Substance Abuse

This section offers information about some of the most commonly abused substances.

- Alcohol
- Cocaine
- Hallucinogens
- Inhalants
- Marijuana
- Narcotics
- Steroids
- Nicotine

MAP addresses all issues that affect the workforce, including Substance Abuse Professional (SAP) evaluations. These evaluations are often required following a substance abuse policy violation.

For more information, or if you have additional questions, please call the Methodist Assistance Program at 317.962.2622, ext. 2 or 800.745.4838, ext. 2.

Publications and other information are also available online from the helpguide.org.
Alcohol

Alcoholism is a primary, chronic disease with genetic, psychosocial and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by continuous or periodic impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences and distortions in thinking, most notably denial.

"Primary" refers to the nature of alcoholism as a disease entity in addition to and separate from other pathophysiologic states that may be associated with it. "Primary" suggests that alcoholism, as an addiction, is not a symptom of an underlying disease state.

"Disease" means an involuntary disability. It represents the sum of the abnormal phenomena displayed by a group of individuals. These phenomena are associated with a specified common set of characteristics by which these individuals differ from the norm and that places them at a disadvantage.

"Often progressive and fatal" means that the disease persists over time and that physical, emotional and social changes are often cumulative and may progress as drinking continues. Alcoholism causes premature death through overdose; organic complications involving the brain, liver, heart and many other organs; and by contributing to suicide, homicide, motor vehicle crashes and other traumatic events.

"Impaired control" means the inability to limit alcohol use or to consistently limit, on any drinking occasion, the duration of the episode, the quantity consumed and/or the behavioral consequences of drinking.

"Preoccupation" in association with alcohol use indicates excessive, focused attention given to the drug alcohol, its effects and/or its use. The relative value thus assigned to alcohol by the individual often leads to a diversion of energies away from important life concerns.

"Adverse consequences" are alcohol-related problems or impairments in such areas as physical health (e.g., alcohol withdrawal syndromes, liver disease, gastritis, anemia, neurological disorders); psychological functioning (e.g., impairments in cognition, changes in mood and behavior); interpersonal functioning (e.g., marital problems and child abuse, impaired social relationships); occupational functioning (e.g., academic or job problems); and legal, financial or spiritual problems.

"Denial" is used here not only in the psychoanalytic sense of a single psychological defense mechanism disavowing the significance of events, but more broadly to include a range of psychological maneuvers designed to reduce awareness of the fact that alcohol use is the cause of an individual's problems rather than a solution to those problems. Denial becomes an integral part of the disease and a major obstacle to recovery.
Do I Have A Problem With Alcohol?

1. Can you go without a drink today? (Do you have to have a drink today?)
   
   If you have answered "No", you might need to seek help.

2. Do you get annoyed or angry when others talk about your drinking?
   
   If you have answered "Yes", you might need to seek help.

3. Do you ever feel guilty about drinking?
   
   If you have answered "Yes", you might need to seek help.

4. Do you ever need an "eye-opener"?
   
   If you have answered "Yes", you might need to seek help.

If you have two of the above answers, then this is a warning that you might have a problem.

If you have three or more of the above answers, then you could label yourself as an "alcoholic."
Cocaine

Cocaine, the most potent stimulant of natural origin, is extracted from the leaves of the coca plant (Erythroxylon coca), which is indigenous to the Andean highlands of South America. Natives in this region chew or brew coca leaves into a tea for refreshment and to relieve fatigue similar to the customs of chewing tobacco and drinking tea or coffee.

Pure cocaine was first isolated in the 1880s and used as a local anesthetic in eye surgery. It was particularly useful in surgery of the nose and throat because of its ability to provide anesthesia as well as to constrict blood vessels and limit bleeding. Many of its therapeutic applications are now obsolete due to the development of safer drugs.

Illicit cocaine is usually distributed as a white crystalline powder or as an off-white chunky material. The powder, usually cocaine hydrochloride, is often diluted with a variety of substances, the most common of which are sugars such as lactose, inositol and mannitol, and local anesthetics such as lidocaine. The adulteration increases the volume and thus multiplies profits. Cocaine hydrochloride is generally snorted or dissolved in water and injected. It is rarely smoked.

