



**Employee Assistance Program
Drug & Alcohol Abuse Training & Awareness**

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Definitions

Alcohol: The intoxicating agent in beverage alcohol, ethyl alcohol or other low molecular weight alcohols, including methyl or isopropyl alcohol.

Alcohol use: The drinking or swallowing of any beverage liquid mixture or preparation (including any medication), containing alcohol.

Substance Abuse: Refers to patterns of use that result in health consequences or impairment in social, psychological, and occupational functioning.

Controlled Substances: In the regulation, the terms "drugs" and "controlled substances" are interchangeable and have the same meaning.

Unless otherwise provided, these terms refer to:

- Marijuana;
- Cocaine;
- Opiates;
- Phencyclidine (PCP)
- Amphetamines

Medical Review Officer (MRO): A licensed physician (medical doctor or doctor of osteopathy) responsible for receiving and reviewing laboratory results generated by an employer's drug testing program. The MRO must have knowledge about and clinical experience in substance abuse disorders and appropriate medical training to interpret and evaluate an individual's confirmed positive test result together with his/her medical history and other relevant biomedical information.

Substance Abuse Professional (SAP): A licensed physician (medical doctor or doctor of osteopathy), or licensed or certified psychologist, social worker, employee assistance professional, or certified addiction counselor who evaluates employees who have violated a DOT drug and alcohol regulation. The SAP makes recommendations concerning education, treatment, follow-up testing, and aftercare.

Breath Alcohol Technician/Screening Test Technician: The Breath Alcohol Technician (BAT) and/or Screening Test Technician (STT) is a person who instructs and assists employees in the alcohol testing process and operates an evidential breath testing or alcohol screening device, respectively. These technicians must know the alcohol testing rule and the alcohol testing program guidance materials published by the DOT Office of Drug and Alcohol Policy and Compliance (ODAPC).

Evidential breath testing device (EBT): means the test approved by the National Highway Traffic Safety Administration (NHTSA) for the evidential testing of breath, placed on NHTSA's conforming products list of evidential breath measurement devices and identified as conforming with the model specifications available from the NHTSA, Office of Alcohol and State Programs.

Contact Information

Should you have any questions regarding the Drug & Alcohol Education Materials, you should contact Global's Drug Abatement Program Manager: Keith Meisinger

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FAA Regulations

Employee Training on Drug Abuse

Each employer shall implement a reasonable program of initial training for employees. The employee training program must include at least the following elements: The effects and consequences of drug use on personal health, safety, and work environment; the manifestations and behavioral cues that may indicate drug use and abuse; and documentation of training given to employees and employer's supervisory personnel.

What are the Alcohol and Drug Prohibitions?

The **DOT** refers to the restrictions for the use of both alcohol and controlled substances as prohibitions.

Alcohol and Alcohol Use

- Alcohol is defined as the intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols, including methyl or isopropyl alcohol.
- Alcohol use is defined as the consumption of any beverage, mixture, or preparation, including any medication (prescribed or over-the-counter, intentional or unintentional), containing alcohol.

Alcohol Concentration

- Covered employees may not report for duty or remain on duty in a position requiring the performance of safety-sensitive functions while having an alcohol concentration of 0.04 or greater.

Pre-Duty Use

- Employees may not perform flight crewmember, flight attendant, or air traffic controller duties within 8 hours after consuming alcohol.
- Employees may not perform flight instruction, aircraft dispatcher, aircraft maintenance or preventive maintenance, ground security coordinator, or aviation screening duties within 4 hours after consuming alcohol.

On-Duty Use

- Covered employees may not consume alcohol in any form while performing safety-sensitive functions.
- This prohibition also applies to covered employees who are at work and immediately available to perform safety-sensitive functions.

Use After an Accident

- Covered employees with knowledge of an accident involving an aircraft for which they performed a safety-sensitive function at or near the time of the accident may not use alcohol for 8 hours after the accident unless they have been given a post-accident test, or Global Technical Services, Inc. has determined that their performance could not have contributed to the accident.
- Accident is defined as an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and the time that all such persons have disembarked, and in which any person suffers death or serious injury or in which the aircraft receives substantial damage.

Refusal to Submit to Testing

- Covered employees may not refuse to submit to a post-accident, random, reasonable suspicion, return-to-duty, or follow-up alcohol test. Global Technical Services, Inc. will not permit an

employee who refuses to submit to such a test to perform or continue to perform safety-sensitive functions.

- Refusal to submit to a pre-employment test is not a violation of the FAA AMPP rule, but a refusal will preclude any person from being hired for a safety-sensitive function, unless he or she completes the SAP and return-to-duty processes

Alcohol prohibitions include:

Use while performing a safety-sensitive function;
Use during the 8 hours prior to performing a safety-sensitive function;
Reporting for duty or remaining on duty to perform a safety-sensitive function with an alcohol of 0.02 or greater;
Use during the 8 hours following an accident, or until the driver undergoes a post-accident test;
Refusal to take a required test

NOTE: An employee found to have an alcohol concentration of 0.02 or greater but less than 0.04 may not be permitted to perform safety-sensitive functions, until the start of the employee's next regularly scheduled duty period, but not less than 8 hours following administration of the test.

Drug prohibitions include:

Use of any drug, except by a doctor's Prescription (and only if the doctor has advised the driver that the drug will not adversely affect the driver's ability to safely operate a commercial motor vehicle);
Testing positive for drugs; and
Refusal to take a required test

What are the Consequences of Violating the Alcohol or Drug Prohibitions?

