

## **METHAMPHETAMINE**

Methamphetamine in its purest form, crystal meth, is a drug which, since the late 90's, has made serious inroads into certain parts of the United States, specifically in the rural Midwest and the Southwest. The epidemiology of its use is unusual in two respects: 1) By and large, the drug's use is concentrated outside of the large cities (with several notable exceptions) and 2) use of the drug is equal among males and females, whereas most abused substances show a predominance of use among males.

In general, the common denominator in areas most affected by use of the drug is economic underdevelopment or economic deterioration. Unlike most illicit drugs, use appears highest in rural areas fitting this description. Several exceptions to this generalization exist. The cities of Honolulu and San Diego are heavily affected, possibly because of their being situated on the earliest trafficking routes from Southeast Asia, where the use first became common.

Native American reservations, including The Navajo Nation, have seen a rapid upswing in the use of the drug in the past two or three years, as attested by FBI and NPD officers, medical workers, social workers, and Navajo Nation Behavioral Health workers.

## **ORIGIN OF METHAMPHETAMINE**

The drug amphetamine was first fabricated in 1897. Its original use in medicine was as a nasal decongestant. The side effects of weight loss and wakefulness were noted and used to treat obesity and narcolepsy. During WWII, the drug was given to Allied and Axis troops for the purpose of improving wakefulness and endurance.

By a relatively simple chemical manipulation, a methyl group can be added to the amphetamine molecule, increasing the power of the drug from two to fifteen times in its various effects. The resulting drug is called methamphetamine. By the 1970's, the Federal Government had noted the increasing abuse of the drug and marked it as a Class II medication, indicating that it had few clinical uses and a high potential for abuse.

Although the drug had been abused as an oral medication for decades, in the late 90's its use in the pure crystallized form began to increase. In this form, the drug is called crystal meth or one of approximately 100 slang terms, many referring to the clear crystalline appearance of the drug. On Navajo Nation the drug is commonly known as "glass" or "G".

## **METHOD OF ABUSE**

The drug is taken in several ways. It can be taken by mouth in which case the onset of its effect is gradual. It can be snorted, as is commonly done with cocaine, in which case the effect is quite rapid. Most often, however, the drug is smoked by placing it in a small glass pipe after which the bowl is heated from below with a butane lighter. The fumes given off by the drug are then inhaled by the user, giving an immediate effect or "rush" to the user. The drug can be injected directly into the blood with similar immediate effect, although this appears to be less commonly done on Navajo Nation.

As with many abused substances, use of the drug is often social, with 3 or 4 users sharing the drug. 50 mg. is the common dose in abuse, although higher doses are needed by persons habituated to the drug. 200 mg. can be immediately lethal to an unaccustomed user.

## **SOURCE AND ECONOMICS**

Although the drug was originally brought into the country in large volumes from Southeast Asia, most of the drug is now produced in Mexico and the United States. Unlike cocaine (which has many similarities), the drug is not derived from a natural source and can be relatively easily made from legally purchased materials in home labs. The base compound is ephedrine or pseudoephedrine. Other ingredients, depending on which recipe is being used may include anhydrous ammonia, red phosphorus, ethanol, toluene, iodine, lye, sulphuric acid, hydrochloric acid, lithium, and ethyl ether. \$80 worth of raw materials generates about \$2000 worth of the drug.

Marketing of the drug is through already-established black market operations (bootleggers) or through gang activity. There has also been a proliferation of independent dealers in many communities.

The typical packaging of the drug is in 1/4-gram (250 milligram) packets resembling miniature (1" x 1") sandwich bags (see illustration). Each of these cost between \$20 to \$25 and are enough to supply 3 or 4 users for up to 24 hours. (The typical abuse dose of the drug is 50mg.; the effect lasts up to 24 hours). Users often re-dose themselves over several days or even weeks.

Relatively speaking, the drug is thus less expensive than alcohol for the effect it generates.

## **EFFECTS OF METHAMPHETAMINE ON USERS**

Methamphetamine has nearly identical effects on the user as does cocaine but is actually a much more powerful drug. These effects are mediated through the effects of dopamine and serotonin, two neurotransmitters. The presence of these neurotransmitters in normal amounts is associated with appetite; sleep regulation, sexual activity, sense of well-being, affect, self-esteem, strength, and

activity levels

Cocaine has its effect by preventing the normal reabsorption of these neurotransmitters thus giving them an unnaturally prolonged effect. Methamphetamine does the same but is even more powerful in that it causes more of the neurotransmitters to be released in the first place.

