ALCOHOLISM IN A SHOT GLASS

OTHER "RECREATIONAL" DRUGS

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Other "Recreational" Drugs

Today it is rare to encounter a problem drinker or alcoholic who has not at least experimented with other drugs. Many alcohol counseling clients/patients do more than dabble with psychoactive substances. They either are or have been seriously involved with addictive drugs of various sorts. Cross-addiction is increasingly common, and the counselor must deal with the client's total drug involvement. To do so effectively, it is necessary to know what those drugs are, how they work, and what they do. The following section conveys that information. It is a summation of many years of reading diverse sources not individually cited here and of extensive clinical experience. It provides a working knowledge of the chief substances of abuse. Readers interested in a more in-depth discussion of the modes of action and the effects of these drugs than that provided here are referred to Julien's (1991) monograph or to Gilman, Goodman, and Gilman's (1985) pharmacology text.

It is generally held that persons once addicted to any psychoactive substance cannot safely use any of the others. Although some dispute this, and I have occasionally met the exception that proves the rule, my clinical experience strongly supports this view.

The so-called *recreational drugs* fall into a few major categories:

marijuana and hashish, central nervous system depressants (sedative-hypnotics), central system stimulants, opiates and other narcotics, and psychedelics (hallucinogens). Central nervous system depressants are called *downers* on the street; central nervous system stimulants are called *uppers*. Alcohol is a downer, although we usually don't think of it that way.

MARIJUANA AND HASHISH

Marijuana is the second most popular recreational drug after alcohol. Marijuana and hashish contain *tetrahydrocannabinol* (THC), a *psychoactive agent*. A psychoactive agent changes how people think and feel. Marijuana is illegal, although this does not seem to stop people from using it. Many people smoke marijuana without becoming dependent on it. However, this is far from always the case and psychological addiction to THC in its various forms is quite common.

Marijuana and hashish are prepared from the *hemp* plant, *Cannabis sativa*. Marijuana is a mixture of the crushed leaves, stems, and flowers of male and female Cannabis plants; hashish is the resin obtained from the flowering tops of the female plant. Hashish is considerably more potent than marijuana. The pharmacological and psychological effects of marijuana and hashish are almost entirely due to the action of THC. Marijuana and hashish are usually smoked, although some people bake hashish and marijuana into

cookies or brownies and eat them.

Marijuana has many pet names, including *reefer, grass*, and *pot*. It is usually rolled into a cigarette called a *joint*. Hashish is usually smoked in a pipe. Their psychological effects vary a good deal with set and setting, that is, expectations and the environment partly determine how one experiences the drug. In low doses, THC is a sedative-hypnotic. It induces feelings of relaxation, drowsiness, and well-being. Smokers seem to enter an anxiety-free drifting stage resembling a pleasant daydream. Marijuana, unlike alcohol, does not disinhibit or provoke aggression, and violence while high on pot is rare. Many users report intensified perceptions and enhancement of sensory experiences. They report that food tastes better, that music is more acutely experienced, and that sex is more enjoyable. In large doses, THC is a psychedelic, inducing hallucinations and changes in body image. Prolonged heavy use can result in toxic psychosis. "Losing it" in this way is terrifying and usually profoundly shakes the smoker. The marijuana sold today is two or three times as potent as the pot used in the sixties and this makes pot smoking far more dangerous than it used to be. THC increases pulse rate and reddens the eyes. The mechanism by which THC asserts its effects is not known. THC is metabolized by the liver and the metabolites are excreted in the urine and feces.

Frequent heavy marijuana use leads to psychological dependency.

Smoking it on a regular basis risks addiction. Whether or not physiological dependency develops is controversial; however, abrupt cessation of prolonged heavy marijuana smoking results in withdrawal symptoms. Chronic marijuana usage is associated with respiratory illness including bronchitis and asthma, with suppression of the body's immunological system, and with reduced levels of testosterone. Heavy marijuana or hashish smoking leaves residues in the lungs. Recent research suggests that this residue may be carcinogenic. THC, like all psychoactive drugs, crosses the placental barrier and enters fetal tissues. Its effects on the fetus are unknown. Therefore, it is unwise to smoke pot during pregnancy.

Chronic pot use results in apathy, social withdrawal, and impairment of goal-directed behavior. Impairment of short-term memory also results from chronic use. Being hooked on pot is no bargain. As in any addiction, life gets narrower and emptier as the smoker loses interest in everything else.