If you fail an alcohol test:

You must be removed from all safety-sensitive functions.
You may not return to a safety-sensitive function until an evaluation by a substance abuse professional (SAP) has been done, you have complied with prescribed treatment, and you pass a return-to-duty test. You are then subject to six follow-up tests in the first 12 months after your return to duty and may be subject to follow-up testing for up to five years.
You may not return to safety-sensitive duties for at least 24 hours if alcohol concentration is determined to be 0.02 or greater but less than 0.04.
Additional consequences of failing an alcohol test will be handled according to your company's policy.

If you test positive for drug(s), or have a verified adulterated or substituted test result.

You must be removed from all safety-sensitive functions.
You may not return to a safety-sensitive function until an evaluation by a substance abuse professional (SAP) has been done, you have complied with prescribed treatment, and you pass a return-to-duty test. You are then subject to six follow-up tests in the first 12 months after your return to duty and may be subject to follow-up testing for up to five years.
Additional consequences will be handled according to your company's policy.

What Happens if I Refuse to Be Tested?

As part of the alcohol and drug regulations, you must submit to alcohol and drug testing. A refusal to test is treated the same as a positive test. If you refuse to be tested, you cannot continue to perform safety-sensitive functions.

"Refusal" occurs when:

- You fail to appear for any test within a reasonable time
- You fail to remain at the testing site until the testing process is complete

You fail to provide:

- a urine specimen for drug testing or
- a saliva or breath specimen for alcohol testing

You fail to provide enough urine and there is no medical explanation for the failure.

In the case of a directly observed or monitored drug test collection, you fail to permit the observation or monitoring of your provision of the specimen;

You fail or decline taking a second drug test when directed by an employer or collector

You fail to undergo a medical examination or evaluation as part of:

- the verification process for drug testing or as directed by the designated employer representative (DER) "shy bladder" procedures for drug testing or insufficient breath procedures for alcohol testing

You fail to cooperate with any part of the testing process

A verified adulterated or substituted drug test is also considered a refusal to test.

Where Can I Go For Help?

The drug and alcohol regulations require that your employer advise you of the resources available for appropriate treatment for alcohol and drug use. However, the regulations do not require an employer to pay for rehabilitation or to hold a job open for you while you undergo treatment. How these issues are handled depends upon your company's individual alcohol and drug policy.

If you violate an alcohol or drug prohibition, you will be evaluated by a substance abuse professional (SAP) to determine what specific help is needed. This helps ensure that people with alcohol and drug problems get referred to the appropriate agencies for assistance. You can ask your company's designated SAP for more information about treatment.

National Substance Abuse Professionals Network: 1-800-879-6428

Recovery Connection Hotline available 24 hrs. a day:

1-800-99-DETOX

www.recoveryconnection.com

Before you can return to safety-sensitive functions, you must:

- Have an alcohol test of less than 0.02 and/or a verified negative drug test (depending on the violation).
- Have complied with prescribed treatment.
You must then complete a minimum of six (6) follow-up tests within the first year back to work. (Follow-up testing can be done for up to five (5) years after returning to safety-sensitive functions.

Effects of Drug Abuse

People use or try drugs for many reasons, such as:

- Curiosity or experimentation
- Peer Pressure or Desire to be part of a group
- A sense of relaxation and pleasurable euphoria
- Numbing effect that helps to ease physical or emotional pain.

Drug Addiction and the effects of drug abuse?

Drug addiction involves compulsion to seek and use an addictive substance, regardless of the potentially negative social, psychological, and physical consequences. An estimated 19.5 million Americans use illicit drugs and, according to National Drug Control Policy Director John Waters, 3.6 million of these are teenagers. While not everyone who uses drugs becomes addicted, many people do. As many as 19,000 people die of drug-related causes each year.

Manifestations & Behavioral Cues of Substance Abuse:

- Abrupt changes in work or school attendance, quality of work, work output, grades, discipline.
- Defensiveness, resentful behavior (everything's a hassle).
- Unexplained moodiness, irritability, or nervousness.
- Unusual flare-ups or outbreaks of temper.
- Withdrawal from responsibility.
- General changes in overall attitude.
- Violent temper or bizarre behavior.
- Unexplained silliness or giddiness.
- Paranoia – suspiciousness.
- Excessive need for privacy; keeps door locked or closed, won't let people in.
- Chronic dishonesty; trouble with police.
- Deterioration of physical appearance and grooming.
- Wearing of sunglasses at inappropriate times.
- Difficulty in paying attention; forgetfulness
- Increase or decrease in appetite; changes in eating habits, unexplained weight loss or gain.
- Extreme hyperactivity; excessive talkativeness.
- Smell of substance on breath, body or clothes
- Change in personal grooming habits
- Needle marks or bruises on lower arm, legs or bottom of feet.
- Continual wearing of long-sleeved garments particularly in hot weather or reluctance to wear short-sleeved attire when appropriate.
- Association with known substance abusers.
- Unusual borrowing of money from friends, co-workers or parents.
- Stealing small items from employer, home or school.
- Secretive behavior regarding actions and possessions; poorly concealed attempts to avoid attention and suspicion such as frequent trips to storage rooms, restroom, basement, automobile / parking lot, etc.
- Numerous accidents without explanation
- Pattern of accidents in area during particular time shift.
- Possession of drug paraphernalia.

Alcohol

Categories of Employees Subject to the Alcohol Misuse Requirements

All persons performing any of the following safety-sensitive functions are subject to the DOT / FAA drug and alcohol testing program.

