35 Minutes

SESSION I

INTRODUCTION AND OVERVIEW

SESSION I INTRODUCTION AND OVERVIEW

Upon successfully completing this session the student will be able to:

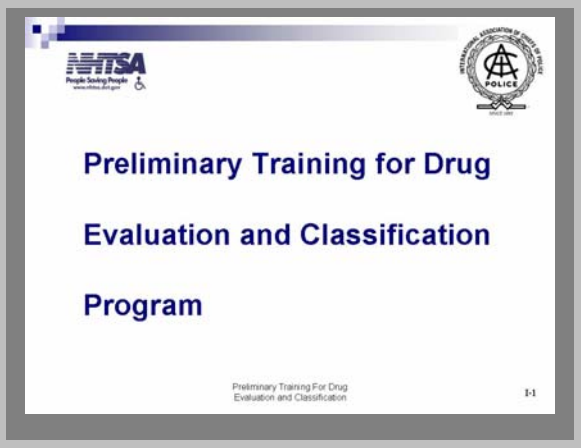
- State the goal and objectives of the course.
- Define the term "drug" as it is used in the course.
- Name the seven categories of drugs and give at least one example of each category.

CONTENT SEGMENTS	LEARNING ACTIVITIES
A. Welcoming Remarks and Objectives	▪ Instructor-Led Presentations
B. Definition and Categories of Drugs	

I. INTRODUCTION AND OVERVIEW

A. Welcoming Remarks and Objectives

Slide I-1 Preliminary Training for Drug Evaluation & Classification Program



Welcome to the Preliminary Training for the Drug Evaluation and Classification Program.

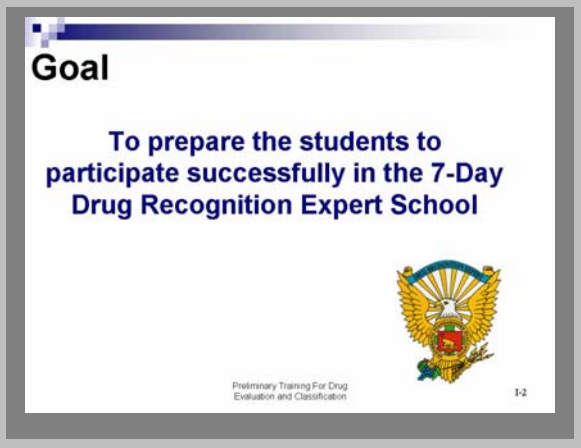
<u>*Instructor Introductions*</u>

- Principal instructor(s)

Instructors' names and students' names on tent cards.

- Apprentice instructor(s)

Slide I-2: Goal

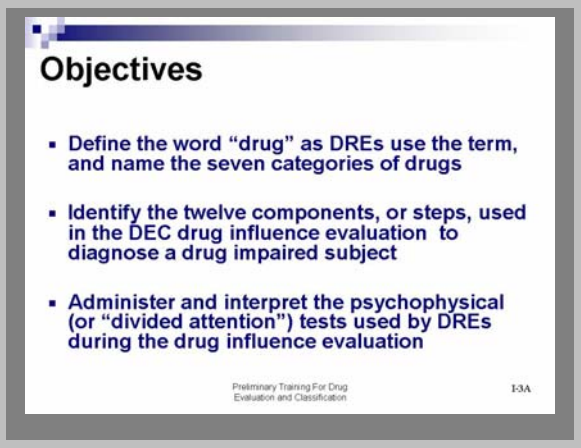


Preliminary Training Goal

To prepare the students to participate successfully in the 7-Day Drug Recognition Expert school.

- This two-day Preliminary School won't make you DRE's.
- But it will make it easier for you to pass the 7-Day DRE School and successfully complete your certification training.
- Inform the students of when and where their formal, seven-day DRE School will take place.

Slide I-3A: Objectives



Objectives of the Preliminary Training

- Define "Drug" and name the seven categories.
- Identify the twelve components or steps in the DEC drug influence examination.
- Administer and interpret the Psychophysical Tests used by DRE's during the drug influence evaluation.

Slide I-3B: Objectives

- Check and measure a subject's vital signs.
- List the major signs and symptoms of each drug category.
- Conduct the eye examinations that are part of the drug influence evaluation.
- Describe the history and physiology of alcohol as a drug.

Solicit students' questions about the goal and objectives.

Key Points of Emphasis

- This two-day school is only the first of three stages in your training as DREs.
- Next will come the seven-day formal DRE school.
- After that will come at least several weeks of supervised on-the-job training known as the "Certification Phase."

Solicit students' questions about the three stages of training.

Preview of the remainder of the Pre-School

Briefly outline the upcoming sessions of the school.

Refer to the wall-charts.

Certification Progress Logs

- Instruct students to open their manuals and remove the Certification Progress Log. Have students fill out the first line of the log, then collect it.

B. Definition and Categories of Drugs

Pose this question and solicit responses from several students.

What do we mean by the word "drug"?

Alternative Definitions, drawn from Several Sources

- "a substance used as a medicine or in making medicines."
    - Source: Webster's Seventh New Collegiate Dictionary, 1971 edition.

Ask students: "Would you agree that all drugs are medicines or ingredients of medicines?"

Ask students to name some substances they consider to be "drugs" that have no medicinal value.

- "a narcotic substance or preparation."
    - Source: Webster's. Ask students if they agree that all drugs are narcotics.
- "a chemical substance administered to a person or animal to prevent or cure disease or otherwise to enhance physical or mental welfare."
    - Source: Random House College Dictionary, 1982 edition.

Point out that this definition seems to exclude any drug that is harmful or does not enhance welfare.

- "a habit-forming medicinal substance, especially a narcotic."
    - Source: Random House.

