PRE-SCHOOL

Preliminary Training for the Drug Evaluation and Classification Program

PARTICIPANT MANUAL

INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE
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Transportation Safety Institute

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PREFACE

The DRE course is a series of three training phases that, collectively, prepare police officers and other qualified persons to serve as DREs. Throughout this manual, the terms “drug recognition expert” and “DRE” are used to designate an individual who is specially trained and has continued training to conduct examinations of suspected drug-impaired drivers. This training, developed as part of the Drug Evaluation and Classification (DEC) Program under the auspices and direction of NHTSA and IACP has experienced remarkable success since its inception in the 1980s.

As in any educational training program, an instruction manual is considered a “living document” that is subject to updates and changes based on advances in technology and science. A thorough review is made of information by the IACP Technical Advisory Panel (TAP) with contributions from many sources in health care science, toxicology, optometry, jurisprudence, and law enforcement. Based on this information, any appropriate revisions and modifications in background theory, facts, examination, and decision-making methods are made to improve the quality of the instruction as well as the standardization of guidelines for the implementation of the DRE training curriculum. The reorganized manuals are then prepared and disseminated, both domestically and internationally, to the DEC Program State Coordinators. Changes will take effect after approval by TAP, unless otherwise specified or when so designated.

The material in this curriculum is to help DREs interpret what is most likely to be seen when performing a drug influence evaluation. When it comes to the signs and symptoms of drug impairment, what is expected to be seen does not guarantee every indicator will be present during each drug influence evaluation. There may be variations due to individual reaction, dose taken, and drug interactions.

Prior to initiating training, all States and equivalents must ensure they comply with DRE section six in the International Standards of Impaired Driving Programs.

1 PRELIMINARY TRAINING FOR DEC PROGRAM

INTRODUCTION

LEARNING OBJECTIVES

- 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

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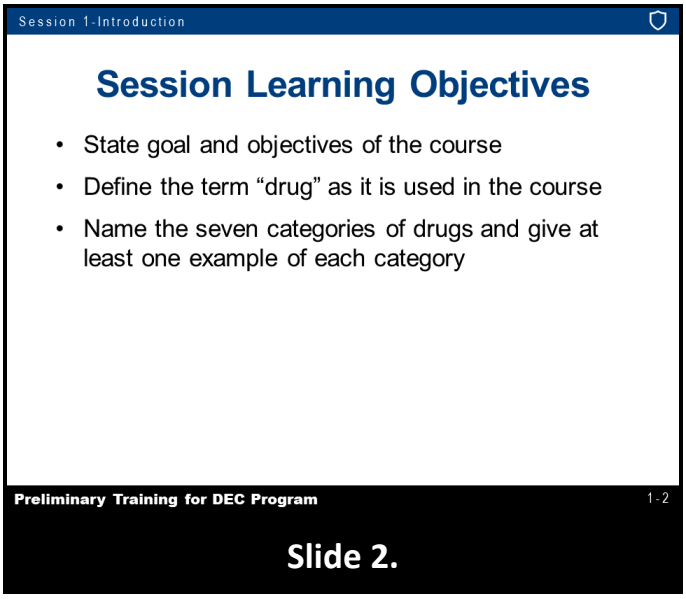
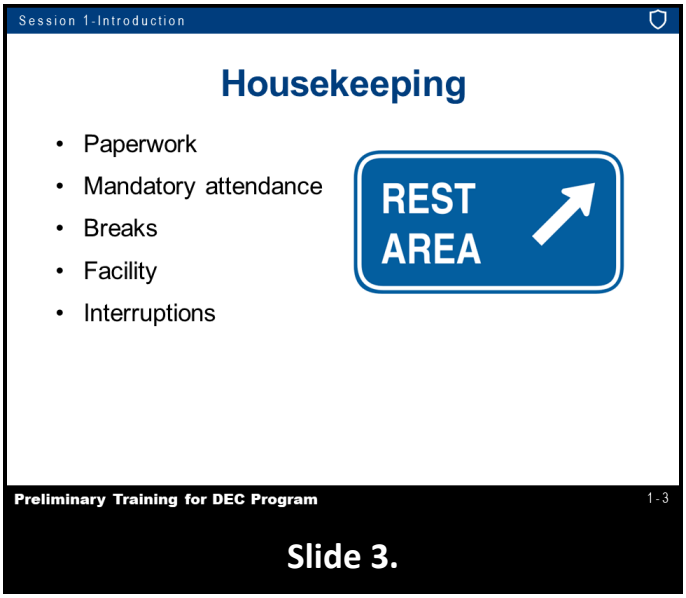


A. Welcoming Remarks and Objectives



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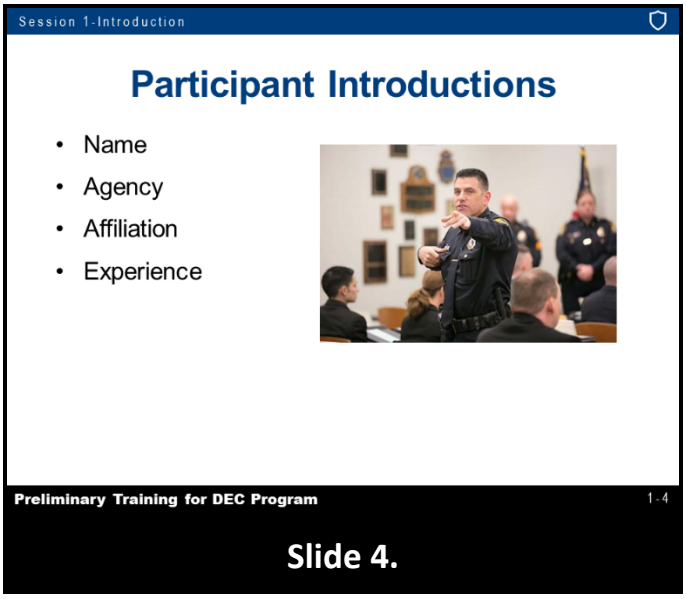

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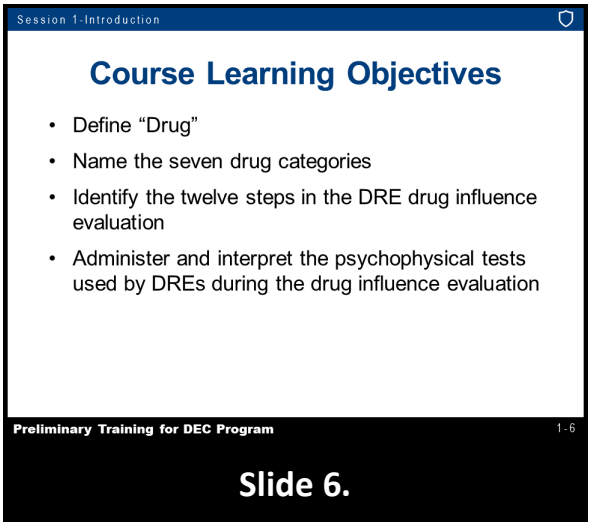
The goal of the Preliminary Training is to prepare the participants to succeed in the 7-Day DRE school. This two-day Preliminary School won't make you DREs, but it will make it easier for you to pass the 7-Day DRE School and successfully complete your certification training.



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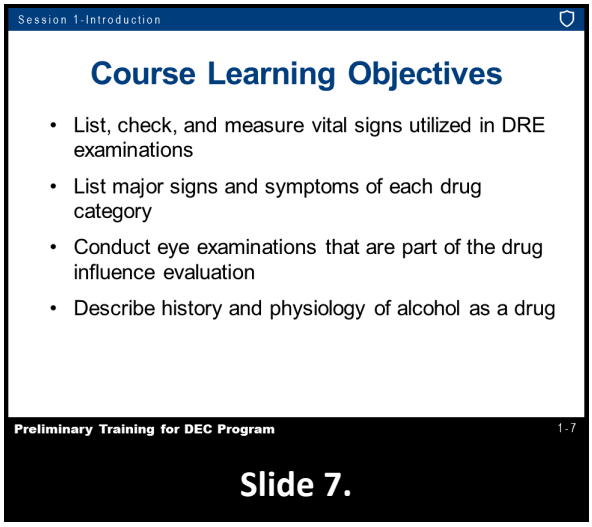

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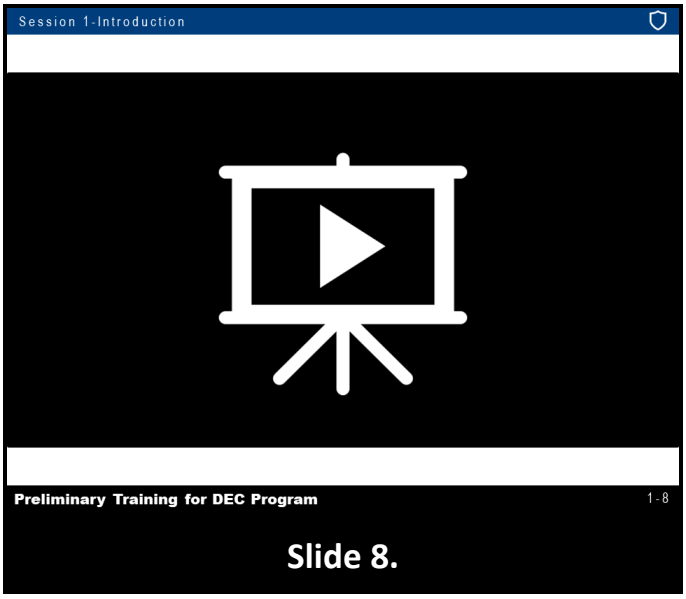
The learning objectives of the Preliminary Training are to:

- Define "Drug"
- Name the seven categories of drugs
- Identify the twelve components or steps in the DRE drug influence evaluation
- Administer and interpret the psychophysical (or "divided attention") tests used by DREs during the drug influence evaluation
- List the vital signs utilized in the DRE examinations
- 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

This two-day school is only the first of three stages in your training as DREs. Next will come the 7-Day formal DRE school. After that will come several weeks of supervised on-the-job training known as the "Certification Phase."



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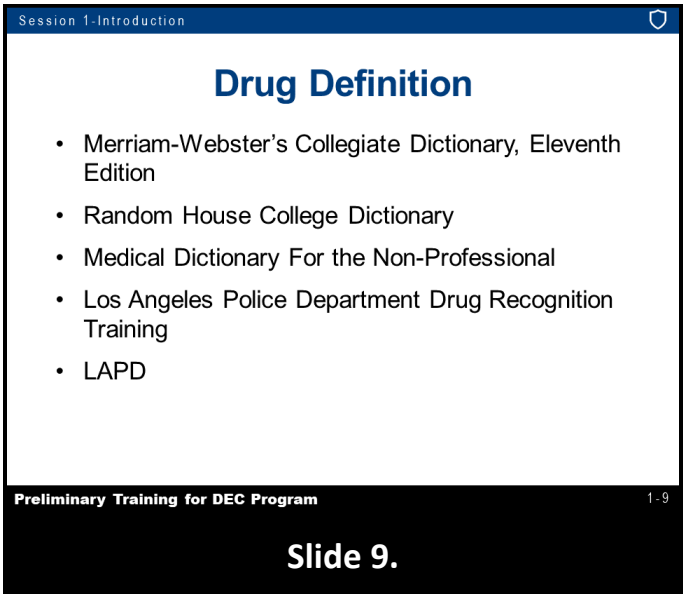
B. Definition and Categories of Drugs



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There are alternative definitions for the word "drug", drawn from several sources.

"A substance used as a medicine or in the preparation of medicine."