1. Flight crewmember
2. Flight attendant
3. Flight instruction
4. Aircraft dispatch
5. Aircraft maintenance or preventive maintenance
6. Ground security coordinator
7. Aviation screening
8. Air traffic control

Use of Alcohol and Form of Testing

All employees that perform safety-sensitive functions as outlined within this training material, are prohibited from (1) possessing alcohol or drinking alcohol while working on Company premises or (2) being impaired or intoxicated by alcohol at above the legal level as provided by state law while at work or when reporting to work. Employees performing or scheduled to perform safety-sensitive functions are prohibited from having a Breath Alcohol Concentration (BrAC) of 0.04 or greater. Employees who are working or report to work with a BrAC level of above .02 and less than .04 cannot perform safety-sensitive functions under the Department of Transportation regulations.

Employees who are working or report to work for the performance of safety-sensitive job functions are prohibited from performing any such functions if they have consumed any alcohol within the last eight hours, regardless of their BrAC level. The Company reserves the right to discipline the employee for such prohibited conduct. Continued violations by testing within this impermissible BrAC range may lead to termination.

An employee who violates these alcohol prohibitions must be immediately removed from performing safety-sensitive functions.

Saliva tests will be used for the initial alcohol test. An Evidential Breath Testing device (EBT) may be used for the initial test if available and the Company chooses. An EBT will be used for confirmation testing.

Procedures that will be used to test for the presence of alcohol; protecting the employee and the integrity of the Breath Testing Process; Safeguarding the validity of the test results; and ensuring that those results are attributed to the correct employee.

Global Technical Services, Inc. uses only certified Breath Alcohol Technicians & Screening Test Technicians such as from our primary collection site Concentra to conduct alcohol testing. All tests will use one of the following procedures:

Preparation for Breath Alcohol Testing

- When the employee enters the alcohol testing location, the breath alcohol technician (BAT) /screening test technician (STT) will require the employee to provide positive identification (photo I.D. or identification issued by Global Technical Services, Inc.). On request, the BAT/STT will provide positive identification to the employee. The BAT/STT will explain the testing procedures to the employee.

Screening Tests

- The BAT/STT will complete Step 1 on the alcohol testing form (ATF), and the employee will then complete Step 2 on the form, signing the certification. Refusal by the employee to sign this certification will be regarded as a refusal to take the test.

Breath Tests

- An individually sealed mouthpiece will be opened in view of the employee and the BAT and will be attached to the evidential breath-testing device (EBT) in accordance with the manufacturer's instructions.
- The BAT will instruct the employee to blow forcefully into the mouthpiece for at least 6 seconds or until the EBT indicates that an adequate amount of breath has been obtained.
- If the EBT does not have a printer capable of generating a printed result showing a sequential test number, the manufacturer's name for the device, the device's serial number, and the time and date of the test, the BAT will record the displayed result, test number, testing device, serial number of the testing device, date, time and quantified result in Step 3 of the form. The BAT will then complete the rest of Step 3 in its entirety.

- If the EBT provides a printed result, but does not print the results directly onto the form, the BAT will show the employee the result displayed on the EBT. The BAT will then affix the test result printout to the breath alcohol test form (ATF) in the designated space, using a method that will provide clear evidence of removal (e.g., tamper-evident tape).
- If the EBT prints the test results directly onto the form, the BAT will show the employee the result displayed on the EBT and on the alcohol test form (ATF).
- In any case in which the result of the screening test is a breath alcohol concentration of less than 0.02, the BAT will date the form and sign the certification in Step 3 of the form.
- If a test result printed by the EBT does not match the displayed result, the BAT will note the disparity in the remarks section. Both the employee and the BAT will initial or sign the notation. The test is then invalid and Global Technical Services, Inc. and the employee will be so advised.
- No further testing is authorized. The BAT will transmit the result of less than 0.02 to Global Technical Services, Inc. in a confidential manner and Insert Company's Name will receive and store the information so as to ensure that confidentiality is maintained as required.

Saliva Alcohol Screening Device (ASD)

- The BAT/STT will check the expiration date on the device or on the package containing the device and show it to the employee. A device must not be used after its expiration date.
- The BAT/STT will open an individually wrapped or sealed package containing the device in the presence of the employee.
- The BAT/STT will offer the employee the opportunity to use the device. The BAT/STT will instruct the employee to insert it into his/her mouth and use it in a manner described by the device's manufacturer.
- If the employee chooses not to use the device, or in all cases in which a new test is necessary because the device did not activate, the BAT/STT must insert the device into the employee's mouth and gather saliva in the manner described by the device's manufacturer.
- When the device is removed from the employee's mouth, the BAT/STT must follow the manufacturer's instructions regarding the necessary next steps to ensure that the device has activated.
- The BAT/STT must read the result displayed on the device no sooner than the device's manufacturer instructs. In all cases the result displayed must be read within 15 minutes of the test. The BAT/STT must then show the device and its reading to the employee and enter the result on the alcohol test form (ATF).
- The BAT/STT must note the fact that a saliva alcohol screening device (ASD) was used in Step 3 of the ATF.