The overall effect of this chemical activity is to increase the activity of the sympathetic nervous system with the following results:

- Intensely pleasurable sensation (rush) lasting up to 30 minutes (only a five minute rush with cocaine)
- Rapid increase in pulse rate
- Rapid (and dangerous) rise in blood pressure
- Increase in physical activity (will remain awake for 24 hours)
- Increase in speech (incessant chattering)
- Increase in self esteem and self assertiveness, aggressiveness, argumentativeness
- Paranoia (concern that other persons or things mean them harm)
- Hallucinations of "shadow people" or monsters
- Seizure activity (from over stimulation of the brain)
- Loss of appetite and nausea
- Involuntary grinding of the teeth
- Rapid eye movements and widened pupils
- Increased sexual appetite in both males and females

The immediate deadly effects of the drug include:

- Stroke (from ruptured blood vessels in the brain)
- Heart attack (from constriction of the vessels to the heart)
- Death from seizure

The chronic effects of the drug include:

- Severe weight loss (decreased appetite, increased physical activity)
- Deterioration of complexion and open sores (from picking at insects imagined to be on the skin)
- Hair loss
- Rotting out of the teeth (reason not known)
- Depression low self-esteem and sense of worthlessness suicidal ideation

Effects of the drug on pregnant women and their children:

- Low birth weight of the infant
- Miscarriage
- Birth defects
- Irritability and possibly learning disorders in the child

## **ADDICTION**

The addiction resulting from chronic methamphetamine abuse appears to be as dense as that resulting from heroin. Although no specific statistics are available, it is known that of every 10 persons sentenced into rehab by judges, only one will test drug free two weeks after completion of their program.

All persons trying the drug do not become addicted, however, and many individuals do not return to a repeated use of the drug because of its many side effects (users often cite anxiety, paranoia, headache, nausea, and foul taste in the mouth as their reasons for not returning to the drug).

Some individuals appear to be able to settle into a periodic recreational use of the drug, similar to the way Ecstasy is used (a related but milder drug).

Unfortunately addiction commonly ends in death from accidental overdose, death from suicide, death from homicide due to the addict's actions, or long-term imprisonment due to crimes committed by the addict. Unlike cocaine, methamphetamine causes what so far appears to be permanent damage to brain nerve cells with as much as 7% to 11% of brain material being lost in certain areas of the brain in long-term addicts. This probably explains the chronic depression and suicidal ideation that can plague addicts who have long quit the drug.

Successful rehabilitation often requires many episodes in rehab and the support of family and friends. It is hoped that the unique social structure of Native Americans (close extended families) and traditional ceremonies may be more successful than standard approaches of Western Medicine and Society

One successful method cited by a number of former addicts is imprisonment of a duration such that the person's head clears and he (she) can finally make a logical decision to quit the drug.

## **RECOGNIZING METHAMPHETAMINE USE IN INDIVIDUALS**

Although chronic use brings marked physical changes in the persons using the drug, these occur late in the course of addiction. The most immediate effect suggesting the use of methamphetamine is an abrupt change in behavior, which will be very puzzling to the person's family and associates.

Most notable is the onset of a tireless hyperactivity, which allows the person to stay awake for extended periods of time sometimes-lasting days. Abrupt personality changes often occur such as arguing with parents or siblings or disrespecting formerly revered elders. Incessant talking and a previously unseen self-assertiveness are common.

Borrowing of money, theft of money or goods (to supply the drug), and the sudden onset of lying are common.

The finding of empty drug packets, high temperature butane lighters, and 3 to 4 inch glass pipes may occur. Missing incandescent light bulbs suggests that they are being altered for makeshift devices to smoke the drug. No particular odor is associated with the smoking of the drug.

## **METHAMPHETAMINE AND SEXUALLY TRANSMITTED DISEASES**

Methamphetamine results in increased sexual appetite in some users and has played a part in some sexual assault cases. Not unusual are marathon episodes of sexual activity in which the usual precautions against the transmission of sexually transmitted diseases is abandoned. This sexual activity appears to be "rougher" than normal, facilitating disease transmission through cuts and abrasions.

Studies in users of the drug suggest that the increasing rate of STDs and HIV in certain populations are probably related to the use of methamphetamine as an aphrodisiac.

## **RECOGNIZING METH LABS OR DEALERS**

Drug labs making methamphetamine tend to be located in isolated areas due to the strong odors that may be associated with the manufacture. Labs are very portable however and may be set up quickly in apartments and motels. A strong ammonia smell is associated with some recipes for the drug. Day and night comings and goings about a lab are common.

Dealers of the drug tend to be concerned about security and will keep curtains tightly drawn and may post "no trespassing" signs or keep vicious dogs. Weapons are commonly present in meth labs and in dealer's homes. Numerous short-duration visitors are common and activity about the house continues night and day. The lights in these homes are lit throughout the night.

## **SOCIAL AND MONETARY COSTS**

The social and monetary costs due to the proliferation of the drug will include the following:

- loss of life of users
- injury and loss of life of non-users due to actions of the users
- abandonment of the children of parents involved in meth use
- theft of money and property diverted for drug use

- loss of employment for users
- increased costs of social services to care for neglected children and others formerly dependent on users
- increased costs for medical care of users and their victims
- possible increased rates of sexually transmitted diseases
- increased costs to law enforcement due to prosecution of drug use and crimes associated with drug use
- increased costs due to incarceration
- increased costs for rehabilitation of users
- renting of the social fabric of the community affected
- increased costs due to hazmat cleanups of lab sites
- flight of businesses and professionals from meth-induced crime