DRUG ABUSE

LEARNING OBJECTIVES:

Identify drug abuse assessment and treatment procedures.

Explain patient handling techniques.

Drug abuse is the use of drugs for purposes or in quantities for which they were not intended. Drugs of abuse may be swallowed, inhaled, snorted, injected, or even absorbed through the skin, rectum, or vagina. When abused, therapeutic drugs become a source of "poison" to the body. Drug abuse can lead to loss of income, social isolation, serious illness, dependency, and death. Although drug abuse is commonly associated with the use of illegal drugs, it can also be due to prescription medications as well.

Drugs of abuse can be classified in many different ways. This chapter will classify those drugs of abuse based on the symptoms produced: CNS depression, CNS stimulation, and hallucinations. The CNS depressants include narcotics, ethanol, barbiturates, non-barbiturate sedative-hypnotics (including benzodiazepines). The CNS stimulants include caffeine, nicotine, amphetamines, and cocaine. The hallucinogens include lysergic acid diethylamide (LSD), phencyclidine (PCP), and marijuana.

Table 22-6 lists many of the most frequently abused drugs with the recognizable trade names, commonly used street names, and observable symptoms of abuse. The following sections contain specific information about commonly abused drugs, as classified in Table 22-6, including availability and methods of administration.
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<td>CODEINE (often in cough syrup)</td>
<td>Hallucinogenic:</td>
<td>AMYL NITRATE BUTYL NITRATE (locker room, rush)</td>
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<td>BARBITURATES (downers, dolts, barbs, rainbows)</td>
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<td>DESOXYN (black beauties)</td>
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<td>DEXTROAMPHETAMINES (dexies, Dexamphetamine®)</td>
<td>NONBARBITURATES SEDATIVES (various tranquillizers and sleeping pills, valium or diazepam, miltown, equanil, mepromabate, thorazine, Compazine®, Librium® or chlordiazepoxide, reserpine, Tranxene® or chlorazepate and other benzodiazepines)</td>
<td>MORPHINE OPIUM (op, poppy)</td>
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<td>GLUE</td>
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<td>METHAMPHETAMINES (speed, crack, meth, crystal, diet pills, methedrine)</td>
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<td>Cannabis:</td>
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<td>SECOBARBITAL (red devils, barbs, Seconal®)</td>
<td>TYLENOL® WITH CODEINE (1,2,3,4)</td>
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<td>MARIJUANA (grass, pot, tea, wood, dope)</td>
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<td>THC</td>
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</tr>
</tbody>
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Table 22-6.—Commonly Abused Drugs
CENTRAL NERVOUS SYSTEM
DEPRESSANT INTOXICATION

Opium and Opium Alkaloid Intoxication

This group of drugs includes the most effective and widely used pain killers in existence. Prolonged use of narcotic drugs, even under medical supervision, inevitably leads to physical and psychological dependence.

The more commonly known drugs within this group are opium, morphine, heroin, codeine, and methadone (a synthetic narcotic). Next to cocaine, heroin is the most popular narcotic drug because of its intense euphoria and long-lasting effect. It is far more potent than morphine but has no legitimate use in the United States. Heroin appears as a white or brown powder. The most common method of using heroin is by injection directly into the vein, although it can be sniffed. Codeine, although milder than heroin and morphine, is sometimes abused as an ingredient in cough syrup preparations.

Signs and symptoms of narcotic drug abuse include: coma (or depressed level of consciousness), respiratory depression or arrest (slow, shallow respiratory effort), restlessness, dizziness, lethargy and scars caused by injections. These symptoms can progress rapidly to hypoxia and death.

The narcotic user, suddenly withdrawn from drugs, may appear as a wildly disturbed patient who is agitated, restless, and possibly hallucinating. Initial symptoms start within a few hours after last dose and peaks at about 72 hours. Although these signs and symptoms are not commonly life-threatening, most users will state that they feel so bad they wish they were dead. The signs and symptoms of withdrawal immediately stop upon re-administering a narcotic and withdrawing the drug by tapering the dose over several days.

Alcohol Intoxication

Alcohol is the most widely abused drug today. Although there are many other chemicals that are in the chemical grouping of "alcohols," the type consumed by people as a beverage (in wines, beers, and distilled liquors) is known as ethyl alcohol, ethanol, grain alcohol, or just "alcohol." It is a colorless, flammable, intoxicating liquid, classed as a drug because it depresses the central nervous system, affecting physical and mental activities.