"Crack," the chunk or "rock" form of cocaine, is a ready-to-use freebase. On the illicit market, it is sold in small, inexpensive dosage units that are smoked. With crack came a dramatic increase in drug abuse problems and violence. Smoking delivers large quantities of cocaine to the lungs, producing effects comparable to intravenous injection. These effects are felt almost immediately after smoking, are very intense and are quickly over. Once introduced in the mid-1980s, crack abuse spread rapidly and made the cocaine experience available to anyone with $10 and access to a dealer. In addition to other toxicities associated with cocaine abuse, cocaine smokers suffer from acute respiratory problems including cough, shortness of breath and severe chest pains with lung trauma and bleeding.

The intensity of the psychological effects of cocaine, as with most psychoactive drugs, depends on the dose and rate of entry to the brain. Cocaine reaches the brain through the snorting method in three to five minutes. Intravenous injection of cocaine produces a rush in 15 to 30 seconds and smoking produces an almost immediate intense experience. The euphoric effects of cocaine are almost indistinguishable from those of amphetamine, although they do not last as long. These intense effects can be followed by a dysphoric crash. To avoid the fatigue and the depression of "coming down," frequent repeated doses are taken. Excessive doses of cocaine may lead to seizures and death from respiratory failure, stroke, cerebral hemorrhage or heart failure. There is no specific antidote for cocaine overdose.

According to the 1993 Household Drug Survey, the number of Americans who used cocaine within the preceding month of the survey numbered about 1.3 million; occasional users (those who used cocaine less often than monthly) numbered at approximately 3 million, down from 8.1 million in 1985. The number of weekly users has remained steady at around a half million since 1983.
Hallucinogens

Hallucinogens are among the oldest known group of drugs that have been used for their ability to alter human perception and mood. For centuries, many of the naturally occurring hallucinogens found in plants and fungi have been used for medical, social and religious practices. In more recent years, a number of synthetic hallucinogens have been produced, some of which are much more potent than their naturally occurring counterparts.

The biochemical, pharmacological and physiological basis for hallucinogenic activity is not well understood. Even the name for this class of drugs is not ideal, since hallucinogens do not always produce hallucinations. However, taken in nontoxic dosages, these substances produce changes in perception, thought and mood. Physiological effects include elevated heart rate, increased blood pressure and dilated pupils. Sensory effects include perceptual distortions that vary with dose, setting and mood. Psychic effects include disorders of thought associated with time and space. Time may appear to stand still and forms and colors seem to change and take on new significance. This experience may be pleasurable or extremely frightening. It needs to be stressed that the effects of hallucinogens are unpredictable each time they are used.

Weeks or even months after some hallucinogens have been taken, the user may experience flashbacks—fragmentary recurrences of certain aspects of the drug experience in the absence of actually taking the drug. The occurrence of a flashback is unpredictable, but is more likely to occur during times of stress and seem to occur more frequently in younger individuals. With time, these episodes diminish and become less intense.

The abuse of hallucinogens in the United States reached a peak in the late 1960s. A subsequent decline in their use may be attributed to real or perceived hazards associated with taking these drugs. However, a resurgence of use of hallucinogens in the 1990s, especially at the junior high school level, is cause for concern.

There is a considerable body of literature that links the use of some of the hallucinogenic substances to neuronal damage in animals; however, there is no conclusive scientific data that links brain or chromosomal damage to the use of hallucinogens in humans. The most common danger of hallucinogen use is impaired judgment that often leads to rash decisions and accidents.

Lysergic acid diethylamide (LSD) is the most potent and highly studied hallucinogen known to man. It was originally synthesized in 1938 by Dr. Albert Hoffman, but its hallucinogenic effects were unknown until 1943 when Hoffman accidentally consumed some LSD. It was later found that an oral dose of as little as 0.025 mg (or 25 micrograms, equal to a few grains of salt) was capable of producing rich and vivid hallucinations.