CENTRAL NERVOUS SYSTEM DEPRESSANTS OTHER THAN ALCOHOL

All central nervous system depressants disinhibit and relax in low doses and induce sleep in high doses. They assert their pharmacological effects by depressing synaptic transmission in the central nervous system. They slow the information flow in the wires of the nervous system and retard release of the neurotransmitters that convey that information across the gaps between

the wires. Sedative-hypnotics come in pill form and are usually taken orally. Their effect in low doses is a feeling of euphoria and well-being. As dosage increases, they assert their hypnotic effects and sleep results. In still higher doses, they act as anesthetics and can cause death. There are several types of downers; they all do pretty much the same thing.

The Barbiturates

The barbiturates are a class of chemical compounds derived from barbituric acid. The most common are pentobarbital (Nembutal), secobarbital (Seconal), amobarbital (Amytal), phenobarbital (Luminal), and thiopental (Pentothal). The primary medical use of the barbiturates is to induce sleep. People sometimes get hooked on sleeping pills and become barbiturate dependent without realizing it.

Sleep is complex and has many stages. Sleep induced by barbiturates is not normal sleep. It is deficient in REM, the stage of sleep in which dreaming takes place. Those who have access to downers and are anxiety-prone are prone to addiction. Barbiturates are addictive both psychologically and physiologically. Severe, even life-threatening, withdrawal effects result from suddenly stopping prolonged heavy use of barbiturates. This is not a drug to go off "cold turkey" without medical advice.

The combined effect of more than one sedative-hypnotic drug is much

greater than the sum of the effects of each drug. Each drug potentiates the other resulting in a *synergistic* reaction. This is the reason that consuming barbiturates and alcohol is so dangerous.

The effects of barbiturate abuse are very similar to those of alcohol abuse. As dosage increases, signs akin to drunkenness appear, including cognitive and motor impairment. Both thinking and walking become sloppy. Psychological dependency followed by physiological dependency develops with protracted use, and life becomes progressively impoverished as obtaining and using the drug becomes all-important. People who would be horrified at the thought of becoming alcoholic sometimes become barbiturate addicts.

Cross-tolerance develops between central nervous system depressants, and cross-addiction is extremely common. Cross-addiction may be to various kinds of downers or to alcohol and downers. AA speaks of *sedativism*, the use of down drugs of whatever sort to alleviate or mask psychological pain. AA calls such pill use "taking a martini in powdered form."

Nonbarbiturate Downers

The nonbarbiturate central nervous system depressants include Miltown, Librium, Valium, Dalmane, Tranxene, Xanax, Ativan, and Quaaludes. Miltown is a trade name for a drug called *meprobamate*. Librium, Valium,

Dalmane, Tranxene, Xanax, and Ativan all belong to a class of drugs called *benzodiazepines*. The drug *methaqualone* is marketed under the trade name Quaalude.

Meprobamate Meprobamate was introduced in the fifties as a tranquilizer. Under the trade names Miltown and Equanil, it became a bestseller. Miltown and Equanil were introduced to replace the barbiturates and were supposedly safer. Experience has shown this not to be the case. Sedativists will take any downer, and Miltown abuse is certainly not unknown. People who buy drugs on the street often take meprobamate without knowing it.

Benzodiazepines The benzodiazepines are a class of sedative-hypnotic drugs in very widespread use. They are "minor" tranquilizers. That is, they have sedating effects and are anxiolytic (antianxiety) agents, but they do not have antipsychotic properties like the major tranquilizers.

The distinction between the minor and major tranquilizers is extremely important. The minor tranquilizers, Librium, Valium, and Xanax, are sedative-hypnotics that are used as antianxiety agents. They build tolerance and have withdrawal symptoms. The major tranquilizers are not tranquilizing in this sense; they are correctly called *neuroleptics*. They are *antipsychotic* drugs. They work quite differently than the benzodiazepines. They block receptor

sites for the neurotransmitter *dopamine*. Their ability to do this makes them extremely valuable in treating serious mental illness. They eliminate or reduce hallucinations and delusions. They do not build tolerance, have withdrawal symptoms, or get people high. They are not martinis in pill form. Thorazine, Stelazine, Mellaril, and Haldol are some brand names of neuroleptics. (Another class of psychotropic medication—drugs that change thought, feeling, or mood—are called *antidepressants*. Elavil, Tofranil, and Prozac are examples. They also do not build tolerance, have withdrawal symptoms, or get you high, and are extremely useful in treating some forms of depression.)