Breath Tube Alcohol Screening Device (ASD)

- The BAT/STT will check the expiration date on the detector device and the electronic analyzer or on the package containing the device and the analyzer and show it to the employee. A device or the analyzer must not be used after their expiration date. The BAT/STT must not use an analyzer which is not specifically pre-calibrated for the device being used in the collection.
- The BAT/STT will remove the device from the package and secure an inflation bag onto the appropriate end of the device, as directed by the manufacturer on the device's instructions.
- The BAT/STT will break the tube's ampoule in the presence of the employee.
- The BAT/STT will offer the employee the opportunity to use the device. If the employee chooses to use the device, the BAT/STT will instruct the employee to blow forcefully and steadily into the blowing end of the device until the inflation bag fills with air (approximately 12 seconds).
- If the employee chooses not to hold the device, the Bat/STT must hold it and provide the use instructions.
- Once the employee completes the breath process, the BAT/STT will take the device from the employee, remove the inflation bag, and prepare the device to be read by the analyzer in accordance with the manufacturer's directions.
- After waiting the required amount of time directed by the manufacturer for the detector device to incubate, the BAT/STT must place the device in the analyzer in accordance with the manufacturer's directions. The result must be read from the analyzer no earlier than the required incubation time of the device. In all cases, the result must be read within 15 minutes of the test.

- The BAT/STT must follow the manufacturer's instructions for determining the result of the test. The BAT/STT must show the analyzer result to the employee and record the result on Step 3 of the alcohol test form (ATF).
- The BAT/STT must note the fact that a breath tube device was used in Step 3 of the ATF.

Confirmation Tests

- If the result of the screening test is an alcohol concentration of 0.02 or greater, a confirmation test will be performed. If a different BAT will conduct the confirmation test, the BAT who conducts the screening test will complete and sign step 3 of the alcohol test form (ATF). The BAT will provide the employee with Copy 2 of the form.
- In the presence of the employee, the BAT will conduct an "air blank" to ensure that the device is working correctly. You must show the reading to the employee. The air blank result must be 0.00. If the reading is greater than 0.00, the BAT will conduct one more air blank. If the reading is greater than 0.00, testing will not proceed using the instrument. However, testing may proceed on another instrument.
- The BAT will instruct the employee not to eat, drink, put any object or substance in his or her mouth, and, to the extent possible, not belch during a waiting period before the confirmation test. This time period begins with the completion of the screening test, and will not be less than 15 minutes. The BAT will explain to the employee the reason for this requirement (i.e., to prevent any accumulation of mouth alcohol leading to an artificially high reading) and the fact that it is for the employee's benefit. The BAT will also explain that the test will be conducted at the end of the waiting period, even if the employee has disregarded the instruction, the BAT will so note in the "Remarks" section of the ATF.
- If a BAT other than the one who conducted the screening test is conducting the confirmation test, the new BAT will initiate a new breath alcohol testing form. The BAT will complete step 1 on the form. The employee will then complete Step 2 on the form, signing the certification. Refusal by the employee to sign this certification will be regarded as a refusal to take the test. The BAT will note in the "Remarks" section of the form that a different BAT conducted the screening process.
- If the employee does not sign the certification in Step 4 of the form, it will not be considered a refusal to be tested. In this event, the BAT will note the failure to sign in the "Remarks" section of the form.
- A breath alcohol test is invalid under the following circumstances:
 - The EBT does not pass its next external calibration check (invalidates all test results of 0.02 or greater on tests conducted since the last valid external calibration test); this does not invalidate negative tests).
 - The breath alcohol technician does not observe the minimum 15-minute waiting period prior to the confirmation test.
 - The breath alcohol technician does not perform an air blank on the EBT before a confirmation test, or such an air blank does not result in a reading of 0.00.
 - The breath alcohol technician does not sign the form.
 - An EBT fails to print a confirmation test result.
 - The sequential test number or alcohol concentration displayed on the EBT is not the same as the sequential test number or alcohol concentration on the printed result.
- Employee records pertaining to alcohol testing will be maintained in a secure location with controlled access.
- These records will be promptly released to the employee, or a person identified by the employee (including subsequent employers), upon written request of the employee. This release of information will not be contingent upon payment for records other than those specifically requested.
- These records must be released to Department of Transportation agency representatives upon request.
- These records may be released to the National Transportation Safety Board when requested as part of an accident investigation.
- These records may be released to a Federal, state, or local safety agency with regulatory authority over the employer or the employee upon request.

Effects of Alcohol

Alcohol is a socially acceptable drug that has been consumed throughout the world for centuries. It is considered a recreational beverage when consumed in moderation for enjoyment and relaxation during social gatherings. However, when consumed primarily for its physical and mood-altering effects, it is a substance of abuse. As a depressant, it slows down physical responses and progressively impairs mental functions.

Therefore, Safety-Sensitive Employees cannot be allowed to perform safety-sensitive duties if they have a breath or blood alcohol content of .02.

Signs and Symptoms of Alcohol Use

- Dulled mental processes
- Lack of coordination
- Odor of alcohol on breath
- Possible constricted pupils
- Sleepy or stuporous condition
- Slowed reaction rate
- Slurred speech

(**Note:** Except for the odor, these are general signs and symptoms of any depressant substance.)