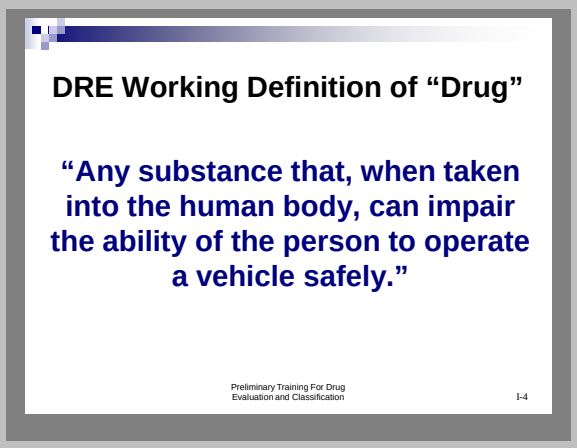
Ask students if they agree that all drugs are habit- forming.

Ask if, from an enforcement perspective, they can think of any habit-forming substances they would not ordinarily be considered to be a drug.

- "a substance taken by mouth, injected or applied locally to treat a disorder (i.e., to ease pain)."

- "a chemical substance introduced into the body to cause pleasure or a sense of changed awareness, as in the non-medical use of Lysergic Acid Diethylamide (LSD).
    - Source: Medical Dictionary For the Non-Professional, Barrows Educational Series, Inc., Woodbury, NY. 1984.
- "any substance, natural or artificial that by chemical nature alters the structure or function of a living organism."
    - Source: Los Angeles Police Department Drug Recognition Training, may 1986.
- "any substance that, in small amounts, produces changes in the body, mind or both."
    - Source: LAPD

Slide I-4: DRE Working Definition of "Drug"



A Simple, Enforcement-Oriented Definition of Drugs

- "any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely."
    - Working definition derived from the 1985 California Vehicle Code.
    - Point out that this definition excludes many substances that ordinarily would be considered "drugs" by physicians, chemists, etc.
    - Emphasize that, as traffic law enforcement officers, the students' concern has to remain focused on substances that impair.

Within this simple, enforcement-oriented definition, there are seven categories of drugs.

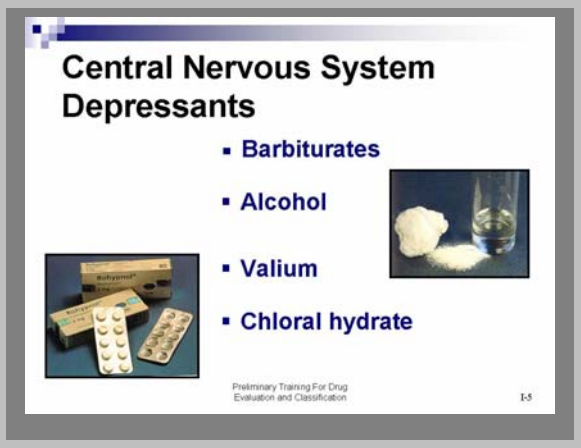
- Each category consists of substances that impair a person's ability to drive.
- The categories differ from one another in terms of how they impair driving ability and in terms of the kinds of impairment they cause.
    - Emphasize that the DEC Program drug categories differ from those of the American Medical Association and the Drug Enforcement Administration because they categorize drugs on the basis of their chemical structures, while we categorize drugs on the basis of the kinds of impairment they produce.
- Because the categories produce different types of impairment, they generate different signs and symptoms.
- With training and practice, you will be able to recognize the different signs of drug influence and determine which category is causing the impairment you observe in a suspect.

Ask students: "What are the seven categories of drugs?" Note: Some students may not have been trained on the seven categories of drugs. Poll the students to determine their knowledge of the drug categories. Instructors may need to assist the students in identifying the categories.

Write the names of the categories on the dry erase board or flip-chart as they are mentioned by the students.

- Since the drug categories may be new to the students you may need to assist them in correctly identifying each category.

Slide I-5: Central Nervous System Depressants



Central Nervous System Depressants

The category of CNS Depressants includes some of the most commonly abused drugs.

Alcohol – the most familiar drug of all – is abused by an estimated 40-50 million Americans.

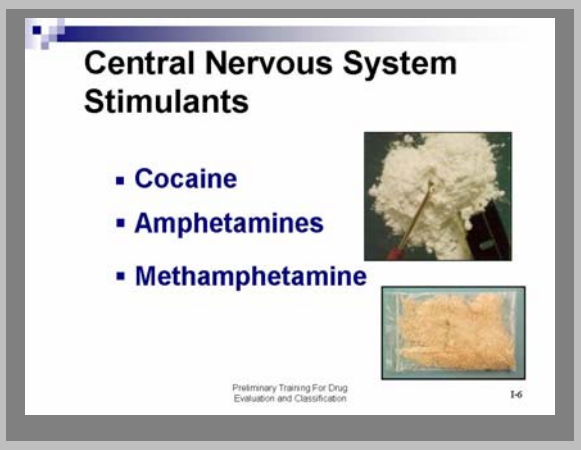
- Slightly more than half of Americans age 12 or older reported being current drinkers of alcohol in 2008 (51.6% of the population). This translates to an estimated 129 million people.
    - Source: National Survey on Drug Use and Health (NSDUH, 2008)
- Depressant drugs consistently rank among the most widely used and abused drugs in the U.S. and Canada. Over the past decade, an estimated 600 million prescriptions were processed for minor tranquilizers in U.S. pharmacies. (Source: Downers: A New Look at Depressant Drugs)
- Point out that Chloral hydrate sometimes is called "Mickey Finn" or "Knockout drops."

Depressants slow down the operation of the central nervous system (i.e., the brain, brain stem and spinal cord).

- Cause the user to react more slowly.
- Cause the user to process information more slowly.
- Relieve anxiety and tension.

