcohol and Drug Programs and Los Angeles County Alcohol and Drug Program

treatment programs indicate that methamphetamine is the drug most commonly presented at treatment admissions for young adults 18 to 24 (36 percent) and third highest among youth 17 years and younger (12 percent).<sup>11</sup> The Phoenix House, revealed to CBS news that methamphetamine use accounted for almost half (42.3 percent) of the center's adolescent admissions in 2005.<sup>12</sup>

Of particular concern is the growing rate of methamphetamine use among adolescent and young adult females.

- Treatment data from adolescent substance abuse programs in Los Angeles County reveal that female adolescents are entering treatment at increasingly higher rates than males.<sup>13</sup>
- Of the adolescent methamphetamine treatment admissions in 2004, 28 percent were female, and only 7.7 percent were male.<sup>14</sup>
- According to the Phoenix House news report, treatment admission rates for females have been double that of males since 2002.<sup>15</sup>
- In one of the few studies published on methamphetamine-using adolescents, Rawson and others observed similar

trends among a group of outpatient treatment seeking youth (n=305), such that females were more likely to be using methamphetamine (63.6 percent) than males (14.3 percent).<sup>16</sup>

## TREATMENT STRATEGIES

The most effective adolescent substance abuse treatment programs include the following nine essential elements:

- Conduct comprehensive assessments and treatment matching.
- Provide a comprehensive and integrated treatment approach to address medical, psychiatric, family, and social issues.
- Involve the family in treatment.
- Provide developmentally appropriate treatment.
- Promote engagement and retention in treatment.
- Use qualified staff.
- Make sure treatment is gender and culturally competent.
- Provide continuing care.
- Conduct rigorous evaluation for assessing treatment outcomes.<sup>17</sup>

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## REFERENCES

1. M.D. Godley and W.L. White, "A brief history and some current dimensions of adolescent treatment in the United States," *Recent Developments in Alcoholism*, 17, 2005, 367-382.
2. *Results from the 2003 National Survey on Drug Use and Health (NSDUH): National findings*, Series H-25, Publication No. SMA 04-3964, Rockville, Maryland: Office of Applied Studies, Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (DHHS), 2004
3. R.A. Rawson, R. Gonzales, M. McCann, et. al, "Methamphetamine use among treatment-seeking adolescents in Southern California: participant characteristics and treatment response," *Journal of Substance Abuse Treatment*, 29, No. 2, 2005, 67-74.
4. National Center on Addiction and Substance Abuse at Columbia University, *The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22, Special Report*, 2003. Available at: <http://www.casacolumbia.org/pdshopprov/files/151006.pdf>.
5. C-F. Yen and M-Y. Chong, M-Y, "Comorbid psychiatric disorders, sex, and methamphetamine adolescents: a case-control study," *Comprehensive Psychiatry*, 47, 2006, 215-220.
6. "Teenage Methamphetamine Use On the Rise In Southern California," Article in Kcal 2 Local News, March 13, 2006. Available at: [http://cbs2.com/local/local\\_story\\_072142504.html](http://cbs2.com/local/local_story_072142504.html).
7. A. Baskin-Sommers and I. Sommers, "The co-occurrence of substance use and high-risk behaviors," *Journal of Adolescent Health*, 38, 2006, 609-611.
8. S.L. Simon, C. Domier, J. Carnell, P. Brethen, R.A. Rawson, and W. Ling, "Cognitive impairment in individuals currently using MA," *American Journal on Addiction*, 9, 2000, 222-31.
9. National Institute of Justice, Arrestee Drug Abuse Monitoring System (ADAM), *Annualized Site Reports 2001*, Washington, D.C.: U.S. Department of Justice, 2003.
10. California Department of Alcohol and Drug Programs, California Alcohol and Drug Data System, Unpublished admissions data for January 2000-June 2005; 2006. These figures are for admissions to programs that receive public funding and/or are licensed to provide narcotic replacement therapy. Many private treatment admissions, including those for hospitals, are not included in these statistics.
11. Los Angeles County Alcohol and Drug Program Administration, Treatment statistics from 2002-2005.
12. "Teenage Methamphetamine Use On the Rise In Southern California."
13. Los Angeles County Alcohol and Drug Program Administration, Treatment statistics from 2002-2005.
14. Ibid.
15. "Teenage Methamphetamine Use On the Rise In Southern California."
16. R.A. Rawson, R. Gonzales, M. McCann, et al., "Methamphetamine use among treatment-seeking adolescents in Southern California, 2006.
17. T.L. Mark, X. Song, R. Vandivort, S. Duffy, J. Butler, R. Coffey, and V.F. Schabert, "Characterizing substance abuse programs that treat adolescents," *Journal of Substance Abuse Treatment*, 31, 2006, 59-65.

## 18. Methamphetamine Addiction Among Latinos

Methamphetamine use is on the rise among members of the California Latino population, who now constitute one third of publicly funded substance abuse treatment admissions in the state. However, culturally appropriate treatment services geared to Latinos are lacking.