Health Effects of Alcohol Abuse

The chronic consumption of alcohol (average of three servings per day of beer (12 ounces). Whiskey (1 oz.) or wine (6 ounce glass) over time may result in the following health hazards:

- Decreased sexual functioning
- Dependency (up to 10 percent of all people who drink alcohol become physically and / or mentally dependent on alcohol and can be termed “alcoholic”)
- Fatal Liver diseases
- Increased cancers of the mouth, tongue, pharynx, esophagus, rectum, breast, and malignant melanoma
- Kidney Disease
- Pancreatitis
- Spontaneous abortion of neonatal mortality
- Ulcers
- Birth defects (up to 54% of all birth defects are alcohol related)

Alcohol-Related Birth Defects

Definitions

- Fetal alcohol syndrome (FAS) is one of the top three known causes of birth defects with accompanying mental retardation – and the only preventable cause among those three. Abstaining from alcohol consumption during pregnancy can prevent FAS.
- FAS is characterized by a cluster of congenital birth defects that develop in the infants of some women who drink heavily during pregnancy. These defects include prenatal and postnatal growth deficiency; facial malformations such as a small head circumference, flattened mid-face, sunken nasal bridge and flattened and elongated philtrum; central nervous system dysfunction; and varying degrees of major organ system malformations.
- Fetal alcohol effects (FAE), a less severe version of FAS, is characterized by milder or less frequent FAS signs. Low birth weight, subtle behavioral problems or a partial display of physical malformations, for example, may be seen in the newborns of women who consumed less alcohol during pregnancy than women with FAS newborns.

Public Health Recommendations for Pregnant Women

- The best advice for pregnant women is to abstain from alcohol consumption during pregnancy. There is no evidence to establish an alcohol consumption level free of risks to the fetus.
- Women who breast-feed should continue to abstain from drinking alcohol until their babies are weaned. Alcohol readily enters breast milk and heavy alcohol consumption has been shown to reduce lactation.
- Nine states and 18 cities / counties require that signs warning of the dangers of drinking during pregnancy be posted wherever alcoholic beverages are served or sold.

Incidence and Risk Factors

- Nearly 5,000 babies – one in every 750 – are born with FAS every year. (FAS prevalence rates range from one in 1,000 to one in 200.) Comparatively, FAE may affect 36,000 newborns each year.
- One in six women in the peak childbearing years of 18-34 may drink enough, either chronically or episodically, to present a hazard to an unborn infant.
- Alcoholic women are at highest risk of bearing children with FAS. Alcoholism is a primary, chronic disease often progressive and fatal. It is characterized by impaired control over drinking, preoccupation with alcohol, use of alcohol despite adverse consequences and distorted thinking (most notably denial).
- FAS is prevalent in 9.8 of every 1,000 American Indians from a particular high-risk culture. Other American Indian populations have rates ranging from 1.3 to 10.3 for every 1,000.
- A daily average of one to two reported drinks is linked to decreased birth weight, growth abnormalities and behavioral problems in the newborn and infant. Increased risk of spontaneous abortion has been found at an even lower dose: one to two drinks weekly.
- The probability of having a child with FAS or FAE increases with the amount and frequency of alcohol consumed. Whenever a pregnant woman stops drinking, she reduces the risks of FAE and the consequences of alcohol exposure.
- There is no known safe dose of alcohol during pregnancy, nor does there appear to be a safe time to drink during pregnancy. Although, 90% of the public is aware that drinking during pregnancy may damage the fetus, one study showed that one-third of women interviewed believed that drinking more than three drinks a day during pregnancy was safe.

Alcohol's Trip Through the Body

Mouth & Esophagus:

Alcohol is an irritant to the delicate linings of the throat and food pipe. It burns as it goes down.

Stomach and Intestines:

Alcohol has an irritating effect on the stomach's protective lining, resulting in gastric or duodenal ulcers. This condition, if it becomes acute, can cause peritonitis, or perforation of the stomach wall. In the small intestine, alcohol blocks absorption of such substances as thiamine, folic acid, fat, vitamin B1, vitamin B12, and amino acids.

Bloodstream

95% of the alcohol taken into the body is absorbed into the bloodstream through the lining of the stomach and duodenum. Once in the bloodstream, alcohol quickly goes to every cell and tissue in the body. Alcohol causes red blood cells to clump together in sticky wads, slowing circulation and depriving tissues of oxygen. It also causes anemia by reduction of red blood cell production. Alcohol slows the ability of white cells to engulf and destroy bacteria and degenerates the clotting ability of blood platelets.

Pancreas

Alcohol irritates the cells of the pancreas, causing them to swell, thus blocking the flow of digestive enzymes. The chemicals, unable to enter the small intestine, begin to digestive enzymes. The chemicals,

unable to enter the small intestine, begin to digest the pancreas, leading to acute hemorrhagic pancreatitis. One out of five patients who develop this disease dies during the first attack. Pancreatitis can destroy the pancreas and cause a lack of insulin thus resulting in diabetes.

Liver

Alcohol inflames the cells of the liver, causing them to swell and block the tiny canal to the small intestines. This prevents bile from being filtered properly through the liver. Jaundice develops, turning the whites of the eyes and skin yellow. Each drink of alcohol increases the number of live cells destroyed, eventually causing cirrhosis of the liver. This disease is eight times more frequent among alcoholics than among non-alcoholics.

Heart

Alcohol causes inflammation of the heart muscle. It has a toxic effect on the heart and causes increased amounts of fat to collect, thus disrupting its normal metabolism.

Urinary Bladder and Kidneys

Alcohol inflames the lining of the urinary bladder making it unable to stretch properly. In the kidneys, alcohol causes increased loss of fluids through its irritating effect.

Sex Glands

Swelling of the prostate gland caused by alcohol interferes with the ability of the male to perform sexually. It also interferes with the ability to climax during intercourse.