- Induce sedation, drowsiness and sleep.
- In high enough doses, CNS depressants will produce general anesthesia.
- I.e. depress the brain's ability to sense pain.
- In very high doses, induce coma and death.

Slide I-6: Central Nervous System Stimulants



Central Nervous System Stimulants

CNS Stimulants are a widely abused category of drugs.

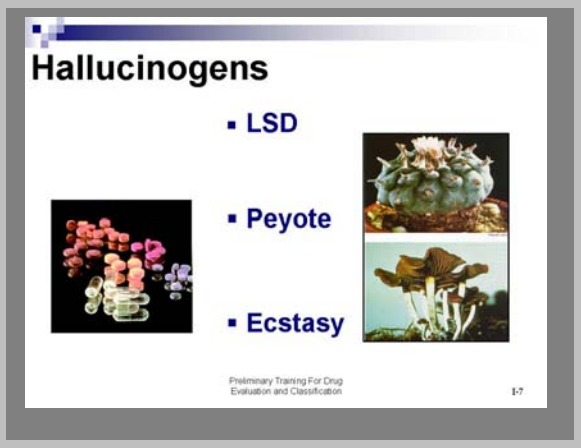
- In 2003, 20.8 million Americans aged 12 or older (8.8 percent of persons in that age group) had used prescription type stimulants non-medically at least once in their lifetime.
    - Source: National Survey on Drug Use and Health (USDUH), February 2005.
- In 2008, there were 1.9 million cocaine users aged 12 or older comprising 0.7 percent of the U.S. population. (Source: USDUH Report, 2008)
- The use and abuse of Methamphetamine continues to rise and has quickly become one of the major drugs of abuse.
    - Note: Instructors may wish to include statistics regarding the use of methamphetamines in their respective State.
- Several million appear to use amphetamines.

CNS Stimulants speed up the operation of the central nervous system, and of the various bodily functions controlled by the central nervous system.

- Cause the user to become hyperactive, extremely talkative.
- Speech may become rapid and repetitive.
- Heart rate increases.
- Blood pressure increases.
- Body temperature rises, user may become excessively sweaty.
- Induce emotional excitement, restlessness, irritability.
- Can induce cardiac arrhythmia (unstable beating of the heart), cardiac seizures and death.

Remind students of well-known athletes and others who have died because of cocaine abuse.

Slide I-7: Hallucinogens



Hallucinogens

Hallucinogens are also widely abused. In recent years an increase in the abuse of both LSD and Ecstasy (MDMA) has been reported.

- Point out that LSD and Peyote are only two examples of hallucinogens.
- It is estimated that approximately one million Americans abuse hallucinogens.

- Hallucinogens may create hallucinations. That is, they may create apparent perceptions of things not truly present.

- Hallucinogens may also create very distorted perceptions, so that the user sees, hears and smells things in a way quite different from how they really look, sound and smell.

Instead, hallucinogens cause the nervous system to send strange or false signals to the brain.

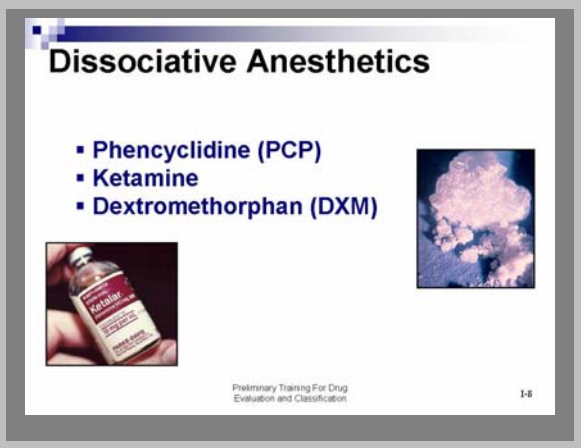
- Produce sights, sounds and odors that aren't real.

- Induce a temporary condition very much like psychosis or insanity.

- Can create a "mixing" of sensory modes, for example, the user "hears colors," "sees music," "tastes sounds," etc., referred to as "Synesthesia."

Point out that, with all of these false and distorted perceptions, the person under the influence of hallucinogens would be a very unsafe driver.

Slide I-8: Dissociative Anesthetics



Dissociative Anesthetics

This category includes drugs such as PCP its analogs and Dextromethorphan (DXM). These drugs generally inhibit pain by cutting off or "dissociating" the brain's perception of the pain.

- Point out that this category used to be Phencyclidine (PCP) but was changed in 2005.

- Point out that the definition of Dissociative Anesthetics is contained in the Glossary of Terms in the DRE Pre-School Student Manual.

PCP is considered to be by the medical community an hallucinogen. However, because of the symptomatology it presents, it is included in this category.

- Point out that people under the influence of a Dissociative Anesthetic may exhibit a combination of the signs associated with hallucinogens, CNS Stimulants and Depressants.

PCP is a synthetic drug, i.e., it does not occur naturally but must be produced in a laboratory-like setting.

PCP is similar to CNS depressants in that it depresses brain wave activity.

- Slows down thought.
- Slows reaction time.
- Slows verbal responses.

But PCP is similar to CNS stimulants in that it activates the parts of the brain that control emotions, the heart and the other autonomic systems.

- Heart rate increases.
- Blood pressure increases.
- Adrenalin production increases.
- Body temperature rises.
- Muscles become rigid.

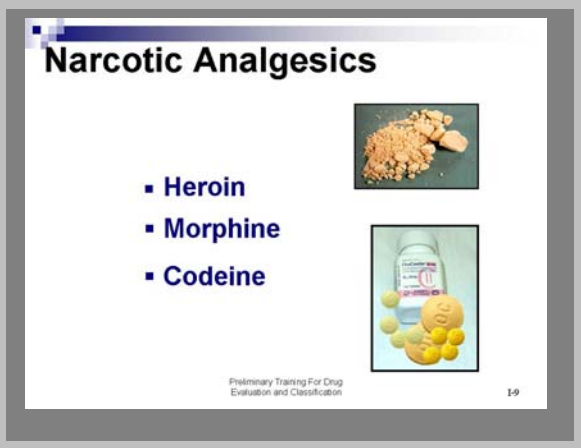
And PCP is similar to hallucinogens in that it distorts or "scrambles" signals received by the brain.