### CLINICAL ISSUES

A dramatic increase has occurred in California over the past five years in publicly funded treatment admissions for Latinos addicted to methamphetamine. In 2004, Latinos accounted for one-third of all treatment admissions<sup>1</sup> (see Figure 5). By comparison, Latinos constituted an estimated 34.7 percent of the total California population in 2005.

Data from the Community Epidemiology Work Group show that in Los Angeles, Latinos represented 47 percent of treatment admis-

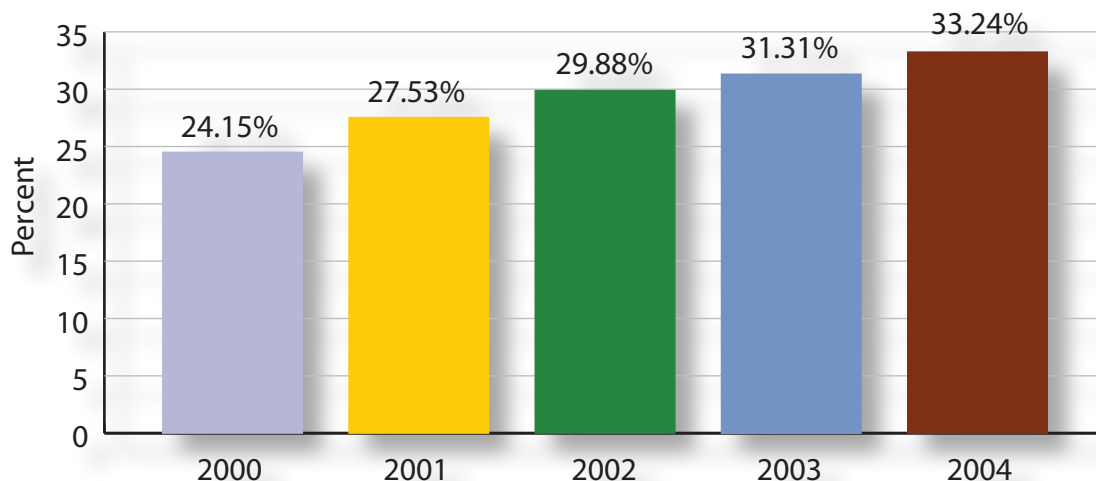
sions for the second half of 2004.<sup>2</sup> Latinos of Mexican descent represent the majority of these treatment admissions.

The changing face of methamphetamine addiction is catching service agencies unaware. As a result, culturally appropriate resources and treatment are inadequate, especially for Latinos who speak only Spanish and those who are less acculturated and have less formal education.

### Latinos and Methamphetamine: Key Points

- In 2003, 8 percent to 10 percent of Latino youth in California reported that they had tried methamphetamine.<sup>3</sup>
- In 2000, the percentage of Latina women arrestees in California testing positive for methamphetamine ranged from 21 percent to 39 percent.<sup>4</sup>

**Figure 5. Percent of Total Methamphetamine Treatment Admissions Who Were Latino**



Source: California Alcohol and Drug Data System

- The percentage of Latino male arrestees in Santa Clara County testing positive for methamphetamine rose from 30 percent in 2000 to 38 percent in 2002.<sup>5</sup>
- Gay male Latinos are particularly at risk for methamphetamine addiction because of the high level of methamphetamine use in the gay community.
- Treatment admission data for 2005 in Los Angeles County showed that almost 80 percent of the 18- to 25-year-old Latina clients were admitted with methamphetamine as their primary drug.

### Prevention Implications

Since a very substantial and increasing proportion of the methamphetamine-addicted individuals seeking treatment in California

*Appropriate strategies for prevention and early intervention programs among Latinos include understanding the: (1) factors inhibiting and facilitating drug use; and (2) cultural constraints on acknowledgment of drug use and dependence.*

are Latino, methamphetamine treatment practitioners need to know the key to prevention in the Latino population: in-depth knowledge and understanding of Latino cultures and the role of acculturation. Appropriate strategies for prevention and early intervention programs include understanding: (1) the factors inhibiting and facilitating drug use; and (2) cultural constraints on acknowledgment of drug use and dependence.