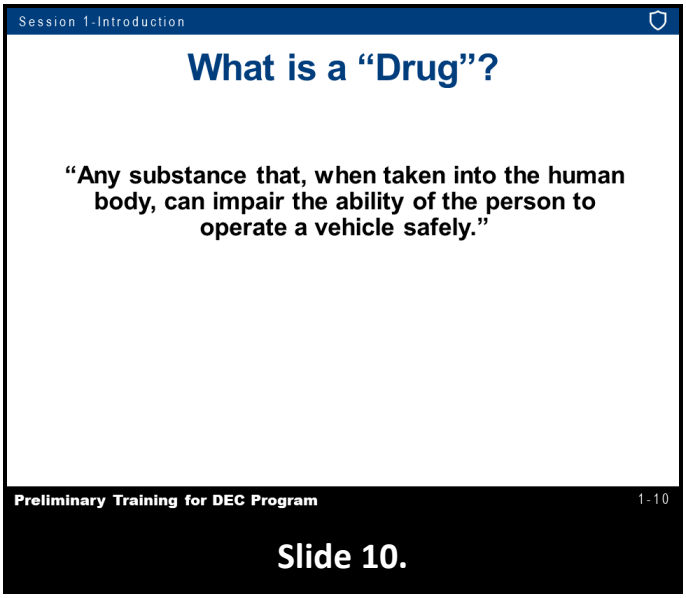
"A narcotic substance or preparation."

"A chemical substance administered to a person or animal to prevent or cure disease or otherwise to enhance physical or mental welfare."

"A habit-forming medicinal substance, especially a narcotic."

"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)."

“Any substance, natural or artificial, that by chemical nature alters the structure or function of a living organism.” “Any substance that, in small amounts, produces changes in the body, mind or both.”



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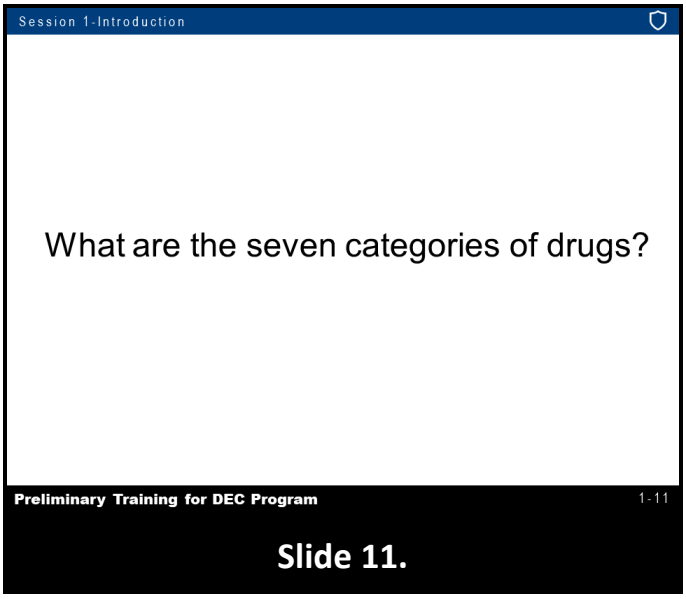
A simple, enforcement-oriented definition of drugs is “Any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.” This working definition is derived from the 1985 California Vehicle Code.

This definition includes some substances physicians don't usually think of as drugs.

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.



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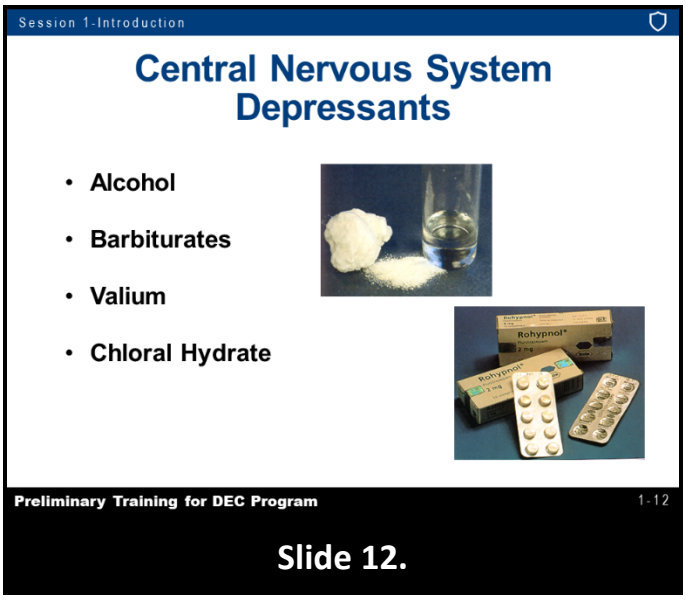
Because the categories produce different types of impairment, they generate different signs and symptoms. With training and practice, you will be able to recognize the different signs of drug influence and determine which category is causing the impairment you observe in a subject.



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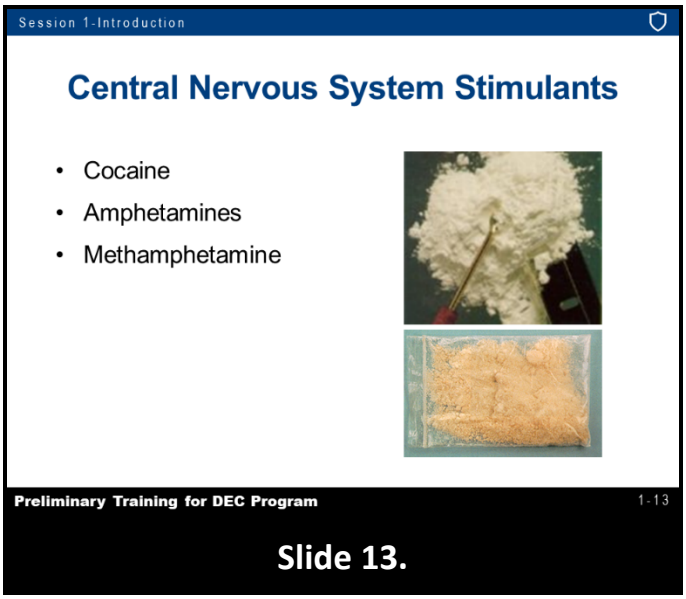
The category of CNS Depressants includes some of the most commonly abused drugs.

Alcohol – the most familiar drug of all – is used by an estimated 138.5 million Americans, which is slightly less than half of Americans. Approximately 17.7 million people describe themselves as heavy drinkers.

Depressant drugs consistently rank among the most widely used and abused drugs in the U.S. and Canada. Over the past decade, an estimated 60 million prescriptions were processed for minor tranquilizers in U.S. pharmacies.

Depressants slow down the operation of the central nervous system (i.e., the brain, brain stem, and spinal cord). They cause the user to react more slowly and to process information more slowly. Depressants relieve anxiety and tension and 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, and in very high doses, they can induce coma and death.



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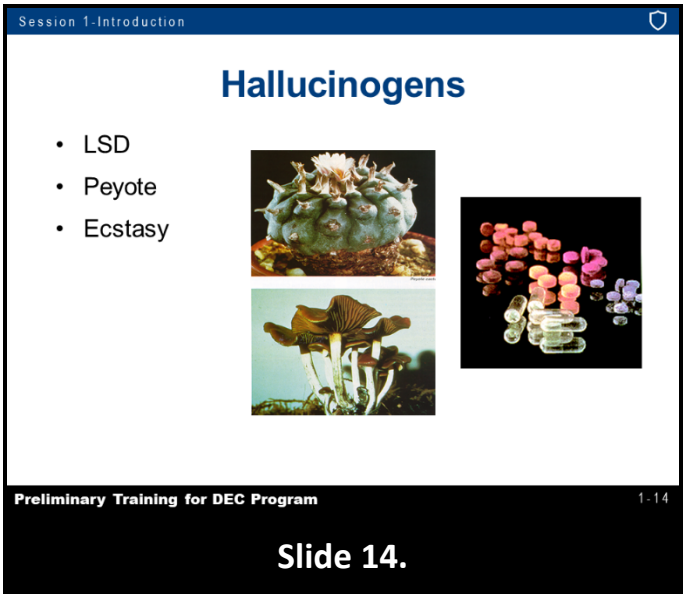
CNS Stimulants are a widely abused category of drugs. In a 2020 survey, an estimated 12.8 million people were current users of stimulants including 2.5 million people who were current Methamphetamine users during the past year.

In 2020, there were 5.2 million Cocaine users aged 12 or older in the U.S.

CNS Stimulants speed up the operation of the central nervous system and of the various bodily functions controlled by the central nervous system. They cause the user to become hyperactive and extremely talkative. With CNS Stimulants, a grinding of the teeth, referred to as bruxism, may be noticed, speech may become rapid and repetitive, heart rate increases, blood pressure increases, body temperature rises, and the user may become excessively sweaty. CNS Stimulants induce emotional excitement, restlessness, and irritability. They may suffer a stroke, heart attack, or organ damage.



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Hallucinogens are also widely abused. In recent years, an increase in the abuse of LSD, Ecstasy (MDMA), and many new Hallucinogens have been reported. In 2020 an estimated 2.4 million people aged 12 and over were current users 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 the user sees, hears, and smells things in a way quite different from how they really look, sound, and smell.

Hallucinogens cause the nervous system to send strange or false signals to the brain. They also induce a temporary condition very much like psychosis or insanity and can create a "mixing" of sensory modes, for example, the user "hears colors," "sees music," "tastes sounds," etc., referred to as "synesthesia."

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

The medical community considers PCP to be a Hallucinogen. However, because of the symptomatology PCP presents, it is included in this category.

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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. It slows down thought, slows reaction time, and 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. With PCP, the heart rate increases, blood pressure increases, adrenalin production increases, body temperature rises, and 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. Also, the user's perception of time and space may be distorted, the user may become paranoid, feel isolated, and depressed, the user may develop a strong fear of and pre-occupation with death, and the user may become violent.

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

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

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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.

The word “analgesic” means pain reliever. All of the drugs in this category reduce the person’s reaction to pain. According to the 2020 NSDUH report, there are approximately 902,000 users of Heroin within the past year. Heroin is highly addictive. 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.

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.

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Inhalants are fumes of certain substances that produce mind altering results. In 2020, approximately 2.5 million people were users of Inhalants in the past year.

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.); and, Anesthetic Gases (e.g., Nitrous Oxide, Ether, Amyl Nitrite, Butyl Nitrite, 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 being inattentive, stuporous, and passive to irritable, violent, and dangerous. The abuser's speech will often be slow, thick, and slurred.

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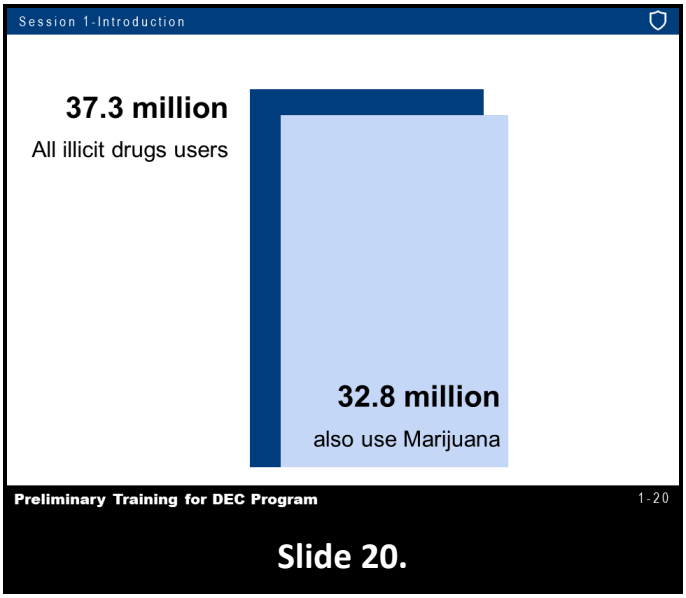
The category “Cannabis” includes the various forms and products of the Cannabis Sativa, which generally grow tall and thin outdoors, and Cannabis Indica plants, which generally grow short and wide and are better grown indoors.

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

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

Cannabis appears to interfere with the attention process. Drivers under the influence of Marijuana often do not pay attention to their driving.

Cannabis also produces a distortion of the user’s perception of time, an increased heart rate, and bloodshot eyes.



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The terms below are defined by the National Survey on Drug Use and Health.