- Sight, hearing, taste, smell and touch may all be distorted.
- User's perception of time and space may be distorted.
- User may become paranoid, feel isolated and depressed.
- User may develop a strong fear of and pre-occupation with death.
- User may become unpredictably violent.

PCP analogs include Ketamine, Ketalar, Ketajet, and Ketaset.

Dextromethorphan (DXM) is an ingredient found in numerous over-the-counter cough and cold remedies.

Slide I-9: Narcotic Analgesics



Narcotic Analgesics

There are two subcategories of Narcotic Analgesics:

- Opiates are derivatives of opium.
- Synthetics are produced chemically in the laboratory. They are not in any way derived from Opium but produce similar effects.

Point out that heroin, morphine and codeine are natural derivatives of opium.

Point out that methadone is an example of a synthetic narcotic.

The word "Analgesic" means pain-killer. All of the drugs in this category reduce the person's reaction to pain.

- According to the 2004 National Survey on Drug Use and Health report, approximately 1.3% of Americans have used heroin.
- Heroin is highly addictive, and very expensive.
- Many addicts support their habit by stealing property and converting it to cash.

In addition to reducing pain, they produce euphoria, drowsiness, apathy, lessened physical activity and sometimes impaired vision.

Persons under the influence of Narcotic Analgesics often pass into a semi-conscious type of sleep or near sleep.

- Point out that this condition is often called being "on the nod."
- Persons "on the nod" may be awakened easily.
- They often are sufficiently alert to respond to questions effectively.

Higher doses of Narcotic Analgesics can induce coma, respiratory failure and death.

Display Slide I-10: Inhalants

Inhalants

Inhalants are fumes of certain substances that produce mind altering results.

There are three subcategories of inhalants:

- Volatile solvents (e.g., gasoline, glue, oil-based paint, cleaning fluids, paint remover, etc.)
- Aerosols (i.e., the propellant gases in spray cans, e.g., hair sprays, insecticides, etc.)
- Anesthetic Gases (e.g., nitrous oxide, ether, amyl nitrite, butyl nitrate, etc.)

Different inhalants produce different effects.

- Many produce effects similar to those of CNS depressants.
- A few produce stimulant like effects.

- Some produce hallucinogenic effects.

The inhalant abuser's attitude and demeanor can vary from inattentive, stuporous and passive to irritable, violent and dangerous.
The abuser's speech will often be slow, thick and slurred.

Slide I-11: Cannabis

Cannabis

The category "Cannabis" includes the various forms and products of the Cannabis Sativa plant.

Write "Cannabis Sativa" on the dry erase board or flip-chart.

The active ingredient in Cannabis is the substance known as "Delta-9 Tetrahydrocannabinol," or "THC."

Write "△-9 THC" on the dry erase board or flip-chart.

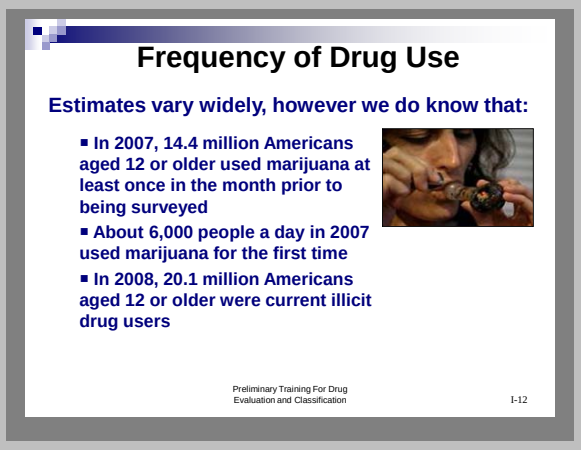
Apart from alcohol, marijuana is one of the most commonly abused drugs.

- Marijuana continues to be the most used illegal drug in the U.S. with 15.2 million Americans over the age of 12 reporting use in the past month.
    - Source: NSDUH, 2008.
- Cannabis appears to interfere with the attention process. Drivers under the influence of marijuana often do not pay attention to their driving.

- Point out that divided attention Standardized Field Sobriety Tests usually disclose the best evidence of cannabis impairment.

- Cannabis also produces a distortion of the user's perception of time, an increased heart rate (often over 100 beats per minute) and a reddening of the eyes.

Slide I-12: Frequency of Drug Use



Frequency of Drug Use

- According to the National Survey on Drug Use and Health, 2007, 14.4 million Americans aged 12 or older used marijuana at least once in the month prior to being surveyed, which is similar to the 2006 rate. About 6,000 people a day in 2007 used marijuana for the first time - 2.1 million Americans. Of these, 62.2 percent were under age 18.

- In 2008, an estimated 20.1 million Americans aged 12 or older were current illicit drug users.

  - Source: National Survey on Drug Use and Health (NSDUH, 2008).

- Approximately 6 million people were users of psychotherapeutic drugs taken non-medically (2004).

  - Source: National Survey on Drug Use and Health (NSDUH, 2004).

- The exact number of prescription drug users in the U.S. is unknown. However, in 2003, the National Association of Chain Drug Stores (NACDS) reported that 3.14 billion scripts for prescription drugs were written in the U.S.

- Source: National Survey on Drug Use and Health (NSDUH), 2003.

- In 2008, 10.0 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.0 percent of the population aged 12 or older, the same as the rate in 2007 (4.0 percent), but lower than the rate in 2002 (4.7 percent). In 2008, the rate was highest among young adults aged 18 to 25 (12.3 percent).

