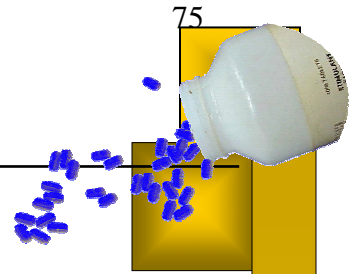




Drugs & Paraphernalia

(Unit 8)



A *drug* is a natural or synthetic substance used to produce a physiological or psychological effect in humans or other animals. Over 90 million Americans drink alcohol regularly, and as many as 10% of these have continued problems coping with their drinking habits. More than 23 million people in the United States are believed to be users of illicit drugs. Of these, there are a half-million heroin addicts, six million cocaine users, and most recently a rapidly growing number of methamphetamine ("meth") users.

Dependence and Abuse

Drug *dependence* is characterized by withdrawal sickness when administration of the drug is abruptly stopped. The nature of the drug experience displays two distinctly different aspects of human behavior: psychological dependence and physical dependence. Psychological dependence is the conditioned use of a drug caused by underlying emotional needs. *Physical dependence* is a physiological need for a drug that results from regular use. That is, the body has come to depend on the chemical properties of the drug. Most drugs induce both kinds dependency in varying degrees. It is important to know the degree and severity of dependence a drug may produce before attempting to understand addiction.



The creation of physical dependence is the common denominator that characterizes all types of repeated and continued drug use. With this type of dependence it is important to discard the unrealistic idea that all drug users are hopeless "addicts" and social dropouts. In fact, most users present a normal appearance, and may remain both socially and economical integrated in the community. A general knowledge of alcohol consumption could help curb the tendency to generalize when describing the dangers of drug abuse. Obviously, not everyone who drinks alcohol is addicted to the drug; many, if not most, are "social" drinkers who drink reasonable amounts and on an irregular basis.

Emotional well-being may be the primary motive leading to repeated and intensive use of a drug. When taken in sufficient doses and frequency, some drugs are capable of producing physiological changes that encourage their continued use. When the use of these drugs ceases abruptly, a severe physical illness follows. Addicts learn regular drug use prevents this *withdrawal sickness*; it is then the addict is physically addicted.

The Potential of Some Commonly Abused Drugs to Produce Dependency With Regular Use

| <i>Drug</i> | <i>Psychological Dependence</i> | <i>Physical Dependence</i> | <i>Tolerance</i> |
|---------------------------|---------------------------------|----------------------------|------------------|
| DEPRESSANTS | | | |
| Alcohol | +++ | +++ | ++ |
| Barbiturates | +++ | +++ | ++ |
| NARCOTICS | | | |
| Morphine | ++++ | ++++ | ++++ |
| Heroin | ++++ | ++++ | ++++ |
| Methadone | ++++ | ++++ | ++++ |
| Codeine | ++++ | ++++ | ++++ |
| Oxycodone (OxyContin®) | ++++ | ++++ | ++++ |
| ANTI-ANXIETY DRUGS | | | |
| Alprazolam (Xanax®) | +++ | ++ | + |
| Diazepam (Valium®) | +++ | + | + |
| STIMULANTS | | | |
| Amphetamine | +++ | + / 0 | ++++ |
| Cocaine | +++ | 0 | ++ |
| Methamphetamine | +++ | + / 0 | ++++ |
| HALLUCINOGENS | | | |
| Marijuana | ++ | 0 | 0 |
| LSD | ++ | 0 | ++ |

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Narcotic Drugs

The term *narcotic* is derived from the Greek word *narcoticus*, which implies a state of lethargy or sluggishness. Narcotic drugs are *analgesics*—that is, they relieve pain by exerting a depressing action on the central nervous system. The regular use of a narcotic drug will ultimately lead to physical dependence, with all its consequences. The source of most analgesic narcotics is opium, a gummy, milky juice collected from the pod of the poppy. Produced mostly in parts of Asia, opium is brownish in color. Morphine can be extracted from opium quite easily.

Most addicts, for reasons that are not completely understood, prefer to use the derivative heroin. Heroin is made by reacting morphine with acetic anhydride or acetyl chloride. Heroin's high solubility in water makes street preparation for intravenous administration simple. By injection, heroin's effects are almost instantaneously experienced. To prepare for injection, an individual may dissolve some heroin and a small quantity of water in a spoon. The spoon is heated to speed up the dissolving. The solution is then drawn into a syringe or eyedropper for injection into a vein.