### TREATMENT STRATEGIES

- Make sure that treatment interventions are culturally competent and take into account common Latin American cultural beliefs, values and practices regarding health and psychological well-being.
- Apply established principles for adapting substance abuse treatment services for Latino clients to the treatment effort with methamphetamine users.
- Involve services for family members in the treatment plan and use active outreach efforts to include family members in treatment.
- Include treatment materials and staff designed to meet the needs of young people, and young women in particular. The methamphetamine problem in the Latino community appears to be concentrated among younger users and especially younger Latinas. To the extent that this increases the proportion of clients with young children, child care and parenting skills services may be particularly appropriate.
- Make treatment services trauma-informed due to the high association of domestic violence with methamphetamine use.
- Employ staff with Spanish language capabilities to address the treatment needs of monolingual Spanish-speaking clients.
- Make written treatment materials available in Spanish.
- Employ research-based treatment strategies, including contingency management (positive incentives and other forms of positive reinforcement) with this group.<sup>6</sup>

# Methamphetamine and Special Populations

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## REFERENCES

1. California Department of Alcohol and Drug Programs, California Alcohol and Drug Data System, Unpublished admissions data for January 2000-June 2005; 2006. These figures are for admissions to programs that receive public funding and/or are licensed to provide narcotic replacement therapy. Many private treatment admissions, including those for hospitals, are not included in these statistics.
2. *Epidemiologic Trends in Drug Abuse: Advance Report*, Rockville, Maryland: Community Epidemiology Work Group, National Institute on Drug Abuse, June 2005.
3. *Drug Use Ever in Lifetime by Ethnicity*, Atlanta, Georgia: Youth Risk Behavior Surveillance System, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 2003. Data for Latino students reporting methamphetamine use one or more time during their life is from three California counties: Los Angeles, 10 percent; San Diego, 9 percent; and San Bernardino, 8 percent.
4. *Arrestee Drug Abuse Monitoring, Annual Report*, Washington, D.C.: Office of Justice Programs, National Institute of Justice, U.S. Department of Justice, 2000. Data for Latina female arrestees testing positive for methamphetamine is from three California counties: Los Angeles, 21 percent; San Diego, 23 percent; and Santa Clara (San Jose), 39 percent.
5. J.D. Rogers and M. Evans, *Methamphetamine Use in Santa Clara County, California*, Paper presented to the American Society of Criminology Annual Meeting, Denver, Colorado, November 2003.
6. Another empirically supported treatment approach, the Matrix Model, has been translated into Spanish and adapted for Latino clients by Felipe Castro, Ph.D., Professor, Arizona State University. This treatment manual is available from the Matrix Institute. Contact Charles Anderson at [charles@matrixinstitute.org](mailto:charles@matrixinstitute.org) or call (310) 207-4322.





# Methamphetamine and Special Populations

## 19. Methamphetamine Use and HIV/Hepatitis C

Methamphetamine use is strongly associated with transmission of HIV through drug-related sexual behavior and with hepatitis C virus through intravenous injection practices.

### CLINICAL ISSUES

#### Methamphetamine Use and HIV

There is a growing public health concern about the connection between methamphetamine use and HIV-infection.<sup>1</sup> Research has repeatedly shown that use of methamphetamine is associated with increased sexual desire, arousal and risky behaviors.<sup>2</sup>

Significant attention has been directed at men who have sex with men (MSM), whose increased rates of HIV infection have been strongly linked to methamphetamine use.<sup>3</sup> MSM who use the drug report decreased condom use, increased numbers of sexual partners and sero-discordant sexual partners, and prolonged sexual encounters.<sup>4</sup>

#### Methamphetamine Use and Associated Sexual Behaviors

Use of methamphetamine has a number of associated sexual behaviors, including:

- Unprotected sex
- Sex trading
- Group sex
- More frequent and longer sexual episodes
- Casual and anonymous sexual partners
- Anal intercourse<sup>5</sup>

More recent work focusing on non-MSM populations, including individuals from rural environments and heterosexual men and women, points to the tremendous risk for HIV among those who use methamphetamine.

- Rural methamphetamine users report drug-associated unprotected sex, sex trading and group sex.<sup>6</sup>
- Heterosexual methamphetamine users report that they have sex more frequently for longer periods of time and engage in more extreme (or "taboo") sexual activities.<sup>7</sup>
- In a study of heterosexual men in Northern California, recent methamphetamine use was associated with sex with a casual or anonymous female, anal intercourse and sex with an injection-drug user.<sup>8</sup>
- Female methamphetamine users report high numbers of sexual partners and frequent, unprotected vaginal and anal sex.<sup>9</sup>
- Evidence suggests male methamphetamine users may demand more risky sex acts of their female partners when using the drug.<sup>10</sup>

*Practitioners need to address the intertwined relationship of methamphetamine and sexual expression, acknowledging the powerful role positive sexual associations play in continued use of the drug, for interventions aimed at reducing the HIV-risk behaviors of methamphetamine users.*