- Among those aged 50 to 59, the rate of past month illicit drug use increased from 2.7 percent in 2002 to 4.6 percent in 2008. This trend may partially reflect the aging into this age group of the baby boom cohort, whose lifetime rate of illicit drug use is higher than those of older cohorts.

- Approximately 2.4 million Americans began abusing prescription drugs within the past year. The average age of new users was 23.3 years.

  - Source: 2004 National Survey on Drug Use and Health (NSDUH).

Polydrug Use

Though drug evaluation subjects may be under the influence of any one of the mentioned categories of drugs, it is not uncommon to find individuals who have taken several combinations of drugs.

- Data being collected through the national DRE Database indicates that approximately 37% of all toxicology results indicate two or more drug categories.

- Point out that the IACP and NHTSA maintain a national DRE database reporting system for the DEC Program and DREs are encouraged to enter their DRE evaluation data.

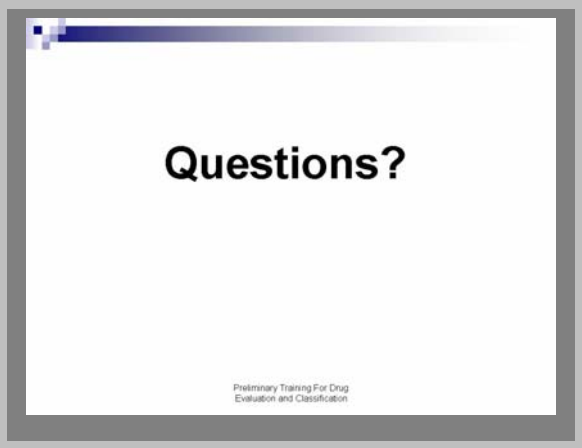
The term "poly drug" use refers to instances where the subject has ingested drugs from two or more drug categories.

- Point out that the drugs do not have to be actually ingested at exactly the same time.

- Most controlled prescription drug abusers are poly drug abusers. One study reported that approximately 75% of persons who abuse alcohol also abuse illicit drugs.

  - Source: "Under the Counter: The Diversion and Abuse of Controlled Prescription Drugs in the U.S.," National Center on Addiction and Substance Abuse, July 2005.

Slide I-13: Questions



REVIEW QUESTIONS

Test your knowledge of the subject matter covered in this session by trying to answer the following questions.

1. What is a "drug" as the term is used in this course?

   For the purpose of this training, a "drug" is any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

2. What are the seven major categories of drugs?

   CNS Depressants, CNS Stimulants, Hallucinogens, Dissociative Anesthetics, Narcotic Analgesics, Inhalants, and Cannabis

3. What kind (category) of drug is alcohol? What about Cocaine? What about Heroin?

   Alcohol is a CNS Depressant. Cocaine is a CNS Stimulant. Heroin is a Narcotic Analgesic.

4. How would you respond to someone who suggests that the "drug problem" basically occurs only in a few metropolitan areas, and doesn't apply to their community?

   There might be some rare communities in this country that are free from the "drug problem," but they would be rare indeed. A conservative estimate suggests that about 40-50 million Americans regularly use drugs other than alcohol. However, the exact number is not known.

5. What category of drug is PCP classified? What about Marijuana? What about Valium?

   PCP belongs to the Dissociative Anesthetics category. Marijuana is Cannabis and Valium is a CNS Depressant.

6. What category of drug is Methamphetamine? What about LSD? What about Peyote?

   Methamphetamine is a CNS Stimulant. LSD and Peyote are Hallucinogens.

7. What does the term "polydrug use" mean?

   "Polydrug use" is the practice of ingesting drugs from two or more drug categories, i.e., combining drugs.

ATTACHMENT

DRUG EVALUATION AND CLASSIFICATION PROGRAM

GLOSSARY OF TERMS

ACCOMODATION REFLEX
The adjustment of the eyes at various distances. Meaning the pupils will automatically constrict as objects move closer.

ADDICTION
The habitual, psychological, and physiological dependence on a substance beyond one's voluntary control.

ADDITIVE EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an additive effect if they both affect the indicator in the same way. For example, cocaine elevates pulse rate and PCP also elevates pulse rate. The combination of cocaine and PCP produces an additive effect on pulse rate.

AFFERENT NERVES
See "Sensory Nerves."

ALKALOID
A chemical that is found in, and can be physically extracted from, some substance. For example, morphine is a natural alkaloid of opium. It does not require a chemical reaction to produce morphine from opium.

ANALGESIC
A drug that relieves or allays pain.

ANALOG (of a drug)
An analog of a drug is a chemical that is very similar to the drug, both in terms of molecular structure and in terms of psychoactive effects. For example, the drug Ketamine is an analog of PCP.

ANESTHETIC
A drug that produces a general or local insensibility to pain and other sensation.

ANTAGONISTIC EFFECT
One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an antagonistic effect if they affect the indicator in opposite ways. For example, heroin constricts pupils while cocaine dilates pupils. The combination of heroin and cocaine produces an antagonistic effect on pupil size. Depending on how much of each drug was taken, and when they were taken, the suspect's pupils could be constricted, dilated or within the normal range of size.

ARRHYTHMIA
An abnormal heart rhythm.

ARTERY
The strong, elastic blood vessel that carries blood away from the heart.

ATAXIA
A blocked ability to coordinate movements. A staggering walk and poor balance may be caused by damage to the brain or spinal cord. This can be the result of trauma, birth defect, infection, tumor or drug use.

AUTONOMIC NERVE
A motor nerve that carries messages to the muscles and organs that we do not consciously control. There are two kinds of autonomic nerves, the sympathetic nerves and parasympathetic nerves.

AXON
The part of a neuron (nerve cell) that sends out a neurotransmitter.