In addition to pain relief, heroin produces a euphoric high accompanied by drowsiness and a sense of well being. The effect generally lasts three to four hours, but as with most drugs, the first high is the most invigorating. The high with first use is usually never repeated, even with





use of increasing amounts of the drug. Excipients (known as “trash”) like starch and lactose are commonly added to heroin in order to increase the volume of the drug product, while decreasing purity. As with any street drug, a buyer can never be sure of the purity of a drug or what “trash” has been added.

Methadone is likely the best known of the synthetic opioids. This drug is chemically similar to the natural opioids and is often used to help addicts cope with withdrawal syndrome. Although methadone is a narcotic pharmacologically related to heroin, its administration does not produce a euphoric high.

Hallucinogens

Most people think of hallucinations as “seeing things.” The strict definition however, allows for misconceptions of all our senses, not just the visual sense. *Hallucinogens* are drugs that can cause marked alterations in normal thought processes, perceptions, and moods. That is, a hallucinogen user may see, hear, perceive, taste, feel, smell, or think differently than he would without influence of the drug.



Marijuana easily qualifies as the most widely used hallucinogen today. Millions of Americans have tried marijuana and many are regular users. Marijuana is derived from the cannabis plant, a green leafy plant grown in a large variety of climates and regions. Harvested marijuana is normally prepared by crushing the leaves and mixing in varying proportions with the plant's flower, stem, and seed. The plant also secretes a sticky resin called *hashish*, which can be extracted by soaking it in a solvent such as alcohol. On the street, hashish appears in compressed form with a high percentage of resin. A potent form of marijuana is made from the unfertilized flowering tops of a female plant.





Marijuana is a weed that grows wild under most climatic conditions. The plant grows to a height of five to fifteen feet and may be recognized by the odd number of leaflets on each leaf. Normally, each leaf contains five to nine leaflets, all having saw-tooth edges. Although there are thousands of chemicals present in marijuana, *delta-9-tetrahydrocannabinol (THC)* is the chemical substance most responsible for hallucinogenic properties.



A user exposed to a low THC dose may experience an increased sense of well-being and some restlessness followed by a dreamy, carefree state of relaxation. Also possible are an alteration of sensory perceptions which may include perceived distortion of space and time. Some users report an increased sense of touch, sight, smell, taste, and sound. Known as the "munchies," many users become uncharacteristically hungry with a preference for sweets. At a moderate dose these same reactions are simply intensified. At extremely high doses of THC, a user may experience extreme auditory and visual hallucinations. Continuous exposure to high doses of THC can result in damaged brain cells, lowered sperm count, deformed sperm and ova, impotence, increased risk of lung cancer, and even death to an unborn fetus. Marijuana does not seem to cause physical dependency; but, some users may develop a psychological dependence on the drug.



Other than marijuana, lysergic acid diethylamide (LSD) and phencyclidine (PCP) are likely the most known hallucinogens. PCP is similar to marijuana in hallucinogenic effect and adverse reactions. LSD is much more potent than marijuana and exhibits both stronger hallucinogenicity and side effects.

LSD is actually a fungus that grows on certain grasses and grains. Unlike many drugs only a small amount of this drug is required to be effective. Doses as small as twenty-five micrograms are enough to induce visual hallucinations for up to twelve hours. The drug also causes significant changes in mood. The user may burst into laughing or tears at the slightest provocation. Feelings of anxiety and tension almost always accompany use of LSD. Even with continued use, physical dependence does not develop. However, users may experience flashbacks or psychotic reactions long after one dose of the drug.

Phencyclidine, PCP, is often mixed with other drugs, such as LSD or amphetamines, and sold as a powder known as "angle dust;" it may be in capsule, tablet, or liquid form. PCP can be smoked, ingested, or sniffed. A user under the influence of PCP initially experiences a feeling of strength and invulnerability. As the experience continues the user becomes unresponsive, confused, and agitated. Finally, depression, irritability, feelings of isolation, and hallucinations begin. PCP users often become paranoid and may experience severe depression with some tendency toward violence. Long-term daily use of the drug often results in suicide attempts. In some cases, the PCP user even experiences a sudden split in personality days after the drug has been taken.