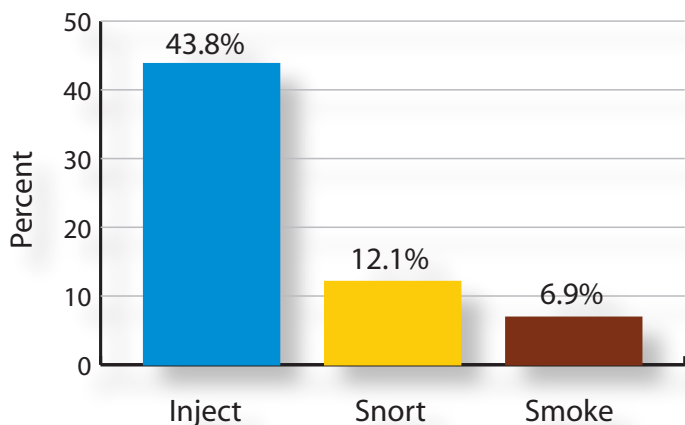
Methamphetamine users are at increased risk for becoming HIV-infected largely due to drug-associated sexual behaviors. Methamphetamine is a highly reinforcing

sex drug. Many users view it as enhancing sexual performance and pleasure, and express concerns that sexual experiences will be boring, mundane or unsatisfying in its absence.<sup>11</sup>

## Methamphetamine Use and Hepatitis C

The hepatitis C virus (HCV) is the most common blood-borne infection in the United States, with roughly four million Americans infected. Approximately one-fifth of chronic carriers are likely to experience serious complications, including cirrhosis, liver cancer and even death.<sup>12</sup> Reports indicate that injection drug use has become the principal route of most HCV transmissions in this country.

**Figure 6. HCV Rates by Route of Administration Among Treatment-Seeking Methamphetamine Users**



Source: *Journal of Substance Abuse Treatment*, 2006

- Injection drug use accounts for nearly 70 percent of acute and 60 percent to 90 percent of all chronic HCV infections.<sup>13</sup>
- HCV transmission is primarily facilitated by drug-sharing practices.

- Noninjection drug use practices, including unsafe sexual practices, body piercing and tattooing, also place drug users at heightened risk for HCV infection.
- Studies of heroin and cocaine injection users report high rates of HCV.

Health care costs attributed to HCV in the United States are estimated at over \$1 billion.<sup>14</sup> The annual use of health care resources has increased by 25 percent to 30 percent from 1994 to 2001 among HCV-infected clients.<sup>15</sup>

Relatively few studies have looked at rates of HCV infection among methamphetamine-addicted individuals. In one study,<sup>16</sup> HCV prevalence rates for a large methamphetamine-dependent treatment-seeking sample ( $N = 723$ ) was 15 percent, with almost half of the injection users being infected (see Figure 6).

Women methamphetamine users were also found to be at greater risk of HCV infection and had slightly higher rates of injection use than men. These findings correspond to research showing that the male-to-female ratios of methamphetamine use are narrowing, with higher rates observed among both female adults and teens.<sup>17</sup>

Research has demonstrated that injection drug use and risky sexual behaviors tend to place methamphetamine users at much greater risk for HCV infection.<sup>18</sup> For example, one study investigated sexual and injection behavioral outcomes among a methamphetamine-dependent sample of MSM and found that those who injected methamphetamine had significantly more HIV-positive partners than those who did not inject the drug.<sup>19</sup>

# Methamphetamine and Special Populations

## TREATMENT STRATEGIES

- Address the intertwined relationship of methamphetamine and sexual expression, acknowledging the powerful role positive sexual associations play in continued use of the drug, for interventions aimed at reducing the HIV-risk behaviors of methamphetamine users.
- Adopt promotion of safe sex practices and referral to needle exchange programs as prevention interventions to address the risk factors and health complexities associated with HCV. Methamphetamine users, especially injection users, are at significant risk for HCV infection, and HCV testing services are important.