Because of its structural similarity to a chemical present in the brain and its similarity in effects to certain aspects of psychosis, LSD was used as a research tool to study mental illness. Although there was a decline in its illicit use from its initial popularity in the 1960s, LSD was making a comeback in the 1990s. The average effective oral dose is from 20 to 80 micrograms with the effects of higher doses lasting for 10
to 12 hours. LSD is usually sold in the form of impregnated paper (blotter acid), tablets (microdots) or thin squares of gelatin (window panes).

Physical reactions may include dilated pupils, lowered body temperature, nausea, "goose bumps," profuse perspiration, increased blood sugar and rapid heart rate. During the first hour after ingestion, the user may experience visual changes with extreme changes in mood. In the hallucinatory state, the user may suffer impaired depth and time perception, accompanied by distorted perception of the size and shape of objects, movements, color, sound, touch and the user's own body image. During this period, the user's ability to perceive objects through the senses is distorted. He may describe "hearing colors" and "seeing sounds." The ability to make and see common dangers is impaired, making the user susceptible to personal injury. He may also injure others by attempting to drive a car or by operating machinery.

After an LSD "trip," the user may suffer acute anxiety or depression for a variable period of time. Flashbacks have been reported days or even months after taking the last dose.
Inhalants
Inhalants are a chemically diverse group of psychoactive substances composed of organic solvents and volatile substances commonly found in adhesives, lighter fluids, cleaning fluids and paint products. Their easy accessibility, low cost and ease of concealment make inhalants, for many, one of the first substances abused. While not regulated under the Controlled Substances Act, a few states place restrictions on the sale of these products to minors. Studies have indicated that between five percent and 15 percent of young people in the United States have tried inhalants, although the vast majority of these youngsters do not become chronic abusers. Inhalants may be sniffed directly from an open container or "huffed" from a rag soaked in the substance and held to the face. Alternatively, the open container or soaked rag can be placed in a bag where the vapors can concentrate before being inhaled. Although inhalant abusers may prefer one particular substance because of odor or taste, a variety of substances may be used because of their similar effects, availability and cost. Once inhaled, the extensive capillary surface of the lungs allows rapid absorption of the substance and blood levels peak rapidly. Entry into the brain is so fast that the effects of inhalation can resemble the intensity of effects produced by intravenous injection of other psychoactive drugs.

The effects of inhalant intoxication resemble those of alcohol inebriation, with stimulation and loss of inhibition followed by depression at high doses. Users report distortion in perceptions of time and space. Many users experience headache, nausea or vomiting, slurred speech, loss of motor coordination and wheezing. A characteristic "glue sniffer's rash" around the nose and mouth may be seen. An odor of paint or solvents on clothes, skin and breath is sometimes a sign of inhalant abuse.

The chronic use of inhalants has been associated with a number of serious health problems. Glue and paint thinner sniffing in particular produce kidney abnormalities, while the solvents toluene and trichloroethylene, cause liver toxicity. Memory impairment, attention deficits and diminished nonverbal intelligence have been associated with the abuse of inhalants. Deaths resulting from heart failure, asphyxiation or aspiration have occurred.
Marijuana

Marijuana is the most commonly used illicit drug in America today. The term marijuana, as commonly used, refers to the leaves and flowering tops of the cannabis plant.

A tobacco-like substance produced by drying the leaves and flowering tops of the cannabis plant, marijuana varies significantly in its potency, depending on the source and selection of plant materials used. The form of marijuana known as sinsemilla (Spanish, sin semilla: without seed), derived from the unpollinated female cannabis plant, is preferred for its high THC content.

Marijuana is usually smoked in the form of loosely rolled cigarettes called joints or hollowed out commercial cigars called blunts. Joints and blunts may be laced with a number of adulterants including phencyclidine (PCP), substantially altering the effects and toxicity of these products. Street names for marijuana include pot, grass, weed, Mary Jane, Acapulco Gold and reefer.

Although marijuana grown in the United States was once considered inferior because of a low concentration of THC, advancements in plant selection and cultivation have resulted in highly potent domestic marijuana. In 1974, the average THC content of illicit marijuana was less than one percent, but in early 1994, potency averaged five percent. The THC of today's sinsemilla ranges up to 17 percent.