Illicit drug – Includes Marijuana, Cocaine, Heroin, Hallucinogens, Inhalants, Methamphetamine, and the misuse of prescription psychotherapeutic drugs (i.e., pain relievers, tranquilizers, stimulants, and sedatives).

Misuse – Used in any way not directed by a doctor, including use without a prescription of one's own medication; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor.

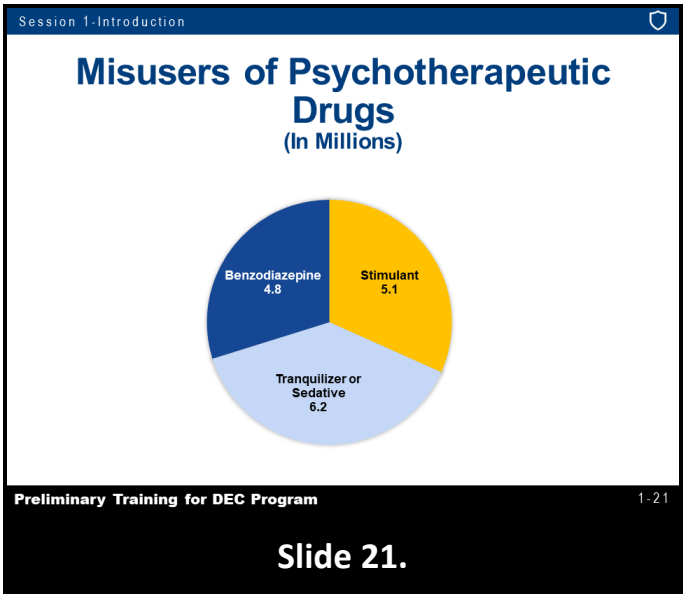
Current User/Misuser – User who used the drug within the 30 days prior to being surveyed

To summarize the self-reported drug use information from the 2020 NSDUH report, in 2020, an estimated 37.3 million Americans aged 12 or older were current (past month) illicit drug users. Marijuana was used by approximately 32.8 million or 88 percent of all current illicit drug users.

The exact number of prescription drug users in the U.S. is unknown. However, it is estimated that 52 million people have prior to the survey, of which 6.4 million were current misusers of psychotherapeutic drugs.

Among those aged 50 to 59, the rate of past month illicit drug use continues to increase and is at approximately 3.7 million (2016). This trend may partially reflect the aging into this age group of the "Baby Boomer" generation, whose lifetime rate of illicit drug use is higher than those of older cohorts.

In 2016, 11.8 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.7 percent of the population aged 12 or older.



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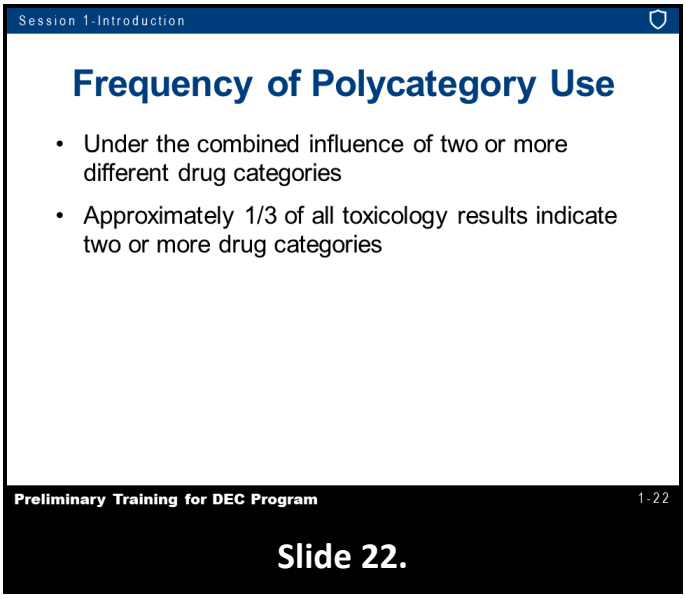
In 2020, approximately 16.1 million people aged 12 years or older used psychotherapeutic drugs non-medically in the past year.



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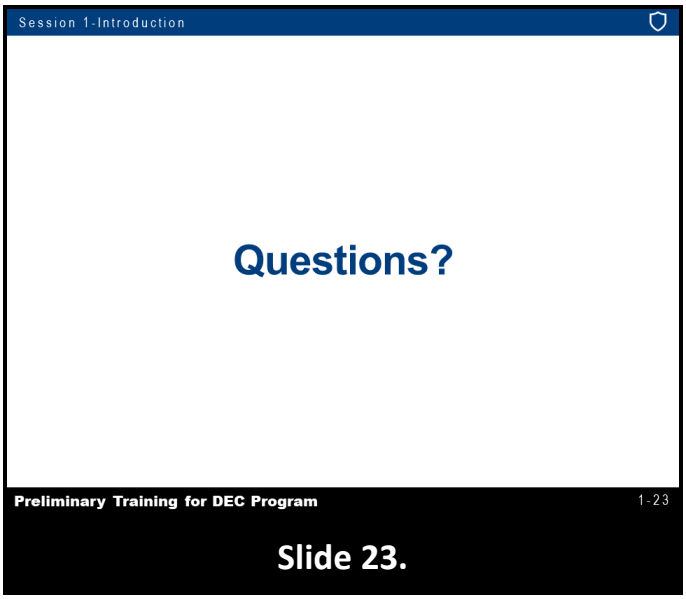
The term “polydrug use” refers to being under the combined influence of two or more different drugs. “Polycategory use” refers to being under the combined influence of drugs from two or more drug categories.

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 combinations of several drugs. Data being collected through the national DRE Database indicates approximately one-third of all toxicology results indicate two or more drug categories.

Most controlled prescription drug abusers are polydrug abusers. One study reported that approximately 75% of persons who abuse alcohol also abuse illicit drugs.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GLOSSARY OF TERMS

ACCOMMODATION REFLEX: The adjustment of the eyes for viewing at various distances. Meaning the pupils will automatically constrict as objects move closer and dilate as objects move further away.

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

ADDITIVE EFFECT: Occurs when the drugs independently affect some indicator in the same way and their use in combination will also affect the indicator and the effect may be reinforced.

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): 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: Occurs when a drug causes an action and another drug causes an opposite action, the effect cannot be predicted.

ARRHYTHMIA: An abnormal heart rhythm.

ARTERY: The strong, elastic blood vessels that carry blood away from the heart.

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.

BAD TRIP: A hallucination where the user becomes panic-stricken by what he/she is seeing or hearing, and may become uncontrollably excited, or even try to flee from the terror.

BLOOD ALCOHOL CONCENTRATION (BAC): The percentage of alcohol in a person's blood.

BREATH ALCOHOL CONCENTRATION (BrAC): The percentage of alcohol in a person's blood as measured by a breath testing device.

BIPOLAR DISORDER: A condition characterized by the alteration of manic and depressive states.

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.

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 consists of the compressed leaves from female Cannabis plants. 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).

CENTRAL NERVOUS SYSTEM (CNS): A system within the body consisting of the brain, the brain stem, and the spinal cord.

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

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, Desoxyn, 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. 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 their nose. (See, also, "Lack of Convergence".)

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

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

CYCLIC BEHAVIOR: A manifestation of impairment due to certain drugs, in which the person 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.

DIABETES: A condition that can result in insulin shock (taking too much insulin) which may produce tremors, increased blood pressure, rapid respiration, lack of coordination, headache, confusion, and seizures.

DIACETYL MORPHINE: The chemical name for Heroin.

DIPLOPIA: Double vision.

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

DISSOCIATIVE ANESTHETICS: One of the seven drug categories. Includes drugs that inhibits 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 thing at a time. The four psychophysical tests used by DREs require the suspect to divide their 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.

DRUG RECOGNITION EXPERT (DRE): An individual who successfully completed all phases of the DRE training requirements for certification established by the IACP and NHTSA. The word "evaluator," "technician," or similar words may be used as a substitute for "expert," depending upon locale or jurisdiction.

DYSARTHIA: Slurred speech. Difficult, poorly articulated speech.

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

DYSPHORIA: A disorder of mood. Feelings of depression and anguish.

DYSPNEA: Shortness of breath.

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, who 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 a 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.

GAIT ATAXIA: An unsteady, staggering gait (walk) in which walking is uncoordinated and appears to be “not ordered.”

GARRULITY: Chatter, rambling or pointless speech. Talkative.

GENERAL INDICATOR: Behavior or observations of the subject that are observed and not specifically tested for. (Observational and Behavioral Indicators)

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.

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 high THC content.

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

HEAD TRAUMA: A blow or bump to the head that injures the brain and may cause observable signs and symptoms which may mimic drug and alcohol impairment.

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

HOMEOSTASIS: Dynamic balance, or steady state, involving levels of salts, water, sugars and other material 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.

HYPERTHERMIA: Increased body temperature.

HYPOGLYCEMIA: An abnormal decrease of blood sugar levels.

HYPOPNEA: Shallow or slow breathing.

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".

IMPAIRMENT: One of the several items used to describe the degradation of mental and/or physical abilities necessary for safely operating a vehicle.

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: One method of administering certain drugs. Insufflation requires that the drug be in powdered form. The user rapidly draws the drug up into the nostril, usually via a paper or glass tube. Insufflation is also known as 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 (LOC): 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.

MAJOR INDICATORS: Physiological signs that are specifically assessed and are, for the most part, involuntary reflecting the status of the central nervous system (CNS) homeostasis (Physiological Indicators).

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 Marinol is not produced from any species of cannabis plant.

MEDICAL IMPAIRMENT: An opinion made by a DRE based on the evaluation that the state of a suspected impaired driver is more likely related to a medical impairment that has affected the subject's ability to operate a vehicle safely.

METABOLISM: The combined chemical and physical processes that take place in the body involving the distribution of nutrients and resulting in growth, energy production, the

elimination of wastes, and other body functions. There are two basic phases of metabolism: anabolism, the constructive phase during which molecules resulting from the digestive process are built up into complex compounds that form the tissues and organs of the body; and catabolism, the destructive phase during which larger molecules are broken down into simpler substances with the release of energy.

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

MIOSIS: Abnormally small (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.

MULTIPLE SCLEROSIS: A degenerative muscular disorder.

MUSCULAR HYPERTONICITY: Rigid muscle tone.

MYDRIASIS: Abnormally large (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.

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: Occurs when neither drug affects a particular indicator of impairment, and their combination also will not affect that indicator.

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 analgesics. The suspect's eyelids droop, and chin rests on the chest. Suspect may appear to be asleep but can be easily aroused and will respond to questions.

OVERLAPPING EFFECT: Occurs when one drug causes an effect, and the other drug does not.

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

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

PHENYL CYCLOHEXYL PIPERIDINE (PCP): Often called "phencyclidine" or “PCP”, it is a specific drug belonging to the Dissociative Anesthetics category.

PHYSICIAN'S DESK REFERENCE (PDR): A basic reference source for drug recognition experts. The PDR provides detailed information on the physical appearance and psychoactive effects of licitly manufactured drugs.

PHYSIOLOGY: Physiology is the branch of biology that deals 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 persons who are under the influence of LSD.

POLYCATEGORY IMPAIRMENT: Being under the combined influence of drugs from two or more drug categories.

POLYDRUG IMPAIRMENT: Being under the combined influence of two or more different drugs, which may be in the same or different 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 suspect's impairment.

PSYCHOTOGENIC: Literally, "creating psychosis" or "giving birth to insanity". A drug is considered to be psychotogenic if persons 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 persons who are under the influence of the drug look and act insane while they are under the influence.

PTOSIS: Droopy eyelids.

PULSE: The rhythmic dilation and relaxation of an artery that results from the beating of the heart.

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

PUPILLARY LIGHT REFLEX: The pupils of the eyes will constrict and dilate depending on changes in lighting.

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 the range between minimum and maximum is equal to or greater than 1mm 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 unpollinated female cannabis plant, with a relatively high concentration of THC.

SNORTING (See Insufflation): One method of administering certain drugs. Snorting requires that the drug be in powdered 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.