Brain

The most dramatic and noticed effect of alcohol is on the brain. It depresses brain centers, producing progressive in coordination, confusion, disorientation, stupor, anesthesia, coma, death. Alcohol kills brain cells and brain damage is permanent. Drinking over a period of time causes loss of memory, judgment and learning ability.

Alcohol Related Social Issues

- Two-thirds of all homicides are committed by people who drink prior to the crime.
- Two or three percent of the driving population is legally drunk at any one time. This rate is doubles at night and on weekends.
- Two-thirds of all Americans will be involved in an alcohol-related vehicle accident during their lifetime.
- The rate of separation and divorce in families with alcohol dependency problems is 7 times the average.
- Forty percent of family court cases are alcohol problem related.
- Alcoholics are 15 times more likely to commit suicide than are other segments of the population.
- More than 60 percent of burns, 40 percent of falls, 69 percent of boating accidents, and 76 percent of private aircraft accidents are alcohol related.

Economic Factors / Women & Alcohol

- Assuming a conservative estimate of one FAS newborn for every 1,000 live births in 1980, it cost approximately \$14.8 million to treat them; \$670 million to treat the 68,000 FAS children under 18; and \$760 million to treat 160,000 FAS adults. Plus, indirect productivity losses were \$510.5 million.
- Women are now heavily targeted for marketing alcoholic beverages (Women will spend \$30 billion on alcoholic beverages in 1994, up from \$20 billion in 1984).

The Annual Alcohol Related Death Toll

- 24,000 people will die on the highway due to the legally impaired driver. 12,000 more will die on the highway due to the alcohol-affected driver.
- 15,800 will die in non-highway accidents.
- 30,000 will die due to alcohol-caused liver disease. 10,000 will die due to alcohol-induced brain disease or suicide. Up to another 125,000 will die due to alcohol-related conditions or accidents.

Workplace Issues Related to Alcohol

- It takes one hour for the average person (150 pounds) to process one serving of an alcoholic beverage from the body.
- Impairment in coordination and judgment can be objectively measured with as little as two drinks in the body.
- A person who is legally intoxicated is 6 times more likely to have an accident than a sober person.

Marijuana

Marijuana is one of the most misunderstood and underestimated drugs of abuse. People use marijuana for the mildly tranquilizing and mood and perception altering effects it produces. Marijuana does not depress central nervous system reactions. Its action is almost exclusively on the brain, altering the proper interpretation of incoming messages.

Marijuana Description

- Usually sold in plastic sandwich bags, leaf marijuana will range in color from green to light tan. The leaves are usually dry and broken into small pieces. The seeds are oval with one slightly pointed end. Less prevalent, hashish is compressed, sometimes tar-like substance ranging in color from pale yellow to black. It is usually sold in small chunks wrapped in aluminum foil.
- Marijuana has a distinctly pungent aroma resembling a combination of sweet alfalfa and incense.
- Cigarette papers, roach clip holders and small pipes made of bone, brass or glass are commonly found. Smoking “bongs” (large bore pipes for inhaling large volumes of smoke) can easily be made from soft drink cans and toilet paper rolls.

Signs and Symptoms of Marijuana Use

- Reddened eyes (often masked by eyedrops)
- Slowed speech
- Distinctive odor on clothing
- Lackadaisical, “I don’t care” attitude
- Chronic fatigue and lack of motivation
- Irritating cough, chronic sore throat

Health Effects of Marijuana Use

- When marijuana is smoked, it is irritating to the lungs. Chronic smoking causes emphysema like conditions.
- One cigarette (joint) of marijuana contains cancer-causing substances equivalent to one-half to one pack of cigarettes.
- One joint causes the heart to race and be overworked. People with undiagnosed heart conditions are at risk.
- Marijuana is commonly contaminated with the fungus Aspergillus, which can cause serious respiratory tract and sinus infections.

- Marijuana smoking lowers the body's immune system response, making users more susceptible to infection. The U.S. government is actively researching a possible connection between marijuana smoking and the activation of AIDS in positive human immunodeficiency virus (HIV) carriers.
- Chronic smoking causes changes in brain cells and brain waves. In essence, the brain is less healthy and does not work as efficiently or effectively. Does long-term brain damage occur? More research is required, but the probable answer is yes.

Pregnancy Problems and Birth Defects Related to Marijuana

- The active chemical, tetrahydrocannabinol (THC), and 60 other related chemicals in marijuana concentrate in the ovaries and testes.
- Chronic smoking of marijuana in males causes a decrease in the sex hormone, testosterone, and an increase in estrogen, the female sex hormone. The result is a decrease in sperm count, which can lead to temporary sterility. Occasionally, the onset of female sex characteristics including breast development occurs in heavy users.
- Chronic smoking of marijuana in females causes a decrease in fertility and an increase in testosterone.
- Pregnant women who are chronic marijuana smokers have a higher than normal incidence of stillborn births, early termination of pregnancy, and higher infant mortality rate during the first few days of life.
- In test animals, THC causes birth defects, including malformations of the brain, spinal cord, forelimbs and liver, and water on the brain and spine.
- Offspring of test animals who were exposed to marijuana have fewer chromosomes than normal, causing gross birth defects or death of the fetus. Pediatricians and surgeons are concluding that the use of marijuana by either or both parents, especially during pregnancy, leads to specific birth defects of the infant's feet and hands.
- One of the most common effects of prenatal cannabinoid exposure is underweight newborn babies.
- Fetal exposure may decrease visual functioning and causes other ophthalmic problems.