Marijuana contains known toxins and cancer-causing chemicals that are stored in fat cells for as long as several months. Marijuana users experience the same health problems as tobacco smokers, such as bronchitis, emphysema and bronchial asthma. Some of the effects of marijuana use also include increased heart rate, dryness of the mouth, reddening of the eyes, impaired motor skills, lack of concentration, craving for food and an increased desire for sweets. Extended use increases risk to the lungs and reproductive system, as well as suppression of the immune system. Occasionally, hallucinations, fantasies and paranoia are reported.
**Narcotics**

Narcotics can be administered in a variety of ways. Some are taken orally, transdermally (skin patches) or injected. They are also available in suppositories. As drugs of abuse, they are often smoked, sniffed or self-administered by the more direct routes of subcutaneous ("skin popping") and intravenous ("mainlining") injection.

Drug effects depend heavily on the dose, route of administration, previous exposure to the drug and the expectation of the user. Aside from their clinical use in the treatment of pain, cough suppression and acute diarrhea, narcotics produce a general sense of well-being by reducing tension, anxiety and aggression. These effects are helpful in a therapeutic setting, but contribute to their abuse.

Narcotic use is associated with a variety of unwanted effects including drowsiness, inability to concentrate, apathy, lessened physical activity, constriction of the pupils, dilation of the subcutaneous blood vessels causing flushing of the face and neck, constipation, nausea, vomiting and, most significantly, respiratory depression. As the dose is increased, the subjective, analgesic and toxic effects become more pronounced. Except in cases of acute intoxication, there is no loss of motor coordination or slurred speech as occurs with many depressants.

Among the hazards of illicit drug use is the ever-increasing risk of infection, disease and overdose. Medical complications common among narcotic abusers arise primarily from adulterants and in the non-sterile practices of injecting. Skin, lung and brain abscesses, endocarditis, hepatitis and AIDS are commonly found among narcotic abusers. Since there is no simple way to determine the purity of a drug that is sold on the street, the effects of illicit narcotic use are unpredictable and can be fatal.

With repeated use of narcotics, tolerance and dependence develop. The development of tolerance is characterized by a shortened duration and a decreased intensity of analgesia, euphoria and sedation, which creates the need to administer progressively larger doses to attain the desired effect. Tolerance does not develop uniformly for all actions of these drugs, giving rise to a number of toxic effects. Although the lethal dose is increased significantly in tolerant users, there is always a dose at which death can occur from respiratory depression.

Physical dependence refers to an alteration of normal body functions that necessitates the continued presence of a drug in order to prevent the withdrawal or abstinence syndrome. The intensity and character of the physical symptoms experienced during withdrawal are directly related to the particular drug of abuse, the total daily dose, the interval between doses, the duration of use and the health and personality of the addict. In general, narcotics with shorter durations of action tend to produce shorter, more intense withdrawal symptoms, while drugs that produce longer narcotic effects have prolonged symptoms that tend to be less severe.

The withdrawal symptoms experienced from heroin/morphine-like addiction are usually experienced shortly before the time of the next scheduled dose. Early symptoms include watery eyes, runny nose, yawning and sweating. Restlessness, irritability, loss of appetite, tremors and severe sneezing appear as the syndrome progresses. Severe depression and vomiting are not uncommon. The heart rate and blood pressure are elevated. Chills alternating with flushing and excessive sweating are also typical symptoms.
Pains in the bones and muscles of the back and extremities occur as do muscle spasms and kicking movements, which may be the source of the expression "kicking the habit." At any point during this process, a suitable narcotic can be administered that will dramatically reverse the withdrawal symptoms. Without intervention, the syndrome will run its course and most of the overt physical symptoms will disappear within seven to 10 days.

The psychological dependence that is associated with narcotic addiction is complex and protracted. Long after the physical need for the drug has passed, the addict may continue to think and talk about the use of drugs. There is a high probability that relapse will occur after narcotic withdrawal when neither the physical environment nor the behavioral motivators that contributed to the abuse have been altered.

There are two major patterns of narcotic abuse or dependence seen in the United States. One involves individuals whose drug use was initiated within the context of medical treatment who escalate their dose through "doctor shopping" or branch out to illicit drugs. A very small percentage of addicts are in this group.