STANDARDIZED: Conforming to a model in comparative applications.

STANDARDIZED FIELD SOBRIETY TESTING (SFST): There are three NHTSA/IACP-approved SFSTs, namely Horizontal Gaze Nystagmus (HGN), Walk and Turn (WAT), and One Leg Stand (OLS). Based on a series of controlled laboratory and field studies, scientifically validated clues of impairment have been identified for each of these three tests. They are the only NHTSA/IACP-approved Standardized Field Sobriety Tests for which validated clues have been identified for DWI Investigations.

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

STROKE: A medical condition that occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or a burst and may cause observable signs and symptoms which may mimic drug and alcohol impairment.

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. An example of this would be a person "hearing" a phone ring and "seeing" the sound as a flash of light. Synesthesia sometimes occurs with persons under the influence of hallucinogens.

SYSTEMATIC: Done or acting according to a fixed plan or system; methodical.

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.

TACHYPNEA: Abnormally rapid rate of breathing.

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

THERAPEUTIC DOSE: The amount of a drug needed to treat a disease or condition.

TOLERANCE: An adjustment of the drug user's body and brain to the repeated presence of a 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.

VEIN: A blood vessel that carries blood back to the heart from the body tissues

VERTICAL GAZE NYSTAGMUS (VGN): 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 an expert in some 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.

2 PRELIMINARY TRAINING FOR DEC PROGRAM

Overview of the Drug Evaluation and Classification Procedures

LEARNING OBJECTIVES

- Identify the 12 components of the DRE drug influence evaluation
- Discuss the purposes of each component

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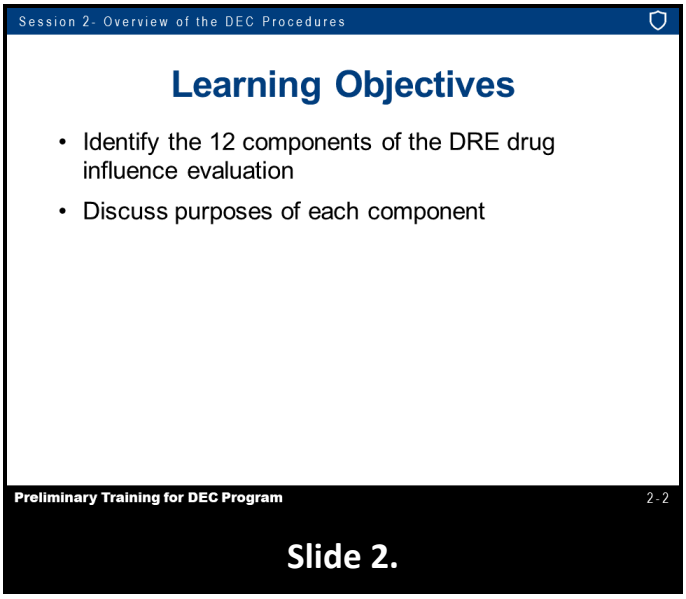
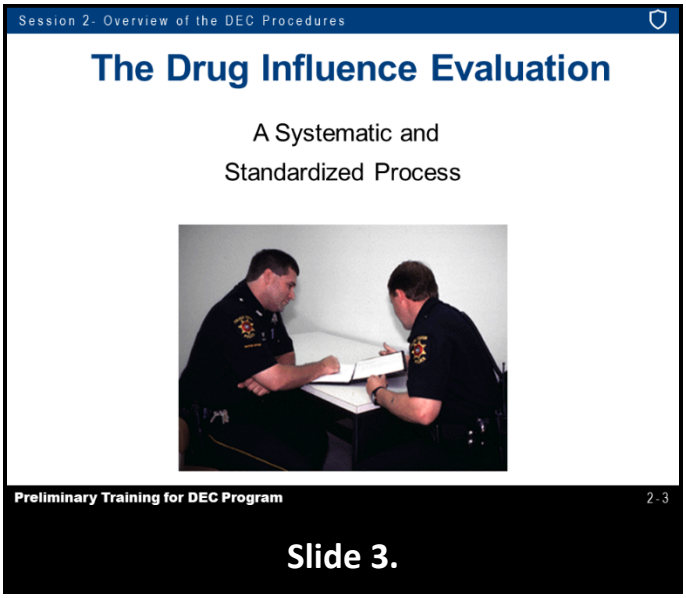


Slide 2.

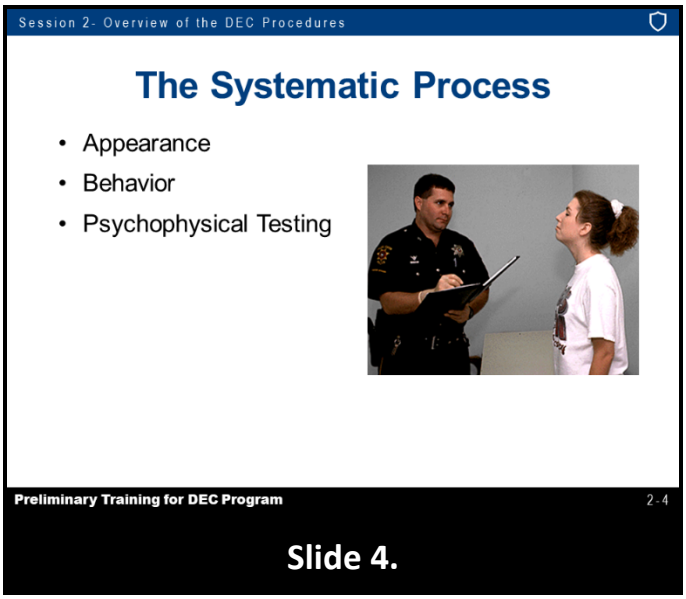
A. Components of the Process



Slide 3.

The Drug Evaluation and Classification (DEC) Program process is a systematic and standardized method to establish subject is impaired and verifies his or her alcohol level is not consistent with the degree of impairment that is evident.

Inconsistency between the observed impairment and the blood alcohol concentration (BAC) suggests the presence of some other drug(s) or some other complicating factor such as an illness or injury. It is necessary to determine whether the impairment may stem from illness or injury requiring medical attention or is drug-related and determine what category (or categories) of drugs are the likely cause of the impairment.



Slide 4.

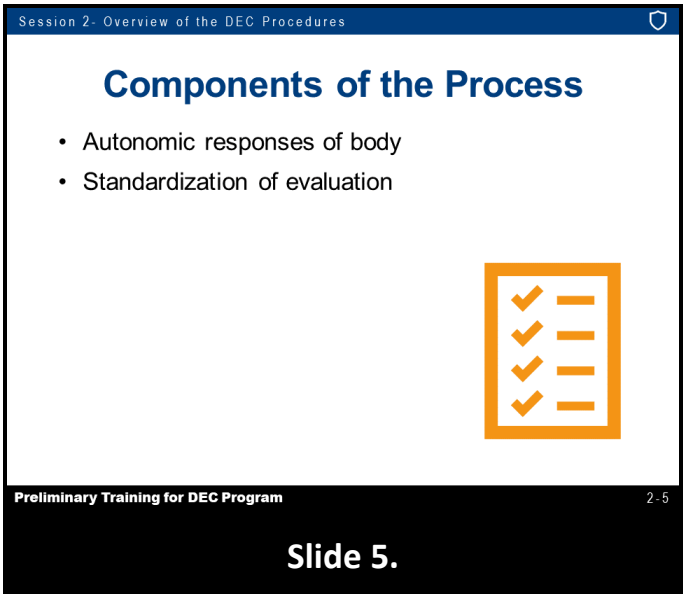
Some of these observable signs and symptoms relate to the subject's appearance.

Some of the signs and symptoms relate to the subject's behavior.

Some relate to the subject's performance of carefully administered psychophysical tests.

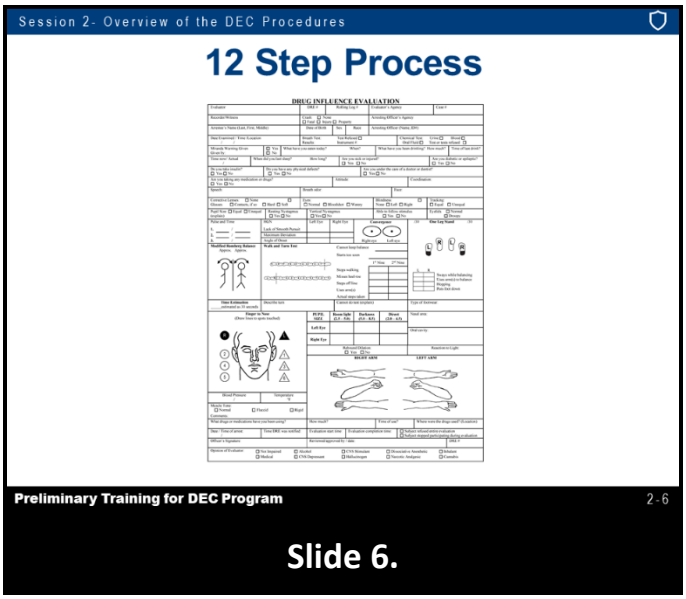
Drugs impair the subject's ability to control his or her mind and body. Psychophysical tests can disclose the subject's ability to control mind and body is impaired.

The specific manner in which the subject performs the psychophysical tests may indicate the type of impairment from which the subject is suffering. In turn, this may indicate the category or categories of drugs causing the impairment.



Slide 5.

Some of the observable signs and symptoms relate to automatic responses of the subject's body to the specific drugs present. All of these reliable indicators are examined and carefully considered before a judgment is made concerning what categories of drugs are affecting the subject. The process is standardized in that it is administered the same way, to every subject, by every Drug Recognition Expert (DRE). Standardization helps to ensure no mistakes are made, no steps of the process are left out, and no extraneous or unreliable "indicators" are included. Standardization helps to promote professionalism among DREs and helps to secure acceptance in court.



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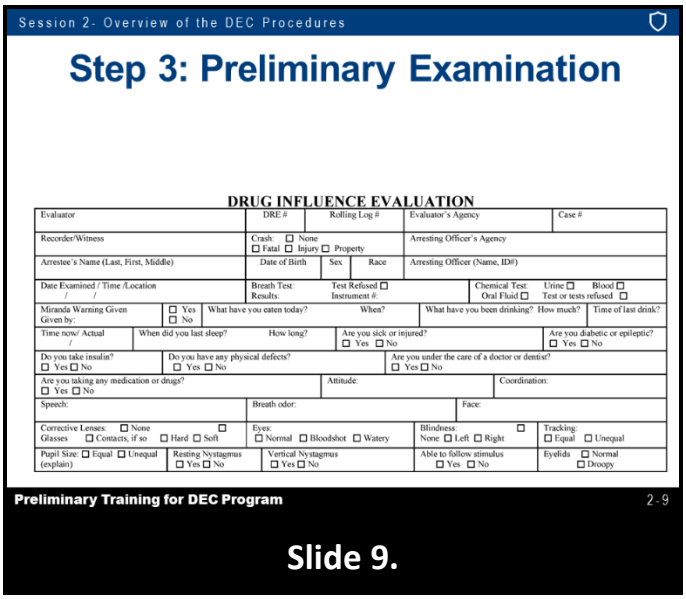
Slide 7.

Breath Alcohol Test is needed to determine BAC. The purpose of the breath test is to determine whether the specific drug, alcohol, may be contributing to the impairment observable in the subject. Obtaining an accurate measurement of BAC enables the DRE to assess whether alcohol may be the sole cause of the observable impairment or whether it is likely some other drug or drugs, or other complicating factors, are contributing to the impairment.

Slide 8.

In most cases, the subjects you will examine will not be people you arrested. The arresting officer may have seen or heard things that would be valuable indicators of the kinds of drugs the subject has administered. The arresting officer, in searching the subject, may have uncovered drug-related paraphernalia or even drugs themselves. The arresting officer also may be able to alert you to important information about the subject's behavior that could be very valuable for your own safety.