Depressants

Alcohol is the most widely used depressant in the world. Its use is so common that many people tend to overlook the fact that alcohol is a drug. Its major effects derive from its depressant action on the central nervous system. The alcohol industry produces billion of gallons of spirits, wine, and beer each year. With out a doubt, alcohol is the most widely used and abused drug in the world today.

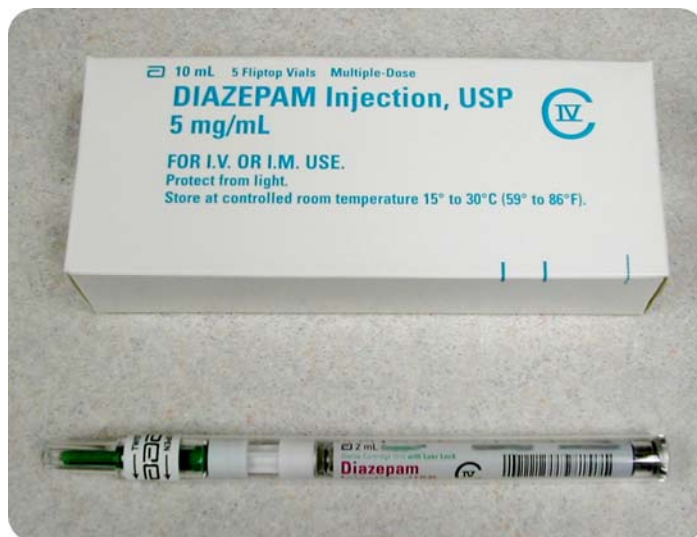
When alcohol enters the bloodstream, it quickly travels to the brain, where it suppresses brain activity, slows decision-making ability and impairs skeletal muscle response. Light consumption of alcohol tends to inhibit judgment, memory, and concentration. Often the drinker's inhibitions diminish and he gains confidence. When taken in moderate doses, alcohol has been found to substantially reduce coordination, inhibit thought processes, slur speech, and slow down reaction time. These conditions make it difficult to walk or drive. Higher doses of alcohol may cause a user to become irritable and emotional. They may display anger or cry without provocation. Heavy consumption of alcohol may cause a drinker to lapse into unconsciousness or even into a comatose state as a result of the depression of circulatory and respiratory functions.

Barbiturates, a subclass of depressants, are commonly referred to as "downers" because they create a feeling of well-being, relaxation, and induce sleep. Many barbiturate derivatives are used in medical practice. Some examples of the more common barbs are amobarbital, secobarbital, phenobarbital, pentobarbital, and butabarbital. Slang terms for barbiturates usually relate to the color of the capsule or tablet (yellow jackets, blue devils, e.g.).



Barbiturates are usually taken orally in doses of 10 to 100 milligrams. When taken in prescribed amounts, barbiturates are relatively safe. However, extensive and prolonged use produces physical dependence. This only happens when the intake of the drug significantly exceeds the recommended amount. This means patients can take barbiturates daily as a sedative or sleep aid without developing a physical dependence. However, users who take higher doses will experience some of the most brutal withdrawal symptoms. Barbiturate withdrawal symptoms may surface as insomnia, muscle spasms, delirium, or convulsions. These symptoms may be so severe that medical supervision is required.

Another common form of depressants is *tranquilizers*, or *anxiolytics*. These drugs produce a relaxing tranquillity without impairment of high-thinking or drowsiness. Strong tranquilizers such as reserpine and chlorpromazine have even been successfully used to reduce the anxieties and tensions of psychiatric patients. Mild tranquilizers, such as chlordiazepoxide (Librium®), and diazepam (Valium®) are often prescribed to help patients to deal with everyday tension. Similar to barbiturates, anxiolytics may produce psychological and physical dependence with repeated and overtly high-dose usage.



Since the early 1960's, *huffing* (the practice of sniffing materials such as model airplane glue, paint, and formaldehyde) has grown in popularity. All materials used in huffing contain volatile, gaseous substances that are primarily central nervous system depressants. Although toluene seems to be the most popular solvent to huff, there are a large number of chemicals which produce similar physiological effects. These chemicals include “magic” markers, paint thinner, lighter fluid, Wite-Out®, and aerosols.