The other more common pattern of abuse is initiated outside the therapeutic setting with experimental or recreational use of narcotics. The majority of individuals in this category may abuse narcotics sporadically for months or even years. These occasional users are called "chippers." Although they are neither tolerant of nor dependent on narcotics, the social, medical and legal consequences of their behavior is very serious. Some experimental users will escalate their narcotic use and will eventually become dependent, both physically and psychologically. The earlier that drug use begins, the more likely it is to progress to abuse and dependence. Heroin use among males in inner cities is generally initiated in adolescence and dependence develops in about one to two years.
Steroids

Anabolic steroid abuse has become a national concern. These drugs are used illicitly by weight lifters, body builders, long distance runners, cyclists and others who claim that these drugs give them a competitive advantage/or improve their physical appearance.

Once viewed as a problem associated only with professional athletes, recent reports estimate that five to 12 percent of male high school students and 1 percent of female students have used anabolic steroids by the time they were seniors. Concerns over a growing illicit market and prevalence of abuse combined with the possibility of harmful long-term effects of steroid use, led Congress to place anabolic steroids into Schedule III of the Controlled Substances Act (CSA) in 1991.

The CSA defines anabolic steroids as any drug or hormonal substance chemically and pharmacologically related to testosterone (other than estrogens, progestins and corticosteroids), that promotes muscle growth. Most illicit anabolic steroids are sold at gyms, competitions and through mail operations. For the most part, these substances are smuggled into this country. Those commonly encountered on the illicit market include: boldenone (Equipoise), ethlestrenol (Maxibolin), fluoxymesterone (Halotestin), methandriol, methandrostenolone (Dianabol), methyltestosterone, nandrolone (Durabolin, Deca-Durabolin), oxandrolone (Anavar), oxymetholone (Anadrol), stanozolol (Winstrol), testosterone and trenbolone (Finajet). In addition, a number of bogus or counterfeit products are sold as anabolic steroids.

A limited number of anabolic steroids have been approved for medical and veterinary use. The primary legitimate use of these drugs in humans is for the replacement of inadequate levels of testosterone resulting from a reduction or absence of functioning testes. In veterinary practice, anabolic steroids are used to promote feed efficiency and to improve weight gain, vigor and hair coat. They are also used in veterinary practice to treat anemia and counteract tissue breakdown during illness and trauma.

When used in combination with exercise training and high protein diet, anabolic steroids can promote increased size and strength of muscles, improve endurance, and decrease recovery time between workouts. They are taken orally or by intramuscular injection. Users concerned about drug tolerance often take steroids on a schedule called a cycle. A cycle is a period of between six and 14 weeks of steroid use, followed by a period of abstinence or reduction in use. Additionally, users tend to "stack" the drugs, using multiple drugs concurrently. Although the benefits of these practices are unsubstantiated, most users feel that cycling and stacking enhance the efficiency of the drugs and limit their side effects.

Yet another mode of steroid use is "pyramiding" in which users slowly escalate steroid use (increasing the number of drugs used at one time and/or the dose and frequency of one or more steroids), reaching a peak amount at mid-cycle and gradually tapering the dose toward the end of the cycle. The escalation of steroid use can vary with different types of training. Body builders and weight lifters tend to escalate their dose to a much higher level than do long distance runners or swimmers.

The adverse effects of large doses of multiple anabolic steroids are not well established. However, there is increasing evidence of serious health problems associated with the abuse of these agents, including cardiovascular damage, liver damage and damage to reproductive organs.
Physical side effects include elevated blood pressure and cholesterol levels, severe acne, premature balding, reduced sexual function and testicular atrophy. In males, abnormal breast development (gynecomastia) can occur. In females, anabolic steroids have a masculinizing effect, resulting in more body hair, a deeper voice, smaller breasts and fewer menstrual cycles. Several of these effects are irreversible. In adolescents, abuse of these agents may prematurely stop the lengthening of bones, resulting in stunted growth.
Nicotine

If you or anyone close to you smokes cigarettes, you are probably well aware that smoking is a habit, one that takes some effort to break. Through inhalation, the chemical components of cigarettes are injected into your lungs, your bloodstream and then your brain. Learning some of the facts about tobacco may encourage you to break the habit in order to lead a healthier life.