BAC
(Blood Alcohol Concentration) - The percentage of alcohol in a person's blood.

BrAC
(Breath Alcohol Concentration) - The percentage of alcohol in a person's blood as measured by a breath testing device.

BLOOD PRESSURE
The force exerted by blood on the walls of the arteries. Blood pressure changes continuously, as the heart cycles between contraction and expansion.

BRADYCARDIA
Abnormally slow heart rate; pulse rate below the normal range.

BRADYPNEA
Abnormally slow rate of breathing.

BRUXISM
Grinding the teeth. This behavior is often seen in persons who are under the influence of cocaine or other CNS stimulants.

CANNABIS
This is the drug category that includes marijuana. Marijuana comes primarily from the leaves of certain species of Cannabis plants that grow readily all over the temperate zones of the earth. Hashish is another drug in this category, and is made from the dried and pressed resin of a marijuana plant. The active ingredient in both Marijuana and Hashish is a chemical called delta-9 tetrahydrocannabinol, usually abbreviated THC.

CARBOXY THC
A metabolite of THC (tetrahydrocannabinol).

CHEYNE-STOKES RESPIRATION
Abnormal pattern of breathing. Marked by breathlessness and deep, fast breathing.

CNS (Central Nervous System)
A system within the body consisting of the brain, the brain stem and the spinal cord.

CNS DEPRESSANTS
One of the seven drug categories. CNS depressants include alcohol, barbiturates, anti-anxiety tranquilizers and numerous other drugs.

CNS STIMULANTS
One of the seven drug categories. CNS stimulants include cocaine, the amphetamines, ritalin, preludin and numerous other drugs.

CONJUNCTIVITIS
An inflammation of the mucous membrane that lines the inner surface of the eyelids caused by infection, allergy or outside factors and may be bacterial or viral. Persons suffering from conjunctivitis may show symptoms in one eye only. This condition is commonly referred to as "pink eye", a condition that could be mistaken for the bloodshot eyes produced by alcohol or Cannabis.

CONVERGENCE
The "crossing" of the eyes that occurs when a person is able to focus on a stimulus as it is pushed slowly toward the bridge of his or her nose. (See also "Lack of Convergence".)

CRACK/ROCK
Cocaine base, appears as a hard solid form resembling pebbles or small rocks. It produces a very intense, but relatively short duration "high".

CURRICULUM VITAE
A written summary of a person's education, training, experience, noteworthy achievements and other information about a particular topic.

CYCLIC BEHAVIOR
A manifestation of impairment due to certain drugs, in which the subject alternates between periods (or cycles) of intense agitation and relative calm. Cyclic behavior, for example, sometimes will be observed in persons under the influence of PCP.

DELIRIUM
A brief state characterized by incoherent excitement, confused speech, restlessness and possible hallucinations.

DENDRITE
The part of a neuron (nerve cell) that receives a neurotransmitter.

DIACETYL MORPHINE
The chemical name for Heroin.

DIASTOLIC
The lowest value of blood pressure. The blood pressure reaches its diastolic value when the heart is fully expanded or relaxed (Diastole).

DIPLOPIA
Double vision.

DISSOCIATIVE ANESTHETIC
One of the seven drug categories. Includes drugs that inhibit pain by cutting off or "disassociating" the brain's perception of pain. PCP and its analogs are considered dissociative anesthetics.

DIVIDED ATTENTION
Concentrating on more than one task at a time. The four psychophysical tests used by DREs require the subject to divide attention.

DOWNSIDE EFFECT
An effect that may occur when the body reacts to the presence of a drug by producing hormones or neurotransmitters to counteract the effects of the drug consumed.

DRUG
Any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

DYSPNEA
Shortness of breath.

DYSMETRIA
An abnormal condition that prevents the affected person from properly estimating distances linked to muscular movements.

DYSPHORIA
A mood disorder. Feelings of depression and anguish.

EFFERENT NERVES
See "Motor Nerves".

ENDOCRINE SYSTEM
The network of glands that do not have ducts and other structures. They secrete hormones into the blood stream to affect a number of functions in the body.

EXPERT WITNESS
A person skilled in some art, trade, science or profession, having knowledge of matters not within the knowledge of persons of average education, learning and experience, he/she may assist a jury in arriving at a verdict by expressing an opinion on a state of facts shown by the evidence and based upon his or her special knowledge. (NOTE: Only the court can determine whether a witness is qualified to testify as an expert.)

FLASHBACK
A vivid recollection of a portion of an hallucinogenic experience. Essentially, it is a very intense daydream. There are three types: (1) emotional -- feelings of panic, fear, etc.; (2) somatic -- altered body sensations, tremors, dizziness, etc.; and (3) perceptual -- distortions of vision, hearing, smell, etc.

GARRULITY
Chatter, rambling or pointless speech. Talkative.

HALLUCINATION
A sensory experience of something that does not exist outside the mind, e.g., seeing, hearing, smelling or feeling something that isn't really there. Also, having a distorted sensory perception, so that things appear differently than they are.

HALLUCINOGENS
One of the seven drug categories. Hallucinogens include LSD, MDMA, peyote, psilocybin and numerous other drugs.

HASHISH
A form of Cannabis made from the dried and pressed resin of a marijuana plant.

HASH OIL
Sometimes referred to as “marijuana oil” it is a highly concentrated syrup-like oil extracted from marijuana. It is normally produced by soaking marijuana in a container of solvent, such as acetone or alcohol, for several hours and after the solvent has evaporated, a thick syrup-like oil is produced with a higher THC content.

HEROIN
A powerful and widely-abused narcotic analgesic that is chemically derived from morphine. The chemical, or generic name of heroin is "diacetyl morphine".

HIPPUS
A rhythmic change in the pupil size of the eyes, as they dilate and constrict when observed in darkness independent of changes in light intensity, accommodation (focusing), or other forms of sensory stimulation. Normally only observed with specialized equipment.