Mental Functions Impaired by Marijuana

- Delayed decision making
- Diminished concentration
- Impaired short-term memory, interfering with learning
- Impaired signal detection (ability to detect a brief flash of light), a risk for users who are operating machinery
- Impaired tracking (the ability to follow moving objects with the eyes) and visual distance measurements
- Erratic cognitive function
- Distortions in time estimation
- Long term negative effects on mental function known as "acute brain syndrome" which is characterized by disorders in memory, cognitive function, sleep patterns and physical condition.

Acute / Overdose Effects of Marijuana

- Aggressive urges
- Anxiety
- Confusion
- Fearfulness
- Hallucinations
- Heavy sedation
- Immobility
- Mental dependency
- Panic
- Paranoid reaction
- Unpleasant distortions in body image

Workplace Issues Regarding Marijuana

- The active chemical, THC, is stored in body fat and slowly releases over time. Marijuana smoking has a long-term effect on performance.
- A 500 to 800 percent increase in THC potency in the past several years makes smoking three to five joints a week today, equivalent to 15 to 40 joints a week in 1978.
- Combining alcohol or other depressant drugs and marijuana can produce a multiplied effect, increasing the impairing effects of both the depressant and marijuana.

Cocaine

Cocaine is used medically as a local anesthetic. It is abused as a powerful physical and mental stimulant. The entire nervous system is energized. Muscles are more tense, the heart beats faster and stronger, and the body burns more energy. The brain experiences and exhilaration caused by a large release of neurohormones associated with mood elevation.

Cocaine Description

- The source of cocaine is the coca bush, grown almost exclusively in the mountainous regions of northern South America.
- **Cocaine Hydrochloride** – “snorting coke: is a white to creamy granular or lumpy powder that is chopped into a fine powder before use. It is snorted into the nose, rubbed on the gums or injected in veins. The effect is felt within minute and lasts 40 – 50 minutes per “line” (about 60 – 90 milligrams). Common paraphernalia includes a single – edged razor blade and a small mirror or piece of smooth metal, a half straw or metal tube, and a small screw-cap vial or folded paper packet containing the cocaine.
- **Cocaine Base** – “rock, crack or free base” is a small crystalline rock about the size of a small pebble. It boils at a low temperature, and is not soluble in water, and is up to 90% pure. It is heated in a glass pipe and vapor is inhaled. The effect is felt within seven seconds. Common paraphernalia includes a “crack pipe” (a small glass smoking devise for vaporizing the crack crystal) and a lighter, alcohol lamp or small butane torch for heating.

Signs and Symptoms of Cocaine Use

- Financial problems
- Frequent and extended absences from meetings or work assignments
- Increased physical activity and fatigue
- Isolation and withdrawal from friends and normal activities
- Secretive behaviors, frequent non-business visitors, delivered packages, phone call
- Unusual defensiveness, anxiety, agitation
- Wide mood swings
- Runny or irritated nose
- Difficulty in concentration
- Dilated pupils and visual impairment
- Restlessness
- Formication (sensation of bugs crawling on skin)
- High blood pressure, heart palpitations and irregular rhythm.
- Hallucinations
- Hyper excitability and overreaction to stimulus
- Insomnia
- Paranoia and hallucinations
- Profuse sweating and dry mouth
- Talkativeness

Health Effects of Cocaine Use

- Research suggests that regular cocaine use may upset the chemical balance of the brain. As a result, it may speed up the aging process by causing irreparable damage to critical nerve cells. The onset of nervous system illnesses such as Parkinson's disease could also occur.
- Cocaine use causes the heart to beat faster and harder and rapidly increases blood pressure. In addition, cocaine causes spasms of blood vessels in the brain and heart. Both effects lead to ruptured vessels causing strokes and heart attacks.
- Strong psychological dependency can occur with one "hit" of crack. Usually, mental dependency occurs within days (crack) or within several months (snorting code). Cocaine causes the strongest mental dependency of any known drug.
- Treatment success rates are lower than for other chemical dependencies.
- Cocaine is extremely dangerous when taken with depressant drugs. Death due to overdose is rapid. The fatal effects of an overdose are usually not reversible by medical intervention.
- Cocaine overdose was the second most common drug emergency in 1986, up from 11th place in 1980.

Workplace Issues Regarding Cocaine

- Extreme mood and energy swings create instability. Sudden noises can cause violent reaction.
- Lapses in attention and ignoring warning signals greatly increase the potential for accidents.
- The high cost of cocaine frequently leads to workplace theft and / or dealing.
- A developing paranoia and withdrawal create unpredictable and sometimes violent behavior.
- Work performance is characterized by forgetfulness, absenteeism, tardiness and missed assignments.

Opiates

Opiates are narcotic drugs that alleviate pain, depress body functions and reactions and, when taken in large doses, cause a strong euphoric feeling.

Opiates Description

- Natural and natural derivatives – opium, morphine, codeine, and heroin.
- Synthetics – meperidine (Demerol), oxycodone (Numorphan) and oxycodone (Percodan)
- May be taken in pill form, smoked or injected depending upon the type of narcotic used.

Signs and Symptoms of Opiates Use

- Mood changes
- Impaired mental functioning and alertness
- Constricted pupils
- Depression and apathy
- Impaired coordination
- Physical fatigue and drowsiness
- Nausea, vomiting and constipation.