Nicotine Is Habit-forming
Nicotine, one of the main chemical components of tobacco, is a habit-forming drug that draws the smoker into both a physical and a psychological partnership with cigarettes. Once he or she has learned the mechanics of smoking (and it definitely is an acquired technique taking conscious effort on the part of the novice smoker), the smoker may begin to rely on cigarettes for what he believes to be stimulation, relaxation or stress relief. The body becomes chemically addicted to nicotine and the more one smokes, the more difficult it is to quit.

More Chemicals
The average cigarette generally contains about 8.4 mg of nicotine and 15 mg of tar. Tobacco smoke also contains as many as 4,000 other naturally occurring gases, particles and compounds, including carbon monoxide, carbon dioxide, hydrogen cyanide, traces of arsenic and carcinogens.

Other Sources of Nicotine
Cigarettes are considered the most harmful form of tobacco use because cigarette smokers usually inhale deeply. But pipes and cigars hold risks of nicotine addiction as well. Chewing tobacco and snuff can also cause cancer, gum disease and erosion of the teeth.

Physical Effects
When inhaled, nicotine stimulates the central nervous system. All of the chemicals in a cigarette move to the brain through the bloodstream in eight seconds, causing a sharp rise in blood pressure and heart rate, constricting of the blood vessels and reducing sensitivity to pain and stress. Chronic smokers often have impaired senses of taste and smell, less physical stamina and a poorer execution of motor tasks. Smoking is among the major causes of heart disease and lung cancer and is the primary cause of chronic bronchitis and emphysema. A smoker’s skin ages and wrinkles prematurely and female smokers have a higher incidence of unsuccessful pregnancies, stillbirths and lower-weight babies.

Companion Habits
As you become more physically addicted to tobacco, you will develop other habits that reinforce the role of cigarettes in your daily routine. You may not even realize this is happening. A cup of coffee may trigger a move toward a cigarette. You may light up before you begin a phone conversation or before starting your car. These become similar to conditioned reflexes and show that the physical and the psychological go hand in hand in promoting and furthering addiction.
Substance Abuse Professional Evaluations

MAP, is a comprehensive employee assistance program addressing all issues that affect the workforce, including Substance Abuse Professional (SAP) evaluations. These evaluations are often required following a substance abuse policy violation.

Our unique SAP evaluation program:
- Meets the Department of Transportation regulation
- Meets MICCS regulation
- Is completely confidential
- Offers evening appointments for MICCS and DOT evaluations and Saturday appointments for MICCS evaluations
- Is conveniently located in downtown Indianapolis
- Is staffed with qualified, experienced professionals

SAP Services

Our SAP evaluations meet Department of Transportation (DOT) regulations and MICCS requirements. After your evaluation, recommendations will follow. MAP staff, with your permission, will contact those who need to know of your attendance, recommendations and compliance. MAP staff will provide the necessary documentation required by the organization governing the policy (DOT, MICCS, etc.).

Appointments

SAP evaluations take approximately two hours. Please arrive early to complete paperwork. DOT requires you to attend a follow-up appointment, which is included in your fee. Call us at 1-800-745-4838 ext. 2 to schedule your appointment(s).

Fees

There is a fee for SAP evaluation services, which is due upon your initial appointment. This must be in the form of cash, money order or certified check made out to MAP.

If you need additional services outside of the evaluation, employee assistance staff will assist you in finding services covered by your insurance or by a sliding fee scale based on your income and family size. Typically, these services are not covered by insurance. However, MAP may have an agreement with your union or company. Please check with your union or employer.

Location

MAP is located at Indiana University Health Methodist Hospital in downtown Indianapolis. Exit I-65 at 21st Street, turn east onto 21st. Turn south on Capitol Avenue. Enter IU Health Methodist Hospital at the Capitol Avenue entrance (ramp with gray canopy). After entering the lobby, turn right and go down the hall, almost to the end, to Room C-115. It will be on your left.