WHAT ARE AMPHETAMINES/ METHAMPHETAMINES?

Amphetamines are synthetic psychoactive drugs that stimulate or increase the action of the central nervous system. Amphetamines may be smoked, injected, inhaled, or taken orally as a capsule or tablet. Methamphetamine is the primary form of amphetamine seen in the United States making up 94 percent of all amphetamine treatment admissions reported to the Treatment Episodes Data Set in 1999. Methamphetamine was developed from its parent drug, amphetamine and is similar in its chemical makeup, but it has more pronounced effects on the central nervous system. Street methamphetamine is referred to by names, such as speed, meth, and chalk. Methamphetamine hydrochloride, clear chunky crystals resembling ice, which can be inhaled by smoking, is referred to as ice, crystal, and glass. Both drugs have limited medical uses, primarily in the treatment of obesity.

Legally produced amphetamines may be sold on the black market but quality and quantity of the drug may vary. Underground chemists have also developed a look-alike amphetamine. Look-alikes are drugs manufactured to look like real amphetamines and mimic their effects. They are sold on the street as speed or uppers and are expensive, even though they are a weak substitute for amphetamines. The drugs contain varying amounts of less potent stimulants such as caffeine, ephedrine and phenylpropanolamine—all legal substances that are usually found in over-the-counter diet pills and decongestants.

Methamphetamine is produced in clandestine laboratories with relatively inexpensive ingredients that can be purchased over the counter making it a drug with a high potential for abuse. It is a white, odorless crystal like powder that readily dissolves in water or alcohol.

Signs of Amphetamine/Methamphetamine Use

These signs may indicate the use of amphetamines:
- Dilated pupils
- Dry mouth and nose
- Bad breath
- Frequent lip licking
- Excessive activity, difficulty sitting still, lack of interest in food or sleep
- Irritable, moody, nervous
- Argumentative
- Talkative

Short-Term Effects

The effects of any drug depend on the amount taken, the user's past drug-use experience, and the method of administration.

Small doses of amphetamines reduce appetite, increase respiration, heart rate, and blood pressure, and dilute the pupils. Moderate doses can cause dry mouth, fever, sweating, headache, blurred vision, dizziness, diarrhea, constipation, and loss of appetite. Large doses of amphetamines may cause flushing, pallor, rapid and irregular heartbeat, tremors, loss of coordination or physical collapse. Injecting amphetamines creates a sudden increase in blood pressure that can cause death from stroke, high fever, or heart failure.

Even in small doses, methamphetamine can increase wakefulness and physical activity and decrease appetite. There can be a variety of cardiovascular problems, such as rapid and irregular heartbeat, increased blood pressure, and
irreversible stroke producing damage to small blood vessels in the brain. High doses can elevate body temperature to dangerous and sometimes lethal levels, as well as cause convulsions. Chronic methamphetamine abuse can result in inflammation of the heart lining, and for users who inject the drug, skin abscesses may occur.

In addition to the physical effects of amphetamines and methamphetamines users may feel restless, anxious and moody. Increased doses intensify the effects, and users may become excited or talkative and experience a false sense of self-confidence or superiority. They may behave in a bizarre manner; some become aggressive and hostile.

**LONG-TERM EFFECTS**

Users of large amounts of amphetamines over a long period of time can develop an amphetamine psychosis, a mental disorder similar to paranoid schizophrenia. The psychosis is manifested by hallucinations, delusions and paranoia. Those with amphetamine psychosis exhibit bizarre, sometimes violent, behavior. Symptoms usually disappear within a few weeks after drug use stops.

Amphetamines have the potential to produce tolerance, which means that increased amounts of the drug are needed to achieve the desired effects. Withdrawal symptoms can occur when use of amphetamines is stopped abruptly. Users may experience fatigue; long, disturbed periods of sleep; irritability; intense hunger, and moderate to severe depression. The length and severity of the depression is related to how much and how often amphetamines were used.

Long-term use of methamphetamine can cause users to exhibit violent behavior, confusion, and insomnia. They may also exhibit paranoia, auditory hallucinations, mood disturbances and delusions. The paranoia can result in homicidal and suicidal thoughts. With chronic use, tolerance can develop and, the user may take higher doses, change the method of intake or take the drug more frequently to gain the desired results. Methamphetamines users have been known to forego food and sleep and indulge in binging that is called a "run." This occurs when the user continually takes the drug every 2 or 3 hours over several days until they either run out of the drug or are too disorganized to continue. Withdrawal symptoms such as fatigue, depression, anxiety, paranoia, aggression and craving for the drug generally appear when the chronic user stops using the drug.

**TREATMENT**

Since withdrawal from prolonged amphetamine use is accompanied by physical and mental depression, and usually not life threatening or physically painful, the majority of amphetamine users who want to stop can be treated by encouraging abstinence. In fact, users should avoid all stimulants, including caffeine and tobacco.

Modifying the users thinking, expectations, and behaviors to increase skills in coping with stress are part of the cognitive behavioral approaches that are proving to be the most effective. There are currently no pharmacological treatments for amphetamine and methamphetamine addiction, however antidepressants are helpful in combating the depression that follows withdrawal from these drugs.

In addition to treating the physical and psychological aspects of craving, treatment providers should stress group counseling and peer pressure for compulsive amphetamine users, as these forms of therapy work well for this population.

**RESOURCES**