The first of the anxiolytics, Librium, was introduced in 1960. The chemical structure of the benzodiazepines is quite different from that of the barbiturates, but pharmacologically they are quite similar. They are more specific as antianxiety agents and they are less hypnotic; that is, less sleep-inducing. Their primary site of action is the *hypothalamus*, a part of the brain concerned with emotionality. They depress the respiratory center of the brain less than the barbiturates and are, therefore, less likely to result in a fatality if an overdose is taken. They potentiate the inhibitory neurotransmitter GABA, by helping GABA bind to its receptor site. In low doses, they produce the same feelings of disinhibition, euphoria, release from anxiety, and feelings of well-being as do the other sedative-hypnotics. In higher doses, the same impairments in memory, judgment, cognitive functioning, and motor

coordination occur. Contrary to early reports, prolonged use does result in tolerance and physiological addiction. Withdrawal from these drugs, especially Valium, is particularly severe. They can definitely be drugs of abuse. Cross-addiction to alcohol and benzodiazepines is very common. Like other prescription drugs, Valium and Librium are abused by people who abhor drug addicts. Dalmane and Halcyon are central nervous system depressants prescribed as sleeping medicines. They too mix poorly with alcohol.

Methaqualone Methaqualone, marketed as Quaalude, enjoyed a vogue as a "love drug." Actually it is a sedative-hypnotic of average strength that has no aphrodisiacal qualities. It is strikingly similar to the barbiturates in its psychological and behavioral effects. It has been taken off the market but is still available on the street, where it is known as "lude." People usually drink when they take ludes. All that does is get them down faster.

CENTRAL NERVOUS SYSTEM (CNS) STIMULANTS

The central nervous system (CNS) stimulants are among the most frequently used drugs. The amphetamines and cocaine are wildly popular. They are used by dieters to reduce appetite, by students to stay up to study for exams, by the depressed to self-medicate their emotional pain, and by party goers to get high. The recreational use of these drugs is risky. A

considerable percentage of recreational users become hooked.

In low doses, CNS stimulants elevate mood, produce euphoria, increase alertness, and reduce fatigue. In high doses, they produce irritability, tension, anxiety, psychotic behavior, and convulsions (Spitz & Rosecan, 1987).

Like a vast majority of psychoactive drugs, CNS stimulants assert their effects in the synapses. Neurotransmitters carry nerve impulses across the synapses. There are many different neurotransmitters in the brain. Among the most important are a class called *catecholamines*. Adrenaline and its relatives are members of this group of neurotransmitters. CNS stimulants act by increasing the amount of available adrenaline-like substances in the synapses of the brain. Amphetamine and its derivatives do this by increasing the release of these substances into the synapse. Amphetamine also mimics these neurotransmitters by directly stimulating the neurons. Cocaine blocks the reuptake of adrenaline-type neurotransmitters.

Both amphetamine and cocaine make more of these neurotransmitters available to stimulate nerve cells and the system gets hopped up. Once a neurotransmitter is in a synapse it would go on acting forever unless something happened to it. Two things happen to it: (1) it is actively pulled back into the neuron that released it, which is called *reuptake*, and (2) it is destroyed by enzymes in the synapse. Cocaine acts by blocking reuptake, but

this leaves the transmitter that remains in the synapse subject to enzymatic destruction. The enzymatic destruction of these vital brain chemicals is responsible for the crash, the intense depression that follows a cocaine spree, and, in part, for the craving for the drug, which can be highly persistent.

The Amphetamines

Amphetamine is widely used. It has legitimate medical uses in the treatment of narcolepsy (sleeping sickness) and some forms of epilepsy. Its relative, Ritalin, is used in the treatment of hyperactivity in children. Why a stimulant should be an effective treatment for hyperactivity is something of a mystery. One theory that has been put forward to explain this paradox is that these children are depressed and that their hyperactivity is a desperate attempt to ward off their depression.

Amphetamines also have been widely used as diet pills because they suppress appetite. Unfortunately the body very quickly develops tolerance to the appetite-suppressant effects of amphetamine. The dosage must then be increased to achieve the same degree of appetite suppression. Many people have been hooked on uppers in this way. There is no medically sound reason to use amphetamine for weight reduction. In the (not very) long run, they are ineffective and they have very real potential for abuse.

Amphetamines used to be used for the medical treatment of depression.

They no longer are. However, they are widely used as a *euphoriant*, both recreationally and in the self-medication of depression. Amphetamine in low doses improves psychomotor, intellectual, and athletic performance to a slight extent. Many people use it for this purpose. Unfortunately, they soon have to increase the dosage, and fine motor control is lost and performance goes down.