Alcohol affects the body of the abuser in stages. Initially, there is a feeling of relaxation and well-being, followed by confusion with a gradual disruption of coordination, resulting in an inability to accurately and efficiently perform normal activities and skills. Continued alcohol consumption can lead to a stuporous state of inebriation resulting in vomiting, an inability to walk or stand, blackouts, and impaired consciousness (sleep or stupor). Excessive consumption can cause loss of consciousness, coma, and death from alcohol poisoning or aspiration.

The potential for physical and psychological addiction is very high when alcohol is abused. The severely intoxicated individual must be closely monitored to avoid inhalation of vomit (aspiration) and other adverse effects and behaviors.

Individuals withdrawing from alcohol are at a greater risk of serious complications or death than those withdrawing from narcotics. The effects of alcohol withdrawal include severe agitation, anxiety, confusion, restlessness, sleep disturbances, sweating, profound depression, delirium tremens ("DTs," a particular type of confusion and shaking that is a medical emergency), hallucinations, seizures, tachycardia and hypertension resulting in stroke.
Barbiturate Intoxication

Benzodiazepines have largely replaced barbiturates, or "downers," as sedatives, hypnotics (sleeping pills), or anxiolytic (anti-anxiety) agents. Barbiturates are still used to treat various seizure disorders. They are classified based on their duration of action: short acting agents (<6 hours), intermediate acting agents (6-18 hours), and long-acting agents (>18 hours). Barbiturate use causes various degrees of CNS depression with nystagmus (eyes moving up and down, or side-to-side involuntarily), vertigo (sensation of the room spinning), slurred speech, lethargy, confusion, ataxia (difficulty walking), and respiratory depression. Severe overdose may result in coma, shock, apnea (stopped breathing), and dilated pupils. In combination with ethanol or other CNS depressants, there are compounded CNS and respiratory depression effects.

Prolonged use of barbiturates can lead to a state of physical and psychological dependence. Upon discontinued use, the dependant patient may go into withdrawal. Unlike narcotic (opiate) withdrawal, barbiturate withdrawal is LIFE THREATENING! Depending on the type of barbiturate, signs and symptoms start within 24 hours. The withdrawal syndrome includes anxiety, insomnia, muscle tremors (trembling or shaking), loss of appetite, convulsion, delirium, and death. The signs and symptoms will stop upon re-administration of the barbiturate and by tapering the dose slowly over several days.

Non-Barbiturate Sedative-Hypnotic (Benzodiazepine) Intoxication

Non-barbiturate sedative-hypnotics (a "hypnotic" is a sleeping pill) have actions very similar to the barbiturates. However, they have a higher margin of safety, overdose and addiction require larger doses, and addiction requires a longer time period to occur. Like the barbiturates, when combined with ethanol or other depressants, there are additive CNS- and respiratory-depression effects.

Most of the traditional, non-barbiturate sedative-hypnotics are either no longer available (Methaqualone, Ethchlorvynol, Glutethimide) or rarely used today (chloral hydrate) because of their profound "hangover effect." Newer sedative-hypnotics are emerging for the temporary treatment of insomnia. Benzodiazepines are widely used to treat seizure disorders, anxiety, muscle spasms, and insomnia. Signs and symptoms are sedation, dizziness and drowsiness. Short acting benzodiazepine (Xanax®/alprazolam) withdrawal is particularly harsh.

CENTRAL NERVOUS SYSTEM STIMULANT INTOXICATION

The stimulants directly affect the central nervous system by increasing mental alertness and combating drowsiness and fatigue. One group of stimulants, called amphetamines, is legitimately used in the treatment of conditions such as mild depression, obesity, narcolepsy (sleeping sickness) and attention-deficit/hyperactivity disorder (ADHD).

Amphetamines are commonly abused and are referred to as speed, or uppers. Amphetamines can be taken orally, intravenously, or smoked as "ice." They are abused for their stimulant effect, which lasts longer than cocaine.