## REFERENCES

1. G. Mansergh, D. Purcell, R. Stall, et al., "CDC consultation on methamphetamine and sexual risk behaviors for HIV/STD infections: summary and suggestions," *Public Health Report*, 121, 2005, 127-132.
2. J. Buffum, "Pharmacosexology: the effects of drugs on sexual function, a review," *Journal of Psychoactive Drugs*, 14, 1982, 5-44.
3. S. Shoptaw, C.J. Reback, J.A. Peck, et al., "Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men," *Drug and Alcohol Dependence*, 78, No. 2, 2005, 125-134.
4. G. Colfax, T.J. Coates, T. Husnik, et al., and the EXPLORE Study Team, "Longitudinal patterns of methamphetamine, popper (amyl nitrite), and cocaine use and high-risk sexual behavior among a cohort of San Francisco men who have sex with men," *Journal of Urban Health*, 82 (suppl 1), 2005, 62-70; T. Patterson, S. Semple, J. Zians, and S. Strathdee, "Methamphetamine-using HIV-positive men who have sex with men: correlates of polydrug use," *Journal of Urban Health*, 82 (suppl 1), 2005, 120-126; and R. Reback, S. Larkins and S. Shoptaw, "Changes in the meaning of sexual risk behaviors among gay and bisexual male methamphetamine abusers before and after drug treatment," *AIDS and Behavior*, 8, No. 1, 2004, 87-98.
5. W. Zule, E. Costenbader, C. Coomes, et al., "Stimulant use and sexual risk behaviors for HIV in rural North Carolina," Manuscript submitted for publication, 2006; A.H. Brown, C. Domier and R.A. Rawson, "Stimulants, sex, and gender," *Sexual Addiction & Compulsivity*, 12, 2005, 169-180; Centers for Disease Control and Prevention, "Methamphetamine use and HIV risk behaviors among heterosexual men – preliminary results from five Northern California counties, December 2001-November 2003," *Morbidity and Mortality Weekly Report*, 55, No. 10, 2006, 273-277; and S. Semple, I. Grant and T. Patterson, "Female methamphetamine users: social characteristics and sexual risk behavior," *Women and Health*, 40, No. 3, 2004, 35-50.
6. W. Zule, E. Costenbader, C. Coomes, et al., *Stimulant use and sexual risk behaviors for HIV in rural North Carolina.*"
7. A.H. Brown, C. Domier and R.A. Rawson, "Stimulants, sex, and gender."
8. Centers for Disease Control and Prevention, "Methamphetamine use and HIV risk behaviors among heterosexual men—preliminary results from five Northern California counties, December 2001-November 2003."
9. S. Semple, I. Grant and T. Patterson, "Female methamphetamine users: social characteristics and sexual risk behavior."
10. F. Molitor, S.R. Truax, J.D. Ruiz, and R.K. Sun, "Association of methamphetamine use during sex with risky sexual behaviors and HIV infection among non-injection drug users," *Western Journal of Medicine*, 163, 1998, 93-97.
11. C. Reback, S. Larkins and S. Shoptaw, "Changes in the meaning of sexual risk behaviors among gay and bisexual male methamphetamine abusers before and after drug treatment"; and A.H. Brown, C. Domier and R.A. Rawson, "Stimulants, sex, and gender."
12. Centers for Disease Control and Prevention, "Public health and injection drug use," *Morbidity and Mortality Weekly Report*, 50, No. 19, 2001, 377.
13. H. Hagan, H. Thiede and D.C. Des Jarlais, "HIV/hepatitis C virus co-infection in drug users: risk behavior and prevention," *AIDS*, 19 (suppl 3), 2005, S199-S207.
14. W.R. Kim WR, "The burden of hepatitis C in the United States," *Hepatology*, 36, 2002, S30-S34.
15. W.C. Grant, R.R. Jhaveri, J.G. McHutchison, K.A. Schulman, and T.L. Kauf, "Trends in health care resource use for hepatitis C virus infection in the United States," *Hepatology*, 42, No. 6, 2005, 1406-1413.
16. R.G. Gonzales, P. Marinelli-Casey, S. Shoptaw, A. Ang, and R.A. Rawson, "Hepatitis C virus infection among methamphetamine dependent individuals in outpatient treatment," *Journal of Substance Abuse Treatment*, 31, 2006, 195-202.
17. R.A. Rawson, R. Gonzales, J.L. Obert, M.J. McCann, and P. Brethen, "Methamphetamine use among treatment-seeking adolescents in Southern California: participant characteristics and treatment response," *Journal of Substance Abuse Treatment*, 29, No. 2, 2005, 67-74.
18. C.P. Domier, S.L. Simon, R.A. Rawson, A. Huber, and W. Ling, "A comparison of injecting and noninjecting methamphetamine users," *Journal of Psychoactive Drugs*, 32, 2000, 229-232; S.J. Semple, T.L. Patterson and I. Grant, "A comparison of injection and non-injection methamphetamine-using HIV positive men who have sex with men," *Drug and Alcohol Dependence*, 76, No. 2, 2004, 203-212; and F. Molitor, J.D. Ruiz, N. Flynn, J.N. Mikanda, R.K. Sun, and R. Anderson, "Methamphetamine use and sexual and injection risk behaviors among out-of-treatment injection drug users," *American Journal of Drug and Alcohol Abuse*, 25, 1999, 475-493.



# Methamphetamine and Special Populations

## 20. Methamphetamine Use and Men Who Have Sex With Men

Men who have sex with men (MSM) and also use methamphetamine present unique needs and issues to treatment practitioners. MSM use the drug for reasons that strongly impact the process of addiction treatment and relapse prevention.

### CLINICAL ISSUES

#### High Prevalence

Surveys show that adult MSM are more than 10 times as likely to report recent use of methamphetamine than are heterosexual men or women,<sup>1</sup> and that young MSM (aged 15-22) are even more likely to report recent use of the drug.<sup>2</sup> Methamphetamine usage is often intertwined with the individual's identity within the MSM community. The drug is often used to facilitate gay sexual experiences and assuage thoughts about HIV-related issues for both infected and uninfected men.<sup>3</sup>

#### Sex

Methamphetamine causes euphoria, brightens mood, eliminates fatigue, decreases appetite, focuses attention, and heightens libido.<sup>4</sup> MSM may combine the drug with erectile dysfunction medications (e.g., sildenafil, vardenafil, tadalafil) to ensure reliability of sexual functioning. Use of methamphetamine and erectile dysfunction medications are independently associated with unprotected anal sex.<sup>5</sup> The drug is used to set aside internal feelings and to numb feelings of stigma and negative personal attributions, internalized or otherwise. Treatment challenges include working to attain abstinence goals for MSM and constructing a

satisfying life in the absence of drug use. This is perhaps one of the greatest issues for clinicians and clients, since men who abstain from sex as a way of avoiding methamphetamine use frequently relapse.