Benzedrine (Bennies) is the mildest of the amphetamines. The amphetamine derivative *dextroamphetamine* (Dexedrine, Dexamyl, or dexies) is more potent, and *methamphetamine* (Methedrine or Speed) is even more potent.

Amphetamines mobilize the fight/flight/fright reaction, the body's response to threat, resulting in increased blood sugar, decreased blood flow to internal organs, increased blood flow to muscles, increased respiration, and dilated pupils. Speed prepares the body to meet an emergency, even though there isn't one. Amphetamines also increase mental alertness and elevate mood. Subjectively, this is experienced as sharpness and euphoria. No wonder uppers so easily generate a craving to repeat the experience and are so notoriously psychologically addicting.

At high dosages, amphetamines produce tremors, restlessness, agitation, and sleeplessness. Tolerance quickly develops and more and more

is needed to get the same sensations. “Speed freaks” inject amphetamine into their veins. They experience a rush said to be like a whole-body orgasm. Unfortunately, tolerance soon builds to this effect also and “main-liners,” as they are called, engage in a futile search to reexperience the quintessential high that they so vividly remember. Heart palpitations, extreme anxiety, and drug-induced psychosis are some of the “benefits” of shooting amphetamine.

Amphetamine withdrawal results in prolonged sleep, radically increased appetite, and profound depression. The depression following a prolonged amphetamine run, or spree, can be intolerable, and the user feels impelled to take more of the drug.

Speed and alcohol is a popular combination. It quickly becomes a merry-go-round. Drinking to come down and using uppers to recover from hangovers is a setup for getting hooked.

Cocaine and Crack

Cocaine, or coke, is strikingly similar to amphetamine in its physiological and psychological effects, although far more powerful and far more dangerous. It is a white powder that can be introduced into the body in several ways. It may be sniffed and absorbed by the vessels of the nasal passages, a practice known as “snorting”; it may be treated with an alkali, usually sodium bicarbonate, and smoked, a practice known as “freebasing”; or

it may be dissolved and injected directly into a vein, a practice known as "shooting" or "mainlining." Crack is a form of relatively cheap cocaine that is smoked. It is coke that has already been cooked (freebased) and is ready to be smoked. It is rapidly addicting and not what it's "cracked up" to be. Before the passage of the Harris Law (the Federal Food and Drug Act) in 1914, cocaine was present in Coca Cola, where its stimulant effect helped make Coke extremely popular. Cocaine is a potent local anesthetic and has been used for that purpose in ophthalmology.

Freud (1974) discovered the euphoric properties of cocaine and wrote about them both in his correspondence with his fiancee, Martha Bemays, and in professional journals. He wrote about it as a "wonder drug," uncritically praising its ability to alleviate low spirits. He used the drug for many years. Freud also discovered the anesthetic effects of cocaine, but his friend Carl Roller published first and received the credit (Gay, 1988). It is interesting that Freud was misled by ambition, by the need for self-aggrandizement, in his erroneous judgment of cocaine. Freud's ambivalent feelings about cocaine play a large role in his masterpiece, *The Interpretation of Dreams* (1900).

Freud was not alone in his enthusiasm for cocaine. Europeans had long known of South American Indians chewing coca leaves and being stimulated to great feats of strength and endurance. They had particularly noted that the coca chewing natives could work almost indefinitely without eating. The

Spanish conquerors had at first tried to suppress the chewing of coca leaves, but soon realized that the Indians could work harder, especially in the mines, and would be easier to exploit if they were allowed to chew their precious leaves. So the Spanish came to encourage the habit, while Jesuits and Spanish physicians wrote unrestrained praise of cocaine's marvelous effect of combating hunger and fatigue.

By Freud's time, an Italian physician had written a manual on the therapeutic uses of cocaine and a Viennese chemist had extracted pure alkaloid cocaine from the leaves. The American medical literature, which kindled Freud's interest in cocaine, was effusive in praising it. William Hammond, who had been Lincoln's surgeon general, was one of its strongest advocates, ultimately becoming addicted as did William Halsted, one of the founders of Johns Hopkins Medical School. The drug companies were not slow in jumping on the bandwagon, and Parke-Davis asked Freud to certify that their cocaine was just as psychoactive as that manufactured by Merck. In spite of his later bias against all things American, Freud endorsed the cheaper American product. Reading the nineteenth century claims for cocaine, one is ineluctably drawn to the parallel with the present day enthusiasm for Prozac. In both cases, a "cure all" had been discovered and recommended for the treatment of depression, low spirits, eating disorders, alcoholism, and other addictions. One hopes that the latest mind elevator proves, in the long term, to be as innocuous as cocaine was claimed to be. Freud was merely joining a