Amphetamines cause central nervous system stimulation with euphoria, increased alertness, intensified emotions, aggressiveness, altered self-esteem, and increased sexuality. In higher doses, unpleasant CNS effects of agitation, anxiety, hallucinations, delirium, psychosis, and seizures can occur. When stimulants are combined with alcohol ingestion, patients have increased psychological and cardiac effects due to patients drinking more alcohol.
Signs and symptoms associated with amphetamine use include mydriasis (dilated pupils), sweating, increased temperature, tachycardia (rapid pulse), and hypertension. Patients seeking medical attention usually complain of chest pain, palpitations, and shortness of breath that can lead to myocardial infarction (MI).

Stimulants are highly addictive. Tolerance to increasingly higher doses develops. Abruptly stopping chronic amphetamine use does not cause convulsions or present a life-threatening situation. The withdrawal is typically characterized by apathy, sleep disturbances, irritability, disorientation, and depression with suicidal tendencies.

Cocaine, although classified as a narcotic, acts as a stimulant and is commonly abused. It is relatively ineffective when taken orally; therefore, the abuser either injects it into the vein or "snorts" it through the nose. Its effect is much shorter than that of amphetamines, and occasionally the abuser may inject or snort cocaine every few minutes in an attempt to maintain a constant stimulation and prevent the depression experienced during withdrawal (come-down). Overdose is very possible, often resulting in convulsion and death. The physical symptoms observed in the cocaine abuser will be the same as those observed in the amphetamine abuser.

**MIND-ALTERING DRUGS**

**Hallucinogenic Intoxication**

The group of drugs that affect the central nervous system by altering the user’s perception of self and environment are commonly known as hallucinogens. Included within this group are (LSD), mescaline, dimethoxy-methylamphetamine (STP), phencyclidine (PCP), and psilocybin. They appear in the forms of crystals, powders, and liquids.

The symptoms of hallucinogenic drugs include dilated pupils, flushed face, increased heartbeat, and a chilled feeling. In addition, the patient may display a distorted sense of time and self, show emotions ranging from ecstasy to horror, and experience changes in visual depth perception.

Although no deaths have resulted from the drugs directly, hallucogen-intoxicated patients have been known to jump from windows, walk in front of automobiles, or injure themselves in other ways because of the vivid but unreal perception of their environment.

Even though no longer under the direct influence of a hallucinogenic drug, a patient who has formerly used one of the drugs may experience a spontaneous recurrence (flashback) of some aspect of the drug experience. The most common type of flashback is the recurrence of perceptual distortion; however, victims of flashback may also experience panic or disturbing emotion. Flashback may be experienced by heavy or occasional users of hallucinogenic drugs, and its frequency is unpredictable and its cause unknown.

**Cannabis Intoxication**

*Cannabis sativa*, commonly known as marijuana, is widely abused and may be classified as a mild hallucinogen. The most common physical appearance of marijuana is as ground, dried leaves, and the most common method of consumption is smoking, but it can be taken orally.

A commercially prepared product of the active ingredient in marijuana, tetrahydrocannabinol (THC), is dronabinol (Marinol®) available in the U.S. as a controlled Schedule II drug. Dronabinol is used for the treatment of nausea and vomiting in chemotherapy patients. It may also be useful in the treatment of acute glaucoma, asthma, and nausea and vomiting from other chronic illnesses.
The individual response to the recreational use of marijuana varies and depends on the dose, the personality and expectation of the user, and the setting. Unexpected ingestion, emotional stress, or underlying psychiatric disorders can increase the possibility of an unfavorable reaction.

After a single inhaled dose of marijuana, a subjective "high" begins in several minutes and is gone within four hours. Marijuana causes decreased pupil size and injected conjunctiva (reddening of the white of the eye). Smoking marijuana can increase the heart rate (tachycardia) for about two hours. It can slightly increase systolic blood pressure in low doses and can lower blood pressure in high doses. An increased appetite "munchies" and dry mouth are common complaints after marijuana use.

Social setting influences the psychological effects associated with "usual doses" of marijuana smoking. Smoking in a solitary setting may produce euphoria, relaxation, and sleep. In a group setting, increased social interaction, friendliness, and laughter or giddiness may be produced. Subjectively, time moves slower, images appear more vivid, and hearing seems keener. High doses can cause lethargy, depersonalization (a state of mind in which the self appears unreal), pressured speech, paranoia, hallucinations, and mania (excited, over-activity and psychomotor agitation often accompanied by impaired judgment).