#### HIV

The odds for becoming infected with HIV double<sup>6</sup> or triple<sup>7</sup> for MSM who use amphetamines compared to MSM who do not use. Methamphetamine-using MSM engage in high rates of sexual risk behaviors related to HIV transmission;<sup>8</sup> this especially applies to young MSM.<sup>9</sup> With the potential for longer, higher-risk sexual behavior when using methamphetamine, the opportunity for HIV transmission increases. Combining methamphetamine with drugs used to facilitate sexual functioning increases the risk for disease transmission.<sup>10</sup>



It is important for clinicians to assist clients in reaching their personal goals regarding HIV, which can range from not becoming HIV-infected to adhering to HIV medication regimens. There are concerns that methamphetamine in particular may lead to new HIV infections that are resistant to multiple treatment drugs.<sup>11</sup> For HIV-positive individuals, using methamphetamine while taking HIV protease inhibitors (particularly ritonavir) may increase the potential for overdose. Being high on methamphetamine can also cause many HIV+ individuals to forget to take – or be unconcerned with taking – their HIV medications.

## TREATMENT STRATEGIES

A coherent, comprehensive strategy for intervening with MSM methamphetamine-using individuals needs to be broad enough to address use over a range of levels, from initiation of use to abuse to addiction. Some evidence-based suggestions follow.

### Prevention Strategies

Messages that target the wider MSM community and strive to prevent initiation of methamphetamine use are low-cost ways to increase recognition of the related problems of methamphetamine use and associated HIV-transmission behaviors. Examples include “Crystal Mess,” “Got Meth?” and “Meth=Death.” These campaigns may prevent some individuals from initiating use, but likely have little impact on MSM already addicted to methamphetamine, for whom more intensive interventions are appropriate.

### Screening/Brief Intervention Strategies

The high prevalence of methamphetamine use by MSM in California suggests that current users and addicted individuals are being seen, but not detected, by health and social service providers. For MSM who are irregular users and not addicted to the drug, screening and brief intervention by a medical, psychiatric or drug treatment provider may be sufficient to motivate reduction or cessation of methamphetamine use.

One such low-intensity, evidence-based intervention, the 5 A's, adapts the practice guideline for smoking cessation. This approach can be implemented in most clinical settings and provides direction for screening and briefly intervening with MSM who use methamphetamine.<sup>12</sup>

**Ask:** Screen client for methamphetamine use at points of physical, mental health and substance abuse care using a structured progress note that assesses drug use.

**Advise:** Recommend in a clear manner (if client admits to methamphetamine use) that he quit using the drug.

**Assess:** Inquire whether client is willing to make a quit attempt.

**Assist:** Help client by evaluating his level of methamphetamine use, linking him to available community/professional resources, and recommending medical evaluation, particularly if individual is HIV-infected

**Arrange:** Facilitate future evaluation by scheduling repeat visits for client or follow-up telephone calls.

### Behavioral Treatment Strategies

A substantial group of MSM methamphetamine-addicted individuals have levels of use requiring intensive interventions that integrate behavioral drug abuse treatment with HIV sexual-risk reductions. Currently, no medications are approved for treating methamphetamine dependence. Yet, behavioral therapies have shown efficacy in assisting individuals with methamphetamine abuse or dependence to discontinue drug use.

Clients should be referred to an appropriate behavioral treatment program:

**Community-based 12-Step Programs**, the most widely distributed and cost-effective (i.e., free) treatment programs available, include Alcoholics Anonymous, Crystal Meth Anonymous, Narcotics Anonymous, and LifeRing.<sup>13</sup>

**The Positive Reinforcement Opportunity Project (PROP)** represents creative use of



# Methamphetamine and Special Populations

contingency management to help MSM quit methamphetamine use. Participants get urine tests three times a week for 12 weeks. Each time the men test negative for methamphetamine, they receive positive reinforcement and vouchers good for food, medical bills, personal care items, and more.<sup>14</sup>

The **Matrix Model** is perhaps the best-studied methamphetamine treatment approach. This behavioral intervention uses 48 group and individual sessions over 16 weeks.<sup>15</sup> One MSM study compared a variation of the model with contingency management (providing

vouchers of increasing value for methamphetamine-negative urine), a combination of both approaches, and a gay-specific version of Matrix.<sup>16</sup> All groups showed substantial reductions in methamphetamine use and sexual risk behavior one year later.