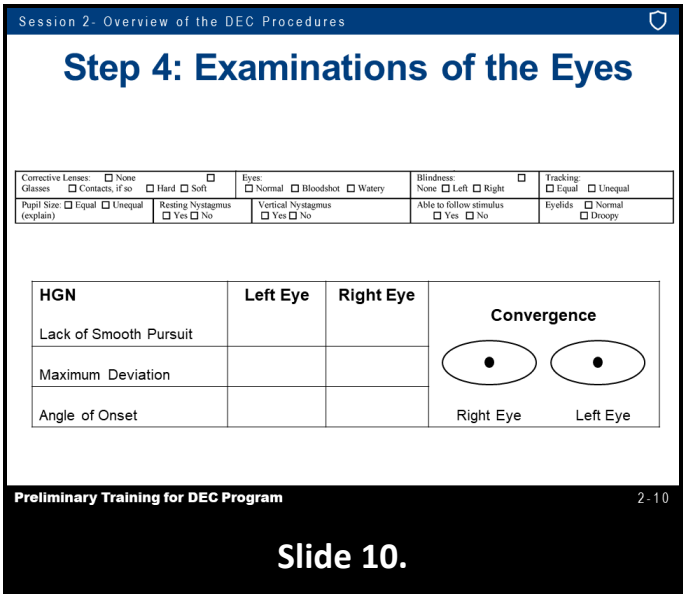
Slide 9.

The preliminary examination is a "fork in the road." It can help you decide whether to continue with the drug evaluation, pursue a possible medical complication, or proceed with a DWI (alcohol) case. The preliminary examination is your first opportunity to observe the subject closely and directly.

Another purpose of the preliminary examination is to begin systematically assessing the subject's appearance, behavior, and automatic bodily responses for signs of drug-induced impairment.

The preliminary examination consists of a series of questions dealing with possible injuries or medical problems, observations of the subject's face, speech, and breath, initial checks of the subject's eyes, and an initial examination of the subject's pulse.

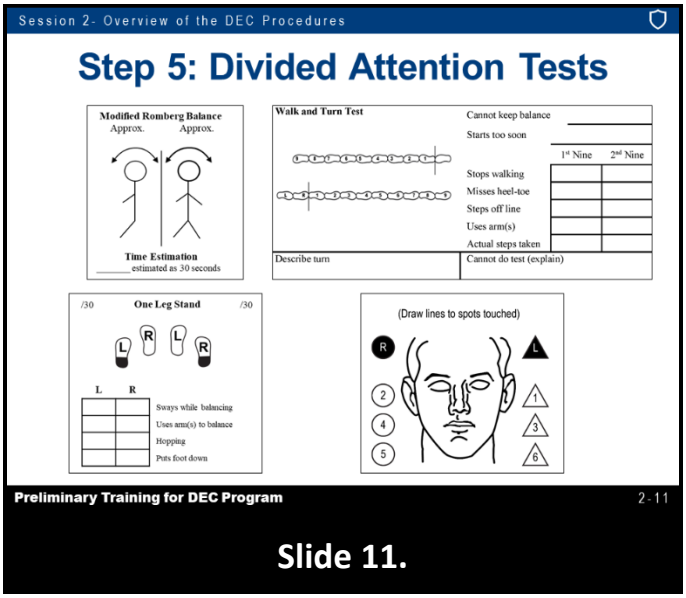
The initial examination of the eyes may reveal signs of injury or illness. A difference in pupil size of greater than 0.5 mm may indicate an injury or existing medical condition.



Slide 10.

This is the time when DREs will administer three tests of the subject's eyes; Horizontal Gaze Nystagmus (HGN), Vertical Gaze Nystagmus (VGN) and Lack of Convergence (LOC).

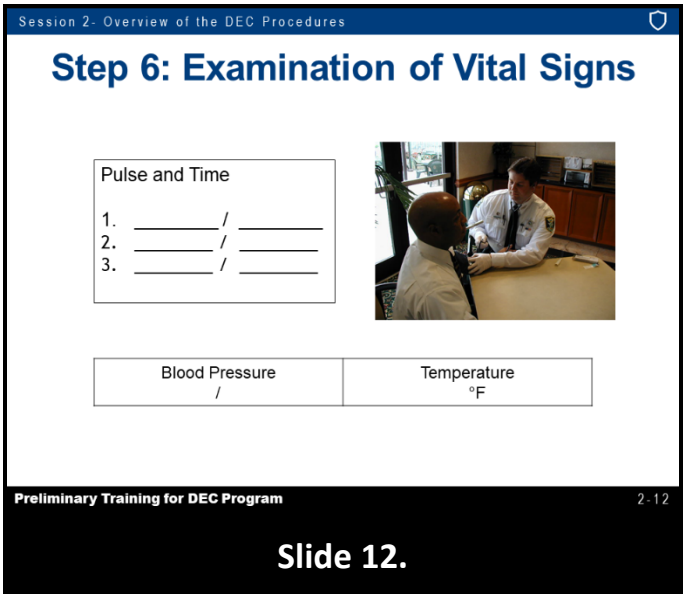
Certain drugs produce very easily observable effects on the eyes. One of the most dramatic of these effects is nystagmus, which means an involuntary jerking of the eyes. Persons under the influence of alcohol usually will exhibit HGN, which is an involuntary jerking of the eyes as the eyes gaze to the side. Alcohol is not the only drug that causes HGN. HGN is not the only observable effect on the eyes that will be produced by various drugs.



Slide 11.

All drugs that impair driving ability will also impair the subject's ability to perform certain carefully designed divided attention tests. These tests are familiar to you in the context of examining alcohol-impaired subjects.

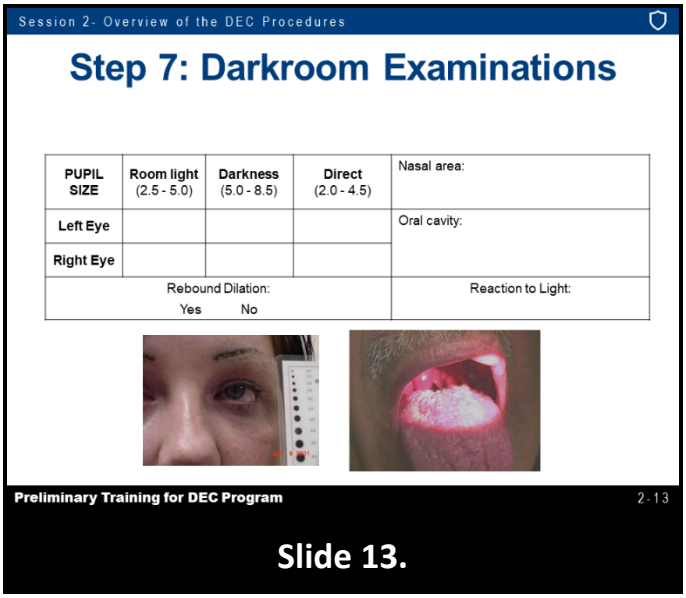
The same tests are very valuable for disclosing evidence of impairment due to drugs other than alcohol.



Slide 12.

Many categories of drugs affect the operation of the heart and other major organs of the body.

These effects show up during examination of the subject's vital signs. The vital signs that are reliable indicators of drug influence include blood pressure, pulse, and temperature. Blood pressure is measured with two medical instruments – a stethoscope and a sphygmomanometer.

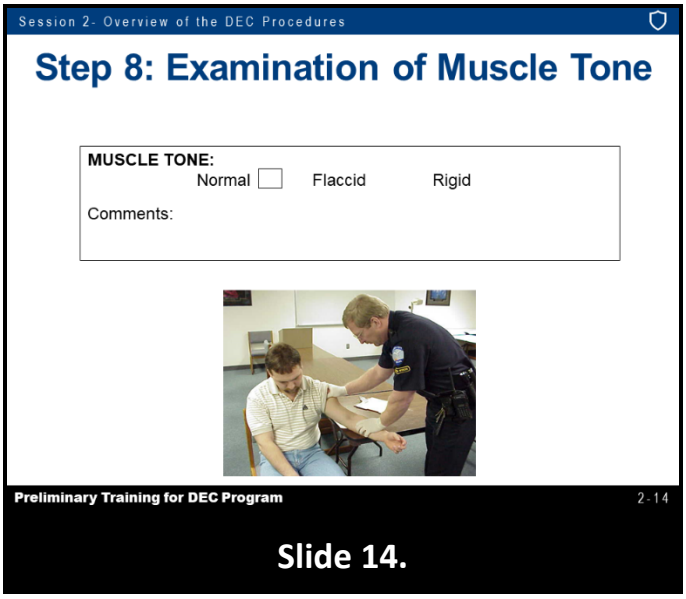


Slide 13.

Many categories of drugs affect how the pupils of the eyes will appear and how they respond to light. Certain kinds of drugs will cause the pupils to become larger or dilate. Some other drugs cause the pupils to become smaller or constrict. By systematically changing the amount of light entering the subject's eyes, we can observe the pupils' appearance and reaction under controlled conditions. We carry out these examinations in a dark room, using a penlight to control the amount of illumination entering the subject's eyes.

We use a device called a pupillometer to estimate the size of the subject's pupils.

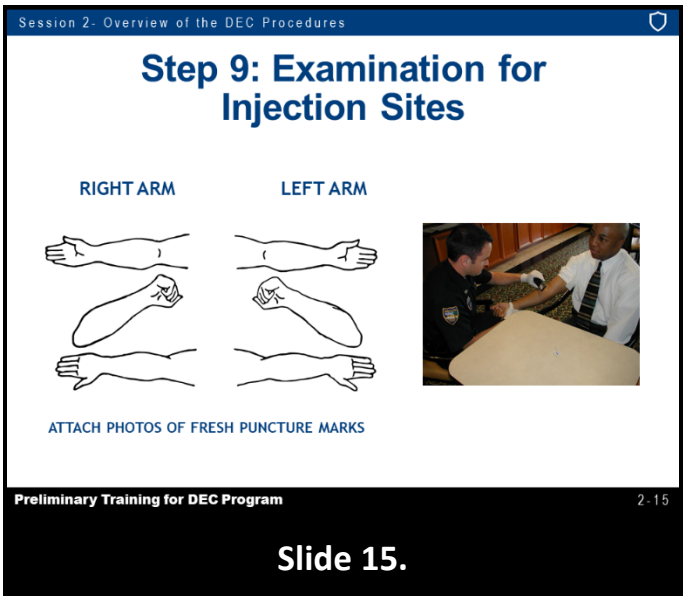
Other examinations are also conducted in the darkroom, using the penlight: i.e., examination of the nasal area and mouth for signs of drug use and for concealed contraband.



Slide 14.

Certain categories of drugs may cause the user's muscles to become noticeably tense or rigid. Others may cause the muscle tone to be flaccid or soft.

Evidence of muscle tone may be apparent when the subject attempts to perform divided attention tests. It may also be observed when taking the subject's pulse, blood pressure, or while examining for injection sites.



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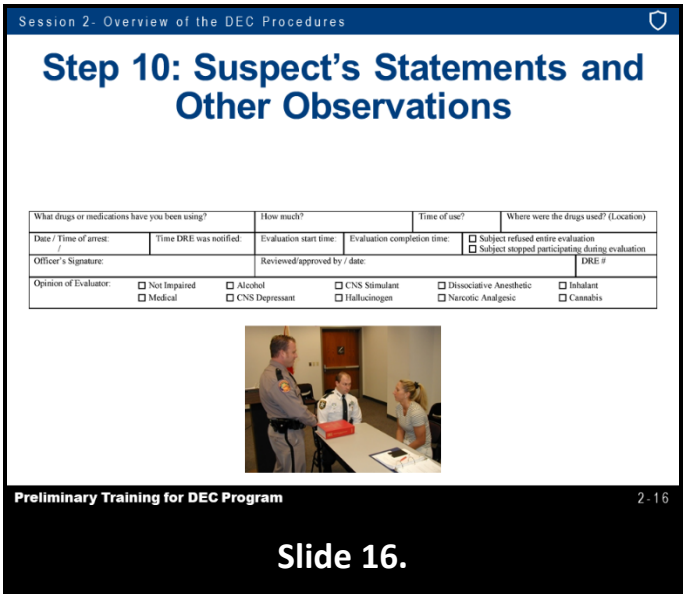
Certain drugs are commonly injected by users via hypodermic needles.