Inhalant Intoxication

Inhalants are potentially dangerous, volatile chemicals that are not meant for human consumption. They are found in consumer, commercial, and industrial products intended for use in well-ventilated areas. The vapors they produce can be extremely dangerous when inhaled inadvertently or by design.

Substances in this category include adhesives (synthetic glues), paint, wet markers, lighter fluids, solvents, and propellants in aerosol spray cans, and air fresheners. Inhalants can be abused by "sniffing" which is inhaling through the nose directly over an open container; "bagging" which is holding an open bag or container over the head; or "huffing" which is pouring or spraying material on a cloth that is held over the mouth and inhaling through the mouth. These methods usually use a bag or other container to concentrate and retain the propellant thereby producing a quick high for the abuser.

Patients who regularly abuse inhalants risk permanent and severe brain damage and even sudden death. The vapors from these volatile chemicals can react with the fatty tissues (myelin) in the brain and literally dissolve them. Additionally, inhalants can reduce the availability and use of oxygen causing brain hypoxia. Acute and chronic damage may also occur to the heart, kidneys, liver, peripheral nervous system, bone marrow, and other organs. Sudden death can occur from respiratory arrest or irregular heart rhythms.

Signs and symptoms of inhalant abuse closely resemble a combination of alcohol and marijuana intoxication. Acute symptoms are very short-lived and are completely gone within two hours. Physical symptoms of withdrawal from inhalants include hallucinations, nausea, excessive sweating, hand tremors, muscle cramps, headaches, chills, and delirium tremens (which is a medical emergency).
MANAGEMENT OF DRUG-INTOXICATED PATIENTS

General priorities of care are outlined below:

1. Observe the ABC+D & E.
   a. Assess the ABC's.
   b. Assess the Drug-induced central nervous system (CNS) depression.
   c. Expose (undressing/uncovering) the patient for disabilities/injuries to ensure areas of contact or exposure to a chemical can be properly visualized and assessed.
   d. Watch for shock!
   e. Give appropriate treatment.

2. If the victim cannot be aroused, place them on the side allowing secretions and vomitus to drain from the mouth and not being aspirated into the lungs.

3. All adult patients with an altered mental status should receive dextrose (after blood sugar testing), thiamine, naloxone (i.e. Narcan®), and oxygen. When in doubt give patients Oxygen, Narcan® and dextrose.

4. If recommended by the PCC or medical officer, place the patient on a cardiac monitor and or obtain specimens for comprehensive laboratory work-up (blood and urine).

5. If recommended by the PCC or medical officer, decontaminate the stomach:
   a. ONLY if the victim is conscious.

   AND
   
   b. The drug was RECENTLY TAKEN ORALLY.

6. Cardiac monitor all patients with an altered mental status.

7. Prevent the victim from self-injury while highly excited or lacking coordination. Use physical restraints only if absolutely necessary.

8. Calm and reassure the excited patient by "talking them down" in a quiet, relaxed, and sympathetic manner. Decrease visual and auditory stimuli.

9. Gather materials and information to assist in identifying and treating the suspected drug problem.
   a. Spoons, paper sacks, eyedroppers, hypodermic needles, and vials are excellent identification clues or witnesses.
   b. The presence of capsules, pills, drug containers, needle marks (tracks) on the patient's body, or substances noted around the mouth and nose, are also important findings of substance abuse.
   c. A personal history of drug use from the patient or those accompanying the patient is very important and may reveal how long the victim has been abusing drugs, approximate amounts taken, and time between doses.
   d. Knowledge of past medical problems, including history of convulsions (with or without drugs) is also important.

10. Transport the patient and the materials collected to a treatment facility.

11. Inform treatment facility personnel and present the materials collected at the scene upon arrival at the facility.

SUMMARY

This chapter covered the assessment and treatment for poisoning and drug abuse. In the rapidly changing world environment, HMs must be up to date on the latest changes in assessment and treatment for these conditions. Corpsmen may stay informed through contact with the local Poison Control Center (PCC), MEDIC releases, or via the World Wide Web on the Internet through credible sites such as the American Association of Poison Control Centers.