growing chorus when he recommended cocaine therapy in the treatment of alcoholism and morphine addiction, although warning voices were soon enough heard. Besides, he had the support of one of his heroes, Sherlock Holmes, who, brushing off Dr. Watson's admonitions, alleviated his "boredom," that is, listless depression, with shots of cocaine. Ultimately, cooler heads prevailed and Freud was pilloried for introducing the "third scourge of mankind."

Cocaine is an extraordinarily potent CNS stimulant especially when freebased or injected. It does all the things that amphetamine does, only more so. High doses of cocaine can produce convulsions. I once treated a man who reported that he *enjoyed* the convulsions he sometimes had when he shot cocaine. In fact, he looked forward to them as a kind of grand climax of his drug experience, and mainlined coke in the hope of having one. He worked as an operator of a Van de Graff generator, an apparatus that generates very high voltage electricity. His whole life was an attempt to reach maximum voltage. He did not remain in treatment and I don't know what became of him.

Drug-induced psychoses occur at far lower doses of cocaine than amphetamine. Cocaine is metabolized by the liver much more quickly than amphetamine and its effects last only a short time. Short-acting drugs call for more and that makes them highly addictive. Psychological habituation occurs readily, tolerance develops rapidly, the crash is extremely painful, and craving

lasts weeks and even months after the last "run."

Some researchers believe heavy cocaine usage results in permanent changes in brain chemistry. Cocaine devotees frequently use alcohol to come down then they get too high. Alcohol is also used to medicate cocaine-withdrawal "crashes." Alcohol actually makes the depression worse, but it masks it for the moment. This is soon followed by a new round of freebasing or mainlining, and the cycle starts again. The cocaine-alcohol user thus attempts to fine-tune moods and feelings through the use of drug technology.

Cocaine was an "in" drug, extremely popular with the yuppies. Its status as a glamor drug made it attractive to the upwardly mobile. Less "fashionable" now, it is still considered by some a "glamour" drug. The glamor is all glitter. The truth is that people who are into stimulants are warding off feelings of inner deadness and emptiness.

THE OPIATES (NARCOTICS)

Opium is a naturally occurring substance that is obtained from a plant, the poppy, *Papaver somniferum*. It is a *narcotic*. Narcotics have both a sleep-inducing (sedative) and a pain-relieving (analgesic) effect.

Opium has been used since antiquity for the relief of pain and the treatment of cough and diarrhea. It has also been used recreationally, and

addiction to it was well known in classical times. Wars have been fought over it. Opium is a crude extract that contains many pharmacologically inert substances. Opium was used in patent medicines until the Harris Act (1914) put these substances under strict control. In its original form, Lydia Pinkham's Remedy for "female complaints" was alcohol laced with opium. Needless to say, it was wildly popular.

Opium contains many biologically inert compounds. The biologically active portion consists of two substances: *morphine* and *codeine*. Morphine is a powerful pain reliever and a potent anti-diarrhetic agent. Codeine shares its basic chemical structure with morphine, but it is much less potent. It is used mostly as a cough suppressant. Heroin is a synthetic derivative of morphine. It was originally developed to treat morphine addiction.

The opiates are used in a variety of ways. The resin may be smoked or, like cocaine, its derivatives may be finely powdered and snorted. This is the usual introduction to the drug. The opiates may also be injected under the skin (skin popping) or into the veins. Some people mix heroin and coke and shoot it. This is called a *speedball*, and it is not recommended for those who wish to live a full life span.

Citing the prevalence of tattoos among mainlining addicts, Henry Jay Richards (1993) hypothesized that in addition to psychosexual (oral and

phallic) and sadomasochistic dynamics, intravenous (IV) drug users are driven to use the needle by boundary and identity problems. He postulated that they need to repeatedly pierce the skin to affirm a boundary they are not sure exists, and that a similar dynamic may drive some forms of self-mutilation.

Although the reaction varies, most people experience a sense of euphoria and well-being, feelings of warmth and contentment, and feelings of great power when they take opiates. These feelings are followed by an enjoyable dreamlike state and by sleep. Some experience a rush similar to, but more powerful than, an orgasm. Although opiates are used medically to manage physical pain, they also make people indifferent to psychological pain, which explains much of their appeal.