**Residential treatment using social model recovery programs** provides the highest level of intensity in care. In major California cities, these facilities offer such care in gay-friendly settings to help methamphetamine-addicted MSM work through recovery concerns related to the issues of identity, sex and HIV.

## REFERENCES

1. R. Stall, J.P. Paul, G. Greenwood, et al., "Alcohol use, drug use and alcohol-related problems among men who have sex with men," *Addiction*, 96, 2001, 1589-1601; Substance Abuse and Mental Health Services Administration, *Results from the 2005 National Survey on Drug Use and Health: National Findings*, Office of Applied Studies, NSDUH Series H-30, DHHS Publication No. SMA 06-4194. 2006. Rockville, MD.
2. H. Thiede, L.A. Valleroy, D.A. MacKellar, et al., "Young Men's Survey Study Group. Regional patterns and correlates of substance use among young men who have sex with men in 7 US urban areas," *American Journal of Public Health*, 93, 2003, 1915-21.
3. C.J. Reback, "The social construction of a gay drug: methamphetamine use among gay and bisexual males in Los Angeles," *City of Los Angeles Report*, 1997. Available at: [http://www.uclaisap.org/documents/final-report\\_cjr\\_1-15-04.pdf](http://www.uclaisap.org/documents/final-report_cjr_1-15-04.pdf).
4. J.A. Peck, C.J. Reback, X. Yang, et al., "Sustained reductions in drug use and depression symptoms from treatment for drug abuse in methamphetamine-dependent gay and bisexual men," *Journal of Urban Health*, 82 (1 Suppl 1), 2005, 100-108.
5. G. Mansergh, R.L. Shouse, G. Marks, et al., "Methamphetamine and sildenafil (Viagra) use are linked to unprotected receptive and insertive anal sex, respectively, in a sample of men who have sex with men," *Sexually Transmitted Infections*, 82, 2006, 131-134.
6. S.P. Buchbinder, E. Vittinghoff, P.J. Heagerty, et al., "Sexual risk, nitrite inhalant use, and lack of circumcision associated with HIV seroconversion in men who have sex with men in the United States," *Journal of Acquired Immune Deficiency Syndrome*, 39, 2005, 82-89.
7. K. Buchacz, W. McFarland, T.A. Kellogg, et al., "Amphetamine use is associated with increased HIV incidence among men who have sex with men in San Francisco," *AIDS*, 19, 2005, 1423-1424.
8. G. Colfax, E. Vittinghoff, M.J. Husnik, et al., "Substance use and sexual risk: a participant and episode-level analysis among a cohort of men who have sex with men," *American Journal of Epidemiology*, 159, 2004, 1002-1012; B.A. Koblin, M.J. Husnik, G. Colfax, et al., "Risk factors for HIV infection among men who have sex with men," *AIDS*, 20, 2006, 731-739.
9. D.D. Celentano, L.A. Valleroy, F. Sifakis, et al., "Associations between substance use and sexual risk among very young men who have sex with men," *Sexually Transmitted Diseases*, 33, 2006, 265-71.
10. D.D. Brewer, M.R. Golden and H.H. Handsfield, "Unsafe sexual behavior and correlates of risk in a probability sample of men who have sex with men in the era of highly active antiretroviral therapy," *Sexually Transmitted Diseases*, 33, 2006, 250-255; S.P. Buchbinder, E. Vittinghoff, P.J. Heagerty, et al., "Sexual risk, nitrite inhalant use, and lack of circumcision associated with HIV seroconversion in men who have sex with men in the United States."
11. A. Urbina and K. Jones, "Crystal methamphetamine, its analogues, and HIV infection: medical and psychiatric aspects of a new epidemic," *Clinical Infectious Diseases*, 38, 2004, 890-894; M. Markowitz, H. Mohri, S. Mehandru, et al., "Infection with multidrug resistant, dual-tropic HIV-1 and rapid progression to AIDS: A case report," *Lancet*, 365, 2005, 1031-1038.
12. M.C. Fiore, W.C. Bailey, S.J. Cohen, et al., "Treating Tobacco Use and Dependence. Quick Reference Guide for Clinicians," Rockville, Maryland: U.S. Public Health Service, U.S. Department of Health and Human Services, 2000.
13. [www.aa.org](http://www.aa.org); [www.na.org](http://www.na.org); [www.unhooked.com](http://www.unhooked.com); and [www.crystallmeth.org](http://www.crystallmeth.org); [www.propsf.com](http://www.propsf.com).
14. Ibid.
15. R.A. Rawson, P. Marinelli-Casey, M.D. Anglin, et al., "A multi-site comparison of psychosocial approaches for the treatment of methamphetamine dependence," *Addiction*, 99, 2004, 708-717.
16. S. Shoptaw, C.J. Reback, J.A. Peck, et al., "Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men," *Drug and Alcohol Dependence*, 78, 2005, 125-134; [www.uclaisap.org/documents/Shoptawetal\\_2005\\_tx%20manual.pdf](http://www.uclaisap.org/documents/Shoptawetal_2005_tx%20manual.pdf).