Heroin is probably most commonly associated with injection, but several other types of drugs also are injected by many users. Locating injection sites on a subject provides evidence of possible drug use.

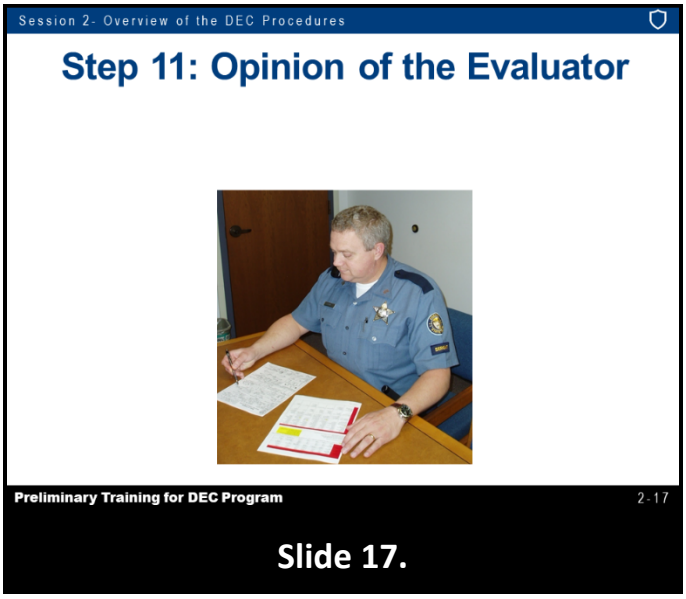


Slide 16.

At this point in the evaluation, the DRE may have reasonable grounds to believe the subject is under the influence of a drug or drugs.

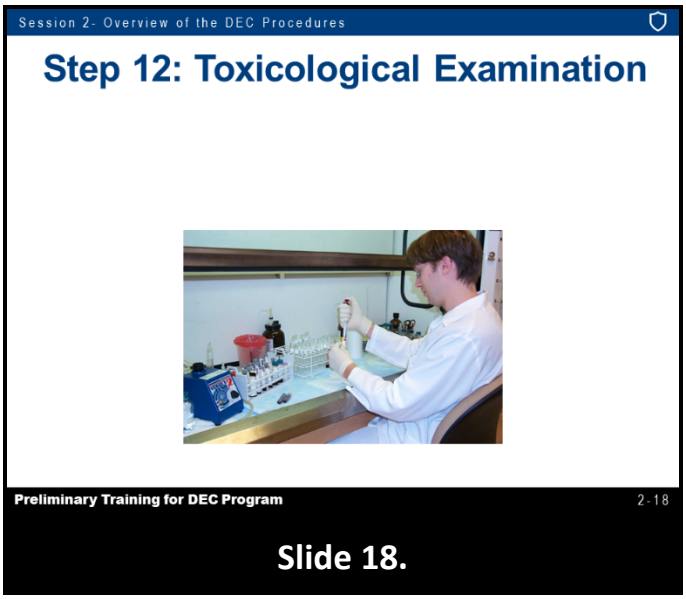
The DRE may also have at least an articulable suspicion as to the category or categories of drugs causing the impairment. The DRE should proceed to interview the subject to confirm his or her suspicion/opinions concerning the drug or drugs involved.

The DRE must carefully record the subject's statements and any other observations that may constitute relevant evidence of drug-induced impairment.



Slide 17.

Based on all of the evidence and observations collected from the preceding steps, the DRE should be able to reach an informed opinion as to whether the subject is under the influence of a drug or drugs. If so, the probable category or categories of drugs causing the impairment. The DRE must record a narrative summary of the facts forming the basis for his or her opinion.

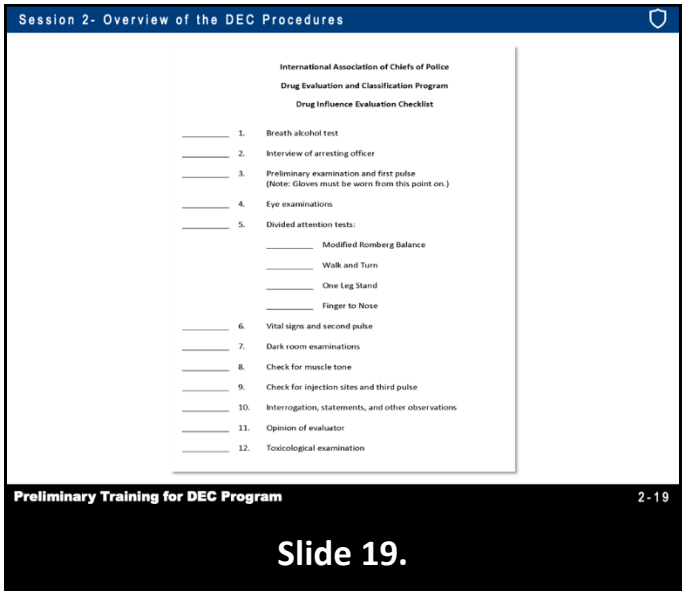


Slide 18.

The toxicological examination is a chemical test or tests designed to obtain scientific, admissible evidence to support the DRE's opinion. This step is the analysis of the collected specimen. Specimen collection may have occurred earlier in the process.

Proper procedures should be followed in requesting, obtaining, and handling the toxicological sample. In some cases, the arresting officer may have already obtained the specimen prior to the DRE's arrival.

Just because the subject refuses to provide a specimen for analysis does not affect the evaluation or your ability to form an opinion. Circumstances may warrant a DRE to perform a step out of sequence, such as collecting the toxicology specimen. When this occurs, the DRE should note the circumstance and reason in their narrative report. This will be discussed further in the DRE 7-Day School.



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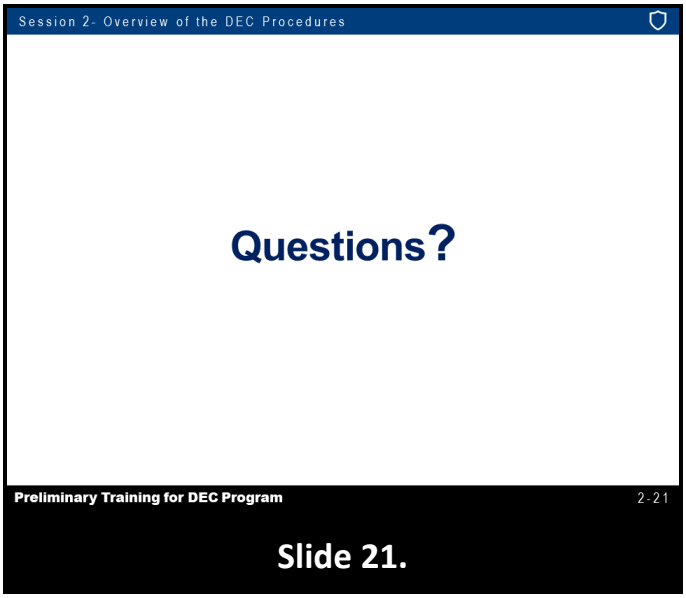
B. Video Demonstration

Slide 20.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International Association of Chiefs of Police

Drug Evaluation and Classification Program

Drug Influence Evaluation Checklist

_____ 1. Breath alcohol test

_____ 2. Interview of arresting officer

_____ 3. Preliminary examination and first pulse
(Note: Gloves must be worn from this point on.)

_____ 4. Eye examinations

_____ 5. Divided attention tests:

- _____ Modified Romberg Balance
- _____ Walk and Turn
- _____ One Leg Stand
- _____ Finger to Nose

_____ 6. Vital signs and second pulse

_____ 7. Dark room examinations

_____ 8. Check for muscle tone

_____ 9. Check for injection sites and third pulse

_____ 10. Interrogation, statements, and other observations

_____ 11. Opinion of evaluator

_____ 12. Toxicological examination

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3 PRELIMINARY TRAINING FOR DEC PROGRAM

PSYCHOPHYSICAL TESTS

LEARNING OBJECTIVES

- Administer the four divided attention tests used in the drug influence evaluation process
- Document the subject's performance of those tests

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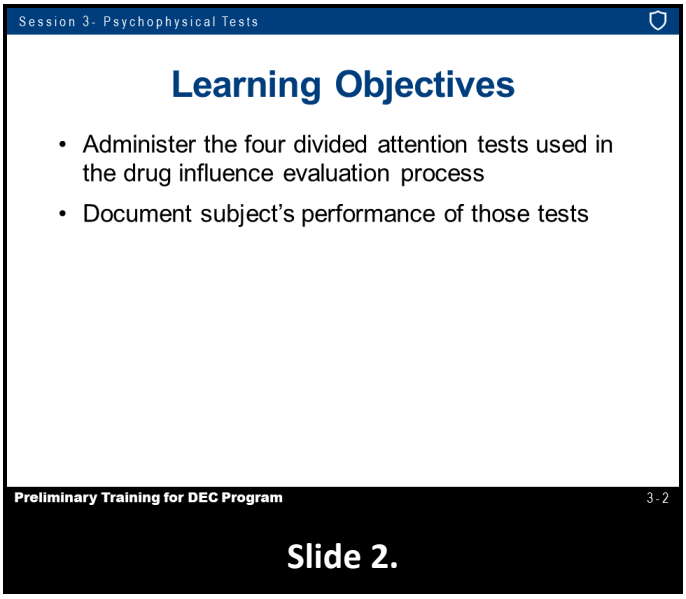
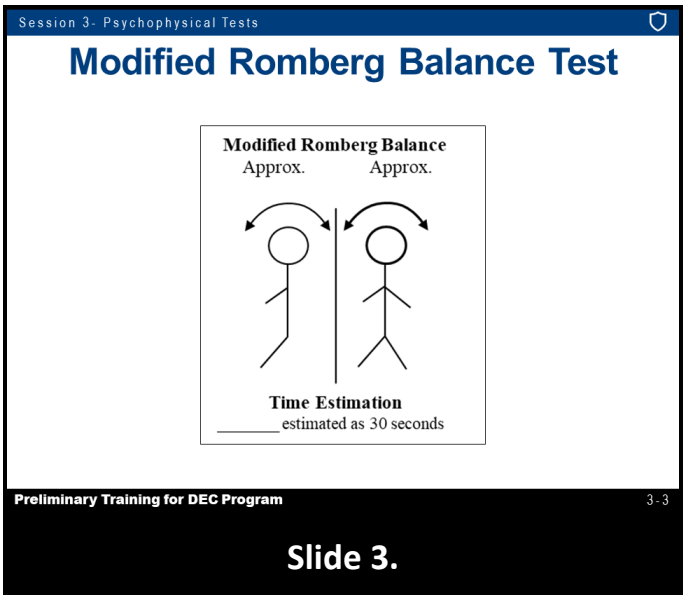


Slide 2.

Four divided attention psychophysical tests are administered in the Drug Recognition Expert (DRE) evaluation – MRB, WAT, OLS, and FTN. The WAT and OLS, as well as Horizontal Gaze Nystagmus (HGN), have been scientifically validated by conducting controlled research to demonstrate their reliability. The MRB and FTN have not been subjected to that sort of scrutiny, however, if properly administered and recorded, they are very credible evidence of impairment.