Health Effects of Opiate Use

- IV needle users have a high risk for contracting hepatitis and AIDS due to the sharing of needles.
- Narcotics increase pain tolerance. As a result, people could more severely injure themselves or fail to seek medical attention after an accident due to the lack of pain sensitivity.
- Narcotics' effects are multiplied when used in combination with other depressant drugs and alcohol, causing increased risk for an overdose.

Social Issues Regarding Opiates

- There are over 500,000 heroin addicts in the U.S. , most of whom are IV needle users.
- An even greater number of medicinal narcotic dependent persons obtain their narcotics through prescriptions.
- Because of tolerance, there is an ever-increasing need for more narcotic to produce the same effect.
- Strong mental and physical dependency occurs.
- The combination of tolerance and dependency creates an increasing financial burden for the user. Costs for heroin can reach hundreds of dollars a day.

Workplace Issues Regarding Opiates

- Unwanted side effects such as nausea, vomiting, dizziness, mental clouding and drowsiness place the legitimate user and abuser at higher risk for an accident.
- Narcotics have a legitimate medical use in alleviating pain. Workplace use may cause impairment of physical and mental function.

Amphetamines

Amphetamines are central nervous system stimulants that speed up the mind and body. The physical sense of energy at lower doses and the mental exhilaration of higher doses are the reasons for their abuse. Although widely prescribed at one time for weight reduction and mood elevation, the legal use of amphetamines is now limited to a very narrow range of medical conditions. Most amphetamines that are abused are illegally manufactured in foreign countries and smuggled into the U.S. or clandestinely manufactures in crude laboratories.

Amphetamines Description

- Amphetamine (“speed”) is sold in counterfeit capsules or as white, flat, double-scored “mini bennies.” It is usually taken by mouth.

Methamphetamine (“meth”, “crank”, or “crystal”) is nearly identical in action to amphetamine. It is often sold as a creamy, white and granular powder or in lumps and is packaged in aluminum foil wraps or sealable plastic bags. Methamphetamine may be taken orally, injected or snorted into the nose.

Signs and Symptoms of Amphetamines Use

- Hyper excitability, restlessness
- Dilated pupils
- Increased heart rate and blood pressure
- Heart palpitations and irregular beats
- Profuse sweating
- Rapid respiration
- Confusion
- Panic
- Talkativeness
- Inability to Concentrate

Health Effects of Amphetamines Use

- Regular use produces strong psychological dependence and increasing tolerance to drug.
- High doses may cause toxic psychosis resembling schizophrenia.
- Intoxication may induce a heart attack or stroke due to spiking of blood pressure.
- Chronic use may cause heart and brain damage due to severe constriction of capillary blood vessels.
- The euphoric stimulation increases impulsive and risk-taking behavior, including bizarre and violent acts.
- Withdrawal from the drug may result in severe physical and mental depression

Workplace Issues Regarding Amphetamine Use

Since amphetamines alleviate the sensation of fatigue, they may be abused to increase alertness because of unusual overtime demands or failure to get rest.

Low dose amphetamine use will cause a short-term improvement in mental and physical functioning. With greater use or increasing fatigue the effect reverses and has an impairing effect. Hangover effect is characterized by physical fatigue and depression, which make operation of equipment or vehicles dangerous.

Phencyclidine (PCP)

Phencyclidine (PCP) was originally developed as an anesthetic, but the adverse side effects prevented its use except as a large animal tranquilizer. Phencyclidine acts as both a depressant and a hallucinogen, and sometimes as a stimulant. It is abused primarily for its variety of mood altering effects. A low dose produces sedation and euphoric mood changes. The mood can change rapidly from sedation with muscle rigidity and blank stare, with the eyelids half closed. Sudden noises of physical shocks may cause a “freak out” in which the person has abnormal strength, extremely violent behavior, and an inability to speak or comprehend communication.

Phencyclidine Description

- PCP is sold as a creamy, granular powder and often packaged in one inch square aluminum foil or folded paper “packets.”
- It may be mixed with marijuana or tobacco and smoked. It is sometimes combined with procaine, a local anesthetic, and sold as imitation cocaine.

Signs and Symptoms of Phencyclidine (PCP) Use

- Impaired coordination
- Severe confusion and agitation
- Extreme mood shift
- Muscle rigidity
- Nystagmus (jerky eye movements)
- Dilated pupils
- Profuse sweating
- Rapid Heartbeat
- Dizziness

Health Effects of Phencyclidine (PCP) Use

- The potential for accidents and overdose emergencies is high due to the extreme mental effects combined with the anesthetic effect on the body.
- Other depressant drugs potentiate PCP, including alcohol, increasing the likelihood of an overdose reaction.
- Mis-diagnosing the hallucination as LSD induced, and then treating with Thorazine, can cause a fatal reaction.
- Use can cause irreversible memory loss, personality changes, and thought disorders.

Workplace Issues Regarding Phencyclidine (PCP) Use

- PCP abuse is less common today than in recent years. It is also not generally used in a workplace setting because of the severe disorientation that occurs.
- There are four phases to PCP abuse. The first phase is acute toxicity. It can last up to three days and can include combativeness, catatonia, convulsions and coma. Distortions of size, shape and distance perception are common. The second phase, which does not always follow the first, is a toxic psychosis. Users may experience visual and auditory delusions, paranoia and agitation. The third phase is a drug induced schizophrenia that may last a month or longer. The fourth phase is PCP induced depression. Suicidal tendencies and mental dysfunction can last for months.

Drug & Alcohol Abuse HOTLINE # 1-800-99-DETOX
www.recoveryconnection.org

National Substance Abuse Professionals Network
1-800-879-6428