HOMEOSTASIS
The dynamic balance, or steady state, involving levels of salts, water, sugars, and other materials in the body's fluids.

HORIZONTAL GAZE NYSTAGMUS (HGN)
Involuntary jerking of the eyes occurring as the eyes gaze to the side.

HORMONES
Chemicals produced by the body's endocrine system that are carried through the blood stream to the target organ. They exert great influence on the growth and development of the individual, and that aid in the regulation of numerous body processes.

HYDROXY THC
A metabolite of THC (tetrahydrocannabinol).

HYPERFLEXIA
Exaggerated or over extended motions.

HYPERGLYCEMIA
Excess sugar in the blood.

HYPERPNEA
A deep, rapid or labored breathing.

HYPERPYREXIA
Extremely high body temperature.

HYPERREFLEXIA
A neurological condition marked by increased reflex reactions.

HYPERTENSION
Abnormally high blood pressure. Do not confuse this with hypotension.

HYPOGLYCEMIA
An abnormal decrease of blood sugar levels.

HYPOTENSION
Abnormally low blood pressure. Do not confuse this with hypertension.

HYPOTHERMIA
Decreased body temperature.

ICE
A crystalline form of methamphetamine that produces a very intense and fairly long-lasting "high".

INHALANTS
One of the seven drug categories. The inhalants include volatile solvents (such as glue and gasoline), aerosols (such as hair spray and insecticides) and anesthetic gases (such as nitrous oxide).

INSUFFLATION
See "snorting".

INTEGUMENTARY SYSTEM
The skin and accessory structures, hair and nails. Functions include protection, maintenance of body temperature, excretion of waste and sensory perceptions.

INTRAOCULAR
"Within the eyeball".

KOROTKOFF SOUNDS
A series of distinct sounds produced by blood passing through an artery, as the external pressure on the artery drops from the systolic value to the diastolic value.

LACK OF CONVERGENCE
The inability of a person's eyes to converge, or "cross" as the person attempts to focus on a stimulus as it is pushed slowly toward the bridge of his or her nose.

MARIJUANA
Common term for the Cannabis Sativa plant. Usually refers to the dried leaves of the plant. This is the most common form of the cannabis category.

MARINOL
A drug containing a synthetic form of THC (tetrahydrocannabinol). Marinol belongs to the cannabis category of drugs, but it is not produced from any species of cannabis plant.

METABOLISM
The sum of all chemical processes that take place in the body as they relate to the movements of nutrients in the blood after digestion, resulting in growth, energy, release of wastes and other body functions. The process by which the body, using oxygen, enzymes and other internal chemicals, breaks down ingested substances such as food and drugs so they may be consumed and eliminated. Metabolism takes place in two phases. The first step is the constructive phase (anabolism) where smaller molecules are converted to larger molecules. The second step is the destructive phase (catabolism) where large molecules are broken down into smaller molecules.

METABOLITE
A chemical product formed by the reaction of a drug with oxygen and/or other substances in the body.

MIOSIS
Abnormally constricted pupils.

MOTOR NERVES
Nerves that carry messages away from the brain, to the body's muscles, tissues, and organs. Motor nerves are also known as efferent nerves.

MYDRIASIS
Abnormally dilated pupils.

NARCOTIC ANALGESICS

One of the seven drug categories. Narcotic analgesics include opium, the natural alkaloids of opium (such as morphine, codeine and thebaine), the derivatives of opium (such as heroin, dilaudid, oxycodone and percodan), and the synthetic narcotics (such as demerol and numorphan).

NERVE

A cord-like fiber that carries messages either to or from the brain. For drug evaluation and classification purposes, a nerve can be pictured as a series of "wire-like" segments, with small spaces or gaps between the segments.

NEURON

A nerve cell. The basic functional unit of a nerve. It contains a nucleus within a cell body with one or more axons and dendrites.

NEUROTRANSMITTER

Chemicals that pass from the axon of one nerve cell to the dendrite of the next cell, and that carry messages across the gap between the two nerve cells.

NULL EFFECT

One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce a null effect if neither of them affects that indicator. For example, PCP does not affect pupil size and alcohol does not affect pupil size. The combination of PCP and alcohol produces a null effect on pupil size.

NYSTAGMUS

An involuntary jerking of the eyes.

"ON THE NOD"

A semi-conscious state of deep relaxation. Typically induced by impairment due to heroin or other narcotic analgesic. The subject's eyelids droop and chin rests on the chest. Subject may appear to be asleep, but can be easily aroused and will respond to questions.

OVERLAPPING EFFECT

One mechanism of polydrug interaction. For a particular indicator of impairment, two drugs produce an overlapping effect if one of them affects the indicator but the other doesn't. For example, cocaine dilates pupils while alcohol doesn't affect pupil size. The combination of cocaine and alcohol produces an overlapping effect on pupil size: the combination will cause the pupils to dilate.

PALLOR

An abnormal paleness or lack of color in the skin.

PARANOIA

Mental disorder characterized by delusions and the projection of personal conflicts, that are ascribed to the supposed hostility of others.

PARAPHERNALIA

Drug paraphernalia are the various kinds of tools and other equipment used to store, transport or ingest a drug. Hypodermic needles, small pipes, bent spoons, etc. are examples of drug paraphernalia. The singular form of the word is "paraphernalium". For example, one hypodermic needle would be called a "drug paraphernalium".

PARASYMPATHETIC NERVE

An autonomic nerve that commands the body to relax and to carry out tranquil activities. The brain uses parasympathetic nerves to send "at ease" commands to the muscles, tissues and organs.

PARASYMPATHOMIMETIC DRUGS

Drugs that mimic neurotransmitters associated with the parasympathetic nerves. These drugs artificially cause the transmission of messages that produce lower blood pressure, drowsiness, etc.