A. Modified Romberg Balance (MRB)

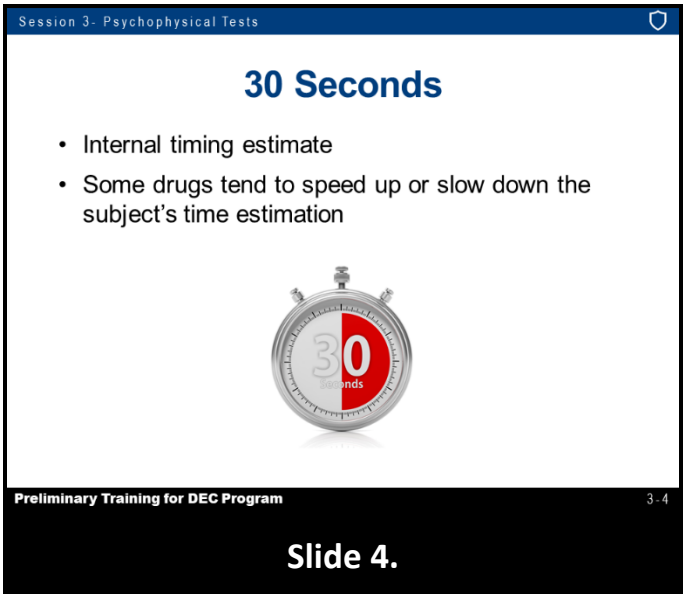


Slide 3.

The MRB is the first divided attention test administered during the drug influence evaluation.

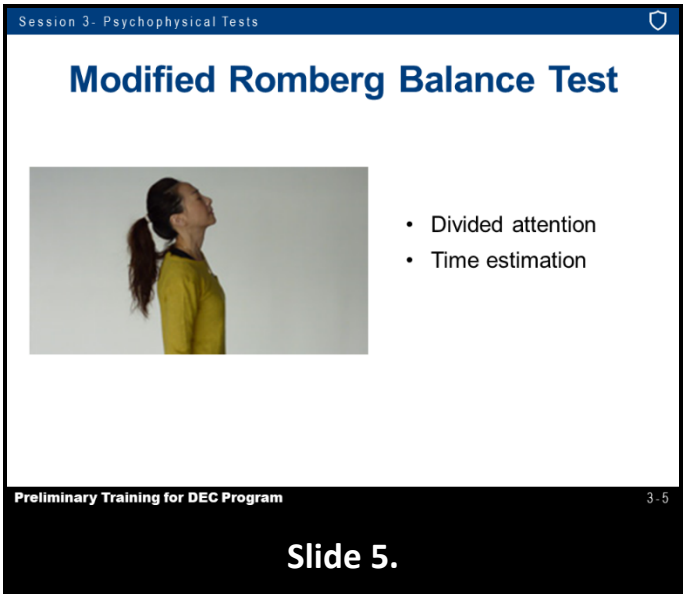
The test requires the subject to stand with the feet together and the head tilted back slightly and with the eyes closed.

The test also requires the subject attempt to estimate 30 seconds; the subject must be instructed to open the eyes and tilt the head forward and say “stop” when they think thirty seconds has elapsed.



Slide 4.

Some drugs tend to “speed up” the subject’s time estimation so the subject may open the eyes after only 10 or 15 seconds have gone by. Other drugs may “slow down” the time estimation. Sometimes the drugs affect the subject’s divided attention to the point where they won’t remember to open the eyes until instructed to do so by the DRE.

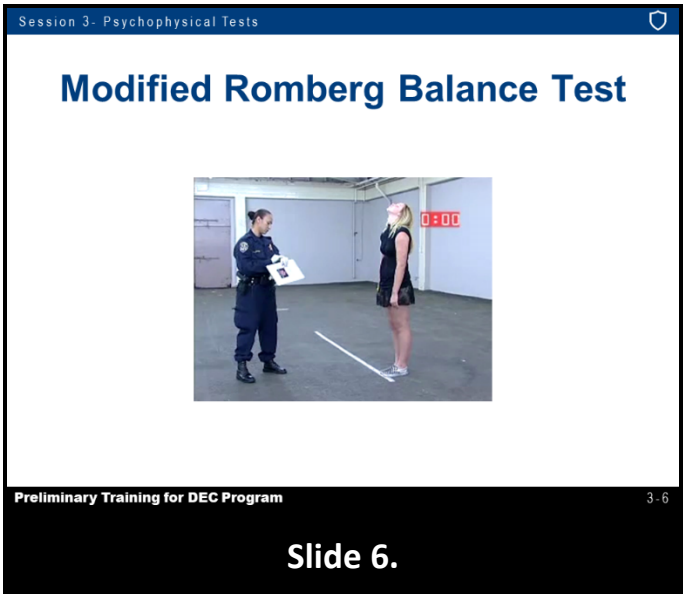


Slide 5.

Drug impairment can affect both divided attention and the subject's internal time estimation mechanism and can vary among people. Performance outside the range of plus or minus 5 seconds should be used cautiously and considered with the totality of the decision process.

The DRE modified version of the original Romberg Balance Test is a divided attention test as well as a possible measurement of the person's internal timing estimates. The DRE must look at a timing device as soon as the subject starts the test and must record the actual amount of time that elapses until the subject opens his or her eyes. The DRE should not close their eyes while demonstrating this test for safety reasons.

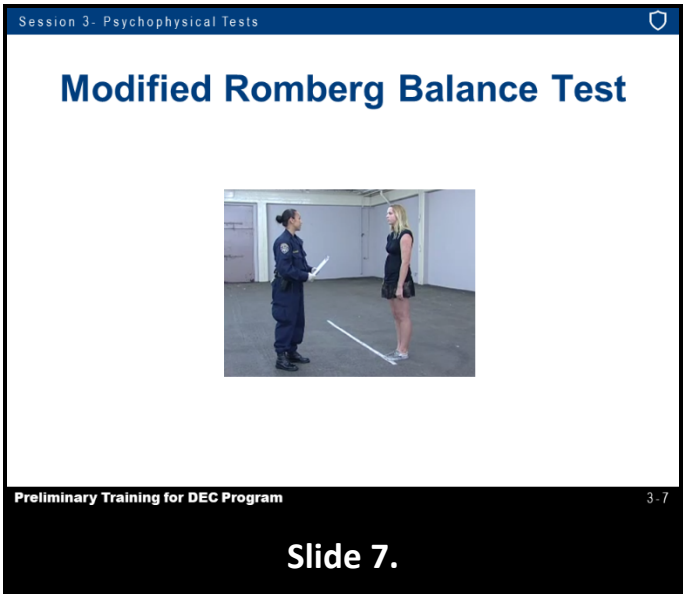
The DRE must record how much time actually elapsed from the start of the test until the subject opened their eyes and said "stop". If the subject continues to keep their eyes closed for 90 seconds, the DRE should stop the test and record the fact it was terminated at 90 seconds.



Slide 6.

Administrative Procedures: Instruction Stage

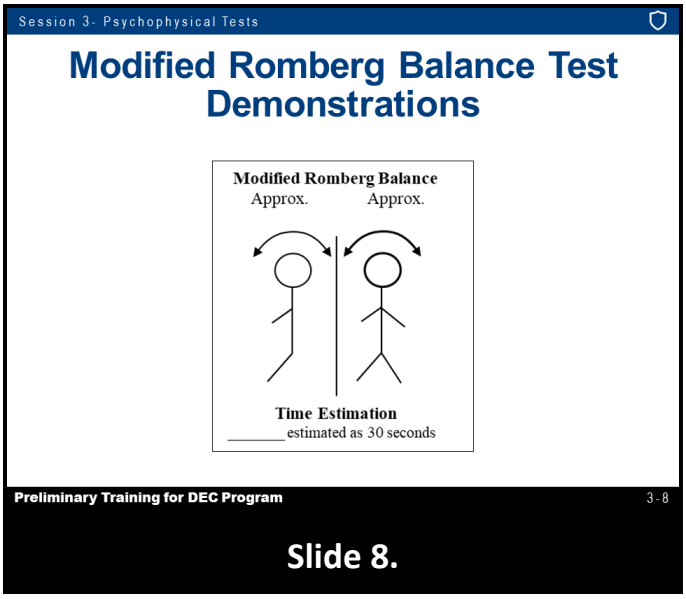
1. "Stand straight with your feet together and your arms down at your sides."
2. "Remain in this position while I finish giving the instructions."
3. "Do not begin the test until told to do so."
4. Ask if the subject understands the instructions. **Make sure to obtain a verbal response from the subject.**
5. "When I ask, tilt your head back and close your eyes."
6. "When I tell you to begin, stay in that position until you think 30 seconds have gone by."
7. "As soon as you think 30 seconds have gone by, open your eyes, tilt your head forward and say 'Stop'."
8. "Do you understand?" **Make sure to obtain a verbal response from the subject.**
9. **Look at your timing device and pick a convenient time to start the test.** Instruct the subject to tilt their head back.
10. Instruct the subject to close their eyes.
11. Instruct the subject to begin. DREs should measure the elapsed time until either the subject says 'Stop', or the test is terminated.



Slide 7.

Administrative Procedures: Balancing Stage

1. Look at your timing device and pick a convenient time to start the test.
2. Tell the subject to tilt their head back.
3. Tell the subject to close their eyes.
4. Tell the subject to begin or start the test.
5. Keep track of time while the subject performs the test.
6. Check subject for presence of tremors (eyelid and/or body) and sway.
7. When the subject opens their eyes, ask them “how much time was that?”.
8. Record how much time actually elapsed from the start of the test until the subject opened their eyes or was told to stop. If the subject continues to keep their eyes closed for 90 seconds, stop the test and record the fact it was terminated at 90 seconds.

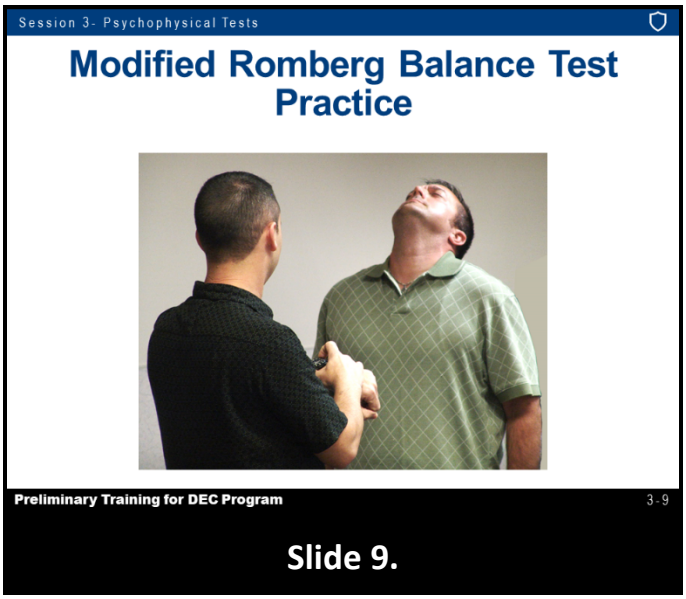


Slide 8.

Recording Results of the MRB Test

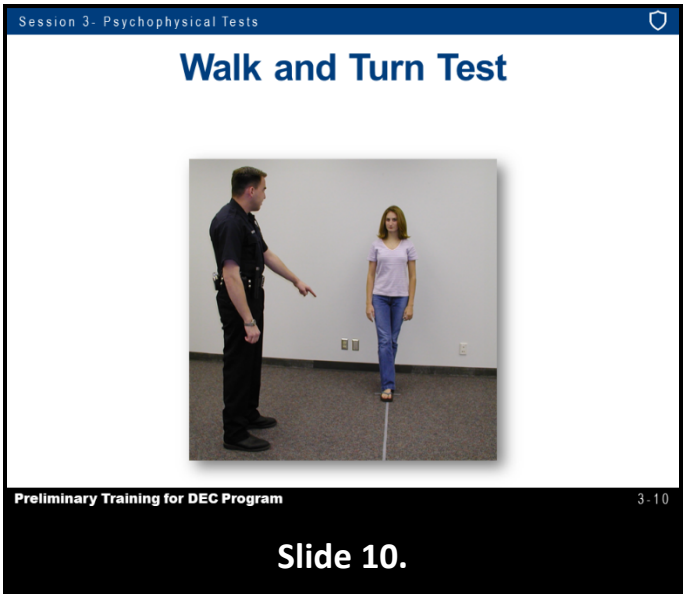
The major items that need to be recorded for the MRB test are the amount the subject sways and the actual amount of time the subject keeps the eyes closed.