Effects of huffing are immediate and induce a feeling of exhilaration and euphoria. Side effects include slurred speech, impaired judgment, and double vision. The user may also experience drowsiness and stupor, with these depressant effects slowly wearing off as the user returns to a normal state. More so than any other users, “huffers” expose themselves to the danger of liver, heart, and brain damage from the chemicals they inhale. Sniffing some solvents, particularly halogenated hydrocarbons are accompanied by a significant risk of death.



Cocaine, a white powder usually snorted up the nose, causes a feeling of exhilaration and euphoria. Users seem to go for long periods of time without fatigue, sleep, or food. This drug is extracted from the leaves of a *coca plant* grown in South America and Asia. At one time cocaine had wide medical application as an anesthetic. Cocaine is a powerful stimulant to the central nervous system, and its effects are, increased alertness and vigor, hunger suppression, and lack of fatigue.

Crack, a form of cocaine has gained widespread popularity. To produce crack from cocaine is a fairly simple procedure. Cocaine is mix with baking soda and water, and then heated in a pot. When dry, the substance can be broken into smaller quantities. Crack is free-base cocaine and is usually smoked in glass pipes. It may also be snorted like cocaine. It produces a feeling of euphoria by stimulating a pleasure center in the base of the brain. Cocaine stimulates this pleasure center far greater than it would ever normally be stimulated. Smoking crack allows a larger amount of drug to get to the brain quicker. This causes the highest level of euphoria. Inhaling the cocaine vapor gets a large dose of the drug to the brain in less than 15 seconds, which is just as fast as an injection and much faster than snorting. However, this high wears off relatively quickly



Crack Pipes



with crack. As the user comes down, he experiences an extreme desire to take in more drugs. This desire is so great with crack that few users ever quit.

There is no evidence of physical dependence in cocaine users. Users who stop taking the drug become depressed but not sick. In spite of this there is little disputing that cocaine produces one of the strongest psychological compulsions for continued use among commonly abused drugs.

Drug-Control Laws

The severity of a penalty associated with the manufacture, distribution, possession, and use of a drug may depend on the weight of the drug or its concentration in a mixture. In such cases, the chemist's report must contain all information that is needed to properly charge a suspect under the provisions of the existing law. Under the title of "The Controlled Substances Act" the federal government establishes five schedules of classification for controlled substances on the basis of a drug's potential for abuse, potential for physical and psychological dependence,

and medical value. The U.S. Attorney General has the authority to alter these schedules as information becomes available or as new discoveries are made.

Criminal penalties for illegal drug use, production, or sale is directly related to these schedules. Crimes involving schedule I or II drugs are much more serious and carry stiffer penalties than those of schedule IV or V. Over the counter drugs are not on these schedules.

Drug Schedules

Schedule I. (C-I) Schedule I drugs are those which have a high potential for abuse and have no currently accepted medical use in the United States. Drugs controlled under this schedule include heroin, marijuana, methaqualone, PCP, and LSD.

Schedule II. (C-II) Schedule II drugs also have a high potential for abuse, but have some medicinal utility. Schedule II drugs include opium and its derivatives not in schedule I. Also in schedule II are cocaine, methadone, amphetamines, and several barbiturate preparations. Dronabinol, the synthetic equivalent of marijuana, has been placed in schedule II in recognition of its growing medical uses in treating glaucoma and chemotherapy patients.

Schedule III. (C-III) Schedule III drugs have a potential for abuse that is less than those in schedules I and II. They also are currently accepted for medical use and have a potential for low or moderate physical dependence or high psychological dependence. Schedule III includes all barbiturate preparations (except phenobarbital) not included in schedule II and certain preparations of codeine.

Schedule IV. (C-IV) Schedule IV drugs have a lower potential for abuse than do schedule III drugs and, of course, have a valid medical use. Abuse of C-IV drugs may lead to limited dependence. Drugs controlled in this schedule include propoxyphene (Darvon), phenobarbital, and tranquilizers such as diazepam (Valium) and chlordiazepoxide (Librium).

Schedule V. (C-V) Schedule V drugs have low abuse potential, have a valid medical use, and have lower potential for producing dependence than schedule IV drugs. Schedule V controls include certain opiate drug mixtures that contain non-narcotic medicinal ingredients.

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