Opiates act by binding with specific receptor sites in the brain and in the intestinal tract. These receptors appear to be designed to receive opiates. This seemed strange before the discovery of naturally occurring opiatelike substances, the *endorphins*, in the body. Exercise releases endorphins and can give a natural high.

Morphine and heroin are rapidly metabolized by the liver and excreted by the kidneys. They disappear from the body in four to five hours, which means that a narcotics addict must constantly renew his supply. Tolerance to

the analgesic, euphoric, and sedative effects develops. Tolerance can be incredibly great, so the user needs ridiculous amounts to get high.

Withdrawal from opiates is painful, although not dangerous in the way that withdrawal from alcohol is. Withdrawal symptoms include agitation, restlessness, craving, intense anxiety, fever, vomiting, fluid-like pains, rapid breathing, chills, and violent diarrhea. They last about a week. Because they bind to receptor sites, opiates do much less damage to the body than alcohol.

PSYCHEDELIC DRUGS (HALLUCINOGENS)

Psychedelic drugs are drugs that alter sensory experience and consciousness. The experience induced by these drugs is called a *trip*. They induce hallucinations, alter the perception of time, and change the conception of the self. They may cause what psychiatrists call "derealization" and "depersonalization." That is, they put the reality of both self and world into question. Chemically, they differ widely, but all of them either mimic or modify the action of a neurotransmitter. Their effects are primarily psychological. They are not physiologically addicting, but they do produce tolerance and they may induce psychological dependence in susceptible individuals. Their long-term effects are unknown. Some researchers believe that repeated use may cause brain damage. Heavy users sometimes experience *flashbacks*, involuntary trips that occur months or years after their

last dose of the drug.

Addiction to these drugs is rare. Their use tends to be self-limiting and most users return to alcohol, pot, or uppers as their drug of choice. Bill Wilson, the co-founder of AA, experimented with psychedelic drugs toward the end of his life, but he neither became addicted to them nor returned to alcohol. The use of these drugs may lead to psychotic episodes in vulnerable individuals. Although psychedelic drugs are less popular than they were in the sixties and seventies, "bad trips" still account for a significant number of psychiatric hospital admissions.

The use of psychedelic drugs has a long history. They occur naturally in a variety of plants and herbs that have been used medically, recreationally, and ritually. They have been used to induce ecstatic or mystical states as part of religious rituals. The best known of these naturally occurring substances are the mystical mushrooms of Mexico and the *peyote cactus* of the American southwest. The mushrooms contain *psilocybin* and *psilocin*, both of which have been synthesized and are available on the street. The "buttons" of the peyote cactus are chewed to obtain its active principle, *mescaline*, which has also been synthesized and which is also available on the street. In the late fifties, the novelist and student of mysticism Aldous Huxley wrote a book called *The Doors of Perception* (1954), which reported his experience with mescaline. He regarded mescaline as a shortcut to mystical insight. The book

was widely read and the drug enjoyed a vogue among rebellious youth. Mescaline is structurally similar to the neurotransmitter norepinephrine (NE). Mescaline, like NE, induces behavioral arousal, but unlike NE, it also alters perception, changes the experience of time, and induces hallucinations.

Lysergic acid diethylamide (LSD) is an extremely potent synthetic hallucinogen. It is the most widely used of this class of drugs. It is almost always taken orally. It too received a great deal of publicity in the sixties when its use was advocated by Timothy Leary. It is believed to act by altering synapses using the neurotransmitter serotonin in such a way that sensitivity to sensory input is augmented. Psychologically its effects are similar to those of mescaline; however, unlike mescaline, it produces those effects in almost infinitesimal doses. The hallucinations and alterations of consciousness produced by LSD are particularly intense and vivid. It can produce bad trips, flashbacks, and psychological dependence.

CONCLUSION

Problem drugging and addiction are strikingly similar to problem drinking and alcoholism. It's the old story of a friend turning into an enemy, with the victim being taken by surprise. Denial, knowing yet not wanting to know that drugs have become a problem, is the problem. Once denial is overcome, the "cure" is relatively easy.

This chapter has discussed the sources, the mechanism of action, and a bit of the chemistry and pharmacology of the principal drugs of abuse. All of these drugs can be toxic, but none is as toxic, poisonous to the body, as alcohol. The next chapter will illustrate how alcohol can damage virtually every organ in the human body if consumed in a high-enough dosage for a long-enough time.

About the Author

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