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## California Department of Alcohol and Drug Programs

**Kathryn P. Jett**, Director

**Denzil Verardo**, Chief Deputy Director

**Laurence J. Carr**, Ph.D., Research Manager III

**Keith Coppage**, Manager of Program and Fiscal Policy

**Michael Cunningham**, Deputy Director of Program Services

**Mary Droege**, Executive Secretary

**Lisa Fisher**, Public Information Officer

**Brandon Manzano**, Student Assistant

**Elizabeth Miller**, Student Assistant

## Consultants

**Wendy Alexander**, Principal, Wendy Alexander Writing and Editing Services

**Kelly Elder**, Senior Associate, Dennis Rose and Associates

**Jim Molina**, Senior Graphic Designer, California State University, Sacramento

## University of California, Los Angeles, Integrated Substance Abuse Programs (ISAP)

The following individuals assisted with developing the information contained in this publication, and many contributed to the writing of the chapters. ISAP includes many of the leading U.S. researchers, trainers and clinicians with expertise on methamphetamine and treatment of methamphetamine-related disorders.

**Walter Ling**, M.D., Director; **Richard A. Rawson**, Ph.D.; **M. Douglas Anglin**, Ph.D.; **Mary-Lynn Brecht**, Ph.D.; **Alison Hamilton Brown**, Ph.D.; **William Burdon**, Ph.D.; **Michael Campos**, Ph.D.; **Jerry Cartier**, M.A.; **Desirée Crèvecoeur**, Ph.D.; **Richard De La Garza**, Ph.D.; **Elizabeth Evans**, M.A.; **David Farabee**, Ph.D.; **Thomas Freese**, Ph.D.; **Rachel Gonzales**, Ph.D.; **Christine E. Grella**, Ph.D.; **Elizabeth Hall**, Ph.D.; **Angela Hawken**, Ph.D.; **Maureen Hillhouse**, Ph.D.; **Yih-Ing Hser**, Ph.D.; **Kris Langabeer**, B.S.; **Sherry Larkins**, Ph.D.; **Edythe D. London**, Ph.D.; **Florentina Marcu**, M.S.; **Patricia Marinelli-Casey**, Ph.D.; **Nena Messina**, Ph.D.; **Debra A. Murphy**, Ph.D.; **Thomas Newton**, M.D.; **Valerie Pearce**, B.A.; **James Peck**, Ph.D.; **Brian Perrochet**, B.A.; **Deborah Podus**, Ph.D.; **Michael Prendergast**, Ph.D.; **Cathy J. Reback**, Ph.D.; **Beth Finnerty Rutkowski**, M.P.H.; **Vivek Shetty**, D.D.S.; **Steven Shoptaw**, Ph.D.; **Sara Simon**, Ph.D.; **Cheryl Teruya**, Ph.D.; **Darren Urada**, Ph.D.; and **Donnie W. Watson**, Ph.D.

## Loyola University

Paul Schulte, M.A.

## Matrix Institute on Addictions (clinical affiliate of UCLA)

Jeanne Obert, M.F.T., M.S.M.; Michael McCann, M.A.; Dan George, M.P.H.; Sam Minsky, M.F.T.; Deborah Service, M.F.T.; Janice Stimson, Psy.D.; and Ahndrea Weiner, M.F.T.

## Focus Group and Review Panel

**Joseph Amico**, Licensed Independent Substance Abuse Counselor, Arizona Association of Alcohol and Drug Addiction Counselors

**Susan Blacksher**, Executive Director, California Association of Addiction Recovery Resources

**Maryann Brookins**, Native American Representative, California Certification Board of Alcohol and Drug Counselors

**Stephanie Brooks**, Program Director, Promise House

**Nikki Buckstead-Pane**, Executive Director, National Council on Alcoholism and Drug Dependence

**Alicia Deleon-Torres**, Division Manager, Union of Pan Asian Communities

**Larry Gasco**, Project Director, California Hispanic Commission on Alcohol and Drug Abuse

**Michael Gorman**, Associate Professor, San Jose University

**Derrick Harvey**, Executive Director, Riverside Recovery Resources

**Bob Hulsey**, Program Director, PAAR Center

**Ray Martinez**, Director, Mi Casa Recovery Home

**Monine Mendosa**, Treatment Coordinator, Sacramento County

**Barbara and Ray Muse**, Program Directors, Gifted Healing Center

**Lori Newman**, Executive Director, Centers for Disease Control and Prevention

**Val Peterson**, Deputy Director of Operations, The Effort

**Jeff Pogue**, Director, Bridges

**Ayi Shaw**, Director of Administration, Gateway for Women

**George Sonsel**, Licensed Clinical Social Worker, Health Resources and Services Administration

**Deborah Vogel**, Executive Director, Alpha Oaks