PDR (Physician's Desk Reference)

A basic reference source for drug recognition experts. The PDR provides detailed information on the physical appearance and psychoactive effects of licitly-manufactured drugs.

PHENCYCLIDINE

A contraction of PHENYL CYCLOHEXYL PIPERIDINE, or PCP. Formerly used as a surgical anesthetic, however, it has no current legitimate medical use for humans.

PHENYL CYCLOHEXYL PIPERIDINE (PCP)

Often called "phencyclidine" or “PCP”, it is a specific drug belonging to the Dissociative Anesthetics category.

PHYSIOLOGY

Physiology is the branch of biology dealing with the functions and activities of life or living matter and the physical and chemical phenomena involved.

PILOERECTION

Literally "hair standing up" or goose bumps. This condition of the skin is often observed in people who are under the influence of LSD.

POLYDRUG USE

Ingesting drugs from two or more drug categories.

PSYCHEDELIC

A mental state characterized by a profound sense of intensified or altered sensory perception sometimes accompanied by hallucinations.

PSYCHOPHYSICAL TESTS

Methods of investigating the mental (psycho-) and physical characteristics of a person suspected of alcohol or drug impairment. Most psychophysical tests employ the concept of divided attention to assess a subject's impairment.

PSYCHOTOGENIC
Literally "creating psychosis" or "giving birth to insanity". A drug is considered to be psychotogenic if people who are under the influence of the drug become insane and remain so after the drug wears off.

PSYCHOTOMIMETIC
Literally "mimicking psychosis" or "impersonating insanity". A drug is considered to be psychotomimetic if people who are under the influence of the drug look and act insane while they are under the influence.

PTOSIS
Droopy eyelids.

PULSE
The expansion and relaxation of the walls of an artery, caused by the surging flow of blood.

PULSE RATE
The number of expansions of an artery per minute.

PUPILLARY UNREST
The continuous, irregular change in the size of the pupils that may be observed under room or steady light conditions.

REBOUND DILATION
A period of pupillary constriction followed by a period of pupillary dilation where the pupil steadily increases in size and does not return to its original constricted size.

RESTING NYSTAGMUS
Jerking of the eyes as they look straight ahead.

SCLERA
A dense white fibrous membrane that, with the cornea, forms the external covering of the eyeball (i.e.the white part of the eye).

SENSORY NERVES
Nerves that carry messages to the brain from the various parts of the body, including notably the sense organs (eyes, ears, etc.). Sensory nerves are also known as afferent nerves.

SINSEMILLA
The unpollenated female cannabis plant, having a relatively high concentration of THC.

SFST
Standardized Field Sobriety Testing. There are three SFSTs, namely Horizontal Gaze Nystagmus (HGN), Walk and Turn and One Leg Stand. Based on a series of controlled laboratory studies, scientifically validated clues of alcohol impairment have been identified for each of these three tests. They are the only Standardized Field Sobriety Tests for which validated clues have been identified.

SNORTING
One method of ingesting certain drugs. Snorting requires that the drug be in powder form. The user rapidly draws the drug up into the nostril, usually via a paper or glass tube. Snorting is also known as insufflation.

SPHYGMOMANOMETER
A medical device used to measure blood pressure. It consists of an arm or leg cuff with an air bag attached to a tube and a bulb for pumping air into the bag, and a gauge for showing the amount of air pressure being pressed against the artery.

STETHOSCOPE
A medical instrument used for drug evaluation and classification purposes in order to listen to the sounds produced by blood passing through an artery.

SYMPATHETIC NERVE
An autonomic nerve that commands the body to react in response to excitement, stress, fear, etc. The brain uses sympathetic nerves to send "wake up calls" and "fire alarms" to the muscles, tissues and organs.

SYMPATHOMIMETIC DRUGS
Drugs that mimic the neurotransmitter associated with the sympathetic nerves. These drugs artificially cause the transmission of messages that produce elevated blood pressure, dilated pupils, etc.

SYNAPSE (or Synaptic Gap)
The gap or space between two neurons (nerve cells).

SYNESTHESIA
A sensory perception disorder, in which an input via one sense is perceived by the brain as an input via another sense. In its simplest terms, it is a transposition of the senses. For example, seeing a particular sight may cause the user to perceive a sound.

SYSTOLIC
The highest value of blood pressure. The blood pressure reaches its systolic value when the heart is fully contracted (systole), and blood is sent surging into the arteries.

TACHYCARDIA
Abnormally rapid heart rate; pulse rate above the normal range.

TACHYPNEA
Abnormally rapid rate of breathing.

THC (Tetrahydrocannabinol)
The principal psychoactive ingredient in drugs belonging to the cannabis category.

TOLERANCE
An adjustment of the drug user's body and brain to the repeated presence of the drug. As tolerance develops, the user will experience diminishing psychoactive effects from the

same dose of the drug. As a result, the user typically will steadily increase the dose he or she takes, in an effort to achieve the same psychoactive effect.

TRACKS

Scar tissue usually produced by repeated injection of drugs, via hypodermic needle, along a segment of a vein.

VERTICAL GAZE NYSTAGMUS

An involuntary jerking of the eyes (up and down) which occurs as the eyes are held at maximum elevation. The jerking should be distinct and sustained.

VOIR DIRE

A French expression literally meaning "to see, to say". Loosely, this would be rendered in English as "to seek the truth", or "to call it as you see it". In a law or court context, one application of voir dire is to question a witness to assess his or her qualifications to be considered as an expert in a matter pending before the court.

VOLUNTARY NERVE

A motor nerve that carries messages to a muscle that we consciously control.

WITHDRAWAL

This occurs in someone who is physically addicted to a drug when he or she is deprived of the drug. If the craving is sufficiently intense, the person may become extremely agitated and even physically ill.