To record swaying, the DRE must estimate how many inches the subject sways, either front-to-back, left-to-right, or circular. Example: If the subject sways approximately two inches toward the left and approximately two inches toward the right, the DRE should write the number "2" on each side of the "stick figure" that shows left-to-right movement. To record the subject's time estimate, simply write the number of seconds the subject kept his or her eyes closed. Research has indicated a non-impaired subject's time estimation will typically be within +/- 5 seconds of 30 seconds.



Slide 9.

B. Walk and Turn (WAT)

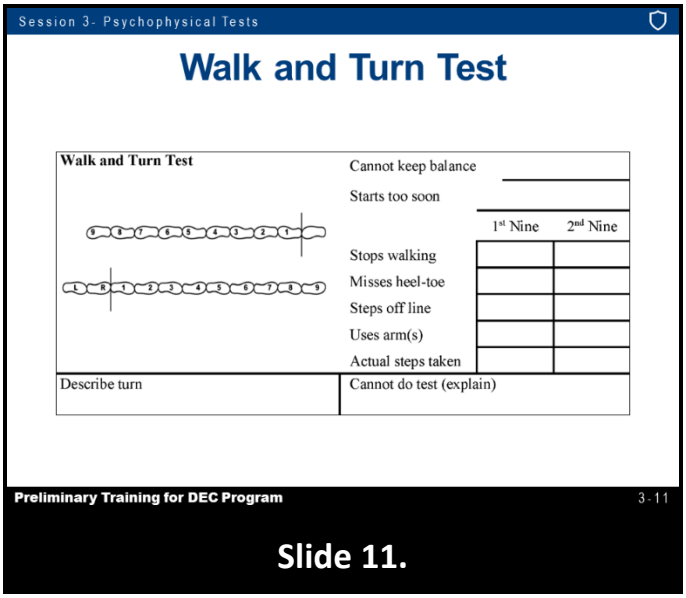


Slide 10.

WAT is the second divided attention test administered during the drug influence evaluation.

The test is administered the same way we have used it for Standardized Field Sobriety Testing (SFST) purposes: Monitor the practice and offer coaching and constructive criticism, as appropriate and Review of WAT administrative procedures.

The test has two stages: the instruction stage and the walking stage. During the instruction stage, the subject must stand heel-to-toe with the right foot ahead of the left foot with the heel of the right foot against the toe of the left foot and keeping the arms at the sides. Demonstrate the stance the subject must maintain during the instruction stage. If the subject fails to maintain the starting position during your instructions, discontinue the instructions and direct the subject back to the starting position before continuing. The subject is told to not start walking until told to do so. The subject must be told to take nine heel-to-toe steps on the line, to turn around keeping the front or lead foot on the line and to turn by taking a series of small steps with the other foot, and to return nine heel-to-toe steps down the line.

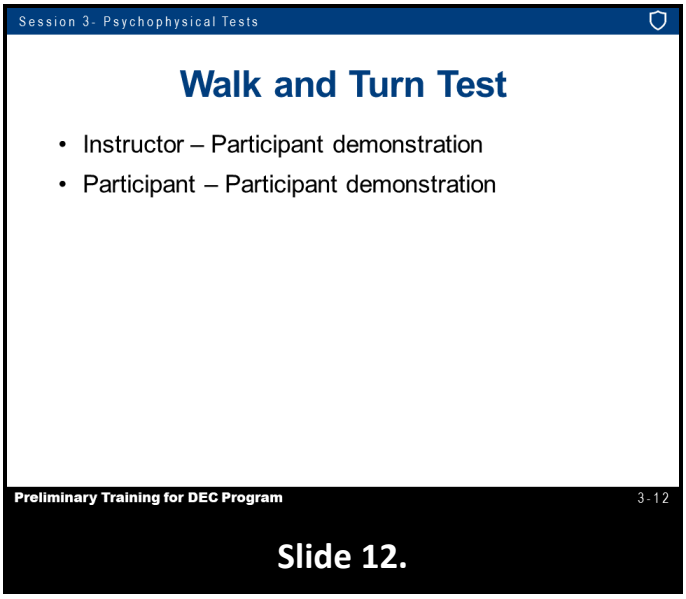


Slide 11.

Officers should be mindful of safety precautions when providing instructions for the WAT. By demonstrating the test perpendicular to the subject's "line" and initiating the demonstration with the subject to the left of the officer, the officer will properly demonstrate the turn WITHOUT turning his/her back to the subject. Officers should always be aware of their surroundings and environment when conducting DWI roadside investigations.

- The subject must be told to keep their arms at the sides at all times
- The subject must be told to watch his or her feet while walking
- The subject must be told to count the steps out loud
- The subject must be told not to stop walking until the test is completed
- The subject should be asked if he/she understands the instructions
- Once the subject acknowledges his/her understanding of the instructions, instruct the subject to begin the test

If the subject does not count out loud or watch his/her feet, remind him/her to perform these tasks. This interruption will not affect the validity of the test and is essential for evaluating divided attention.



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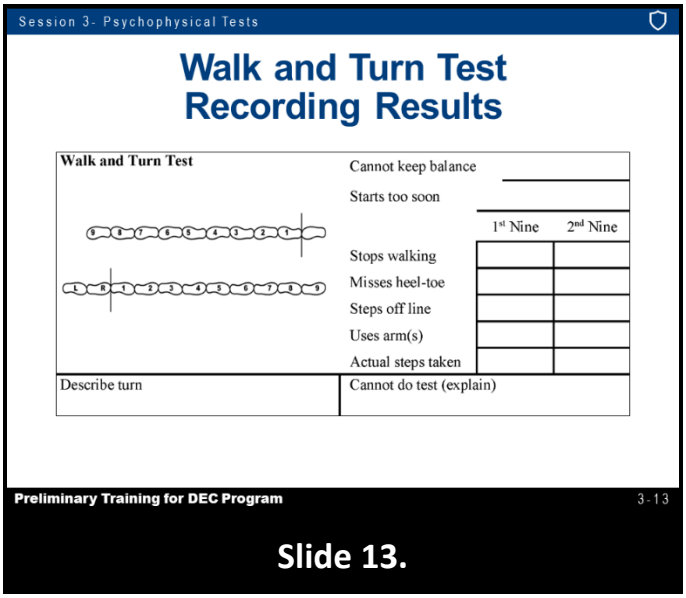


Slide 13.

Recording Results of the WAT Test

We record the very same clues on this test we use for SFST purposes.

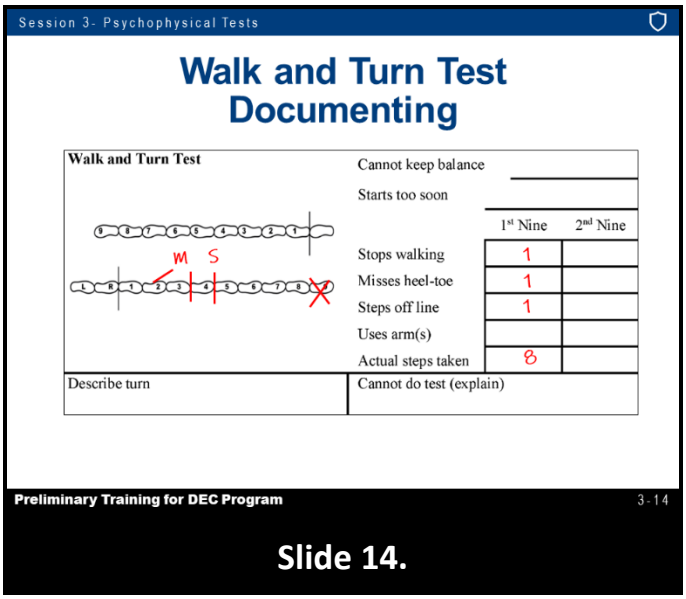
Instruction stage clues:

If the subject cannot maintain balance while listening to instructions (feet break away from the heel-to-toe stance), draw a slash mark at an angle in the direction the subject stepped out of the instruction position.

Record if the subject starts too soon (i.e., subject starts walking before told to do so).

If the subject cannot maintain balance while listening to instructions (feet break away from the heel-to-toe stance), draw a slash mark at an angle in the direction the subject stepped out of the instruction position.

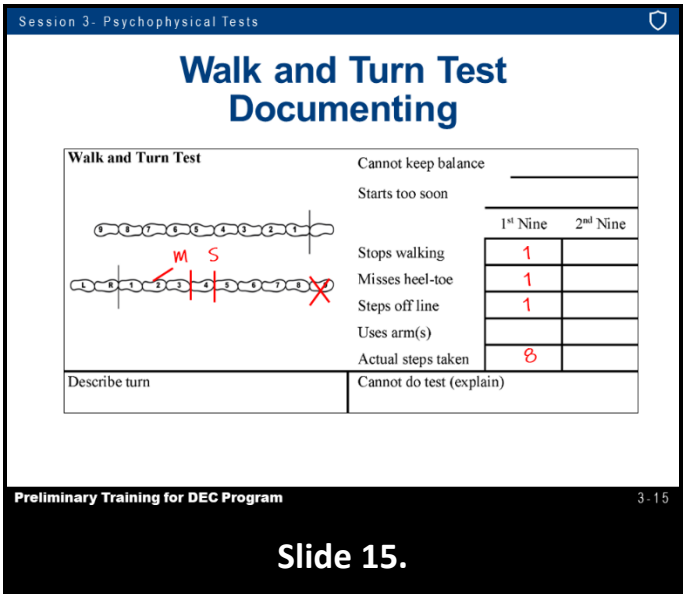
Record if the subject starts too soon (i.e., subject starts walking before told to do so).



Slide 14.

Walking stage clues:

- Stops while walking
- Does not touch heel-to-toe (one-half inch or more)
- Steps off the line
- Uses arm(s) to balance (six or more inches)
- Improper turn
- Record the actual number of steps taken. If the subject takes additional steps, draw in the additional steps to reflect the actual number of steps taken. If the subject takes less than nine steps, place an (x) in the missing steps. If subject stops walking, record it by drawing a vertical line from the toe at the step at which the stop occurred. Do this for each of the nine steps.



Slide 15.

How many times during first nine steps? How many times during second nine steps?

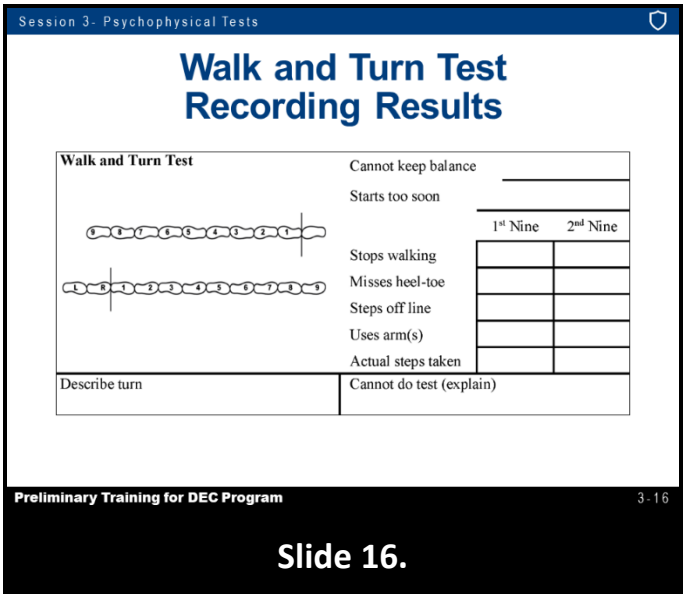
If subject fails to touch heel-to-toe, record how many times this happens.

If subject steps off the line while walking, record it by drawing a line from the appropriate footprint at the angle in the direction in which the foot stepped. Do this for each nine steps.

If the subject steps off the line, indicate with a half of slash mark at an angle in the direction the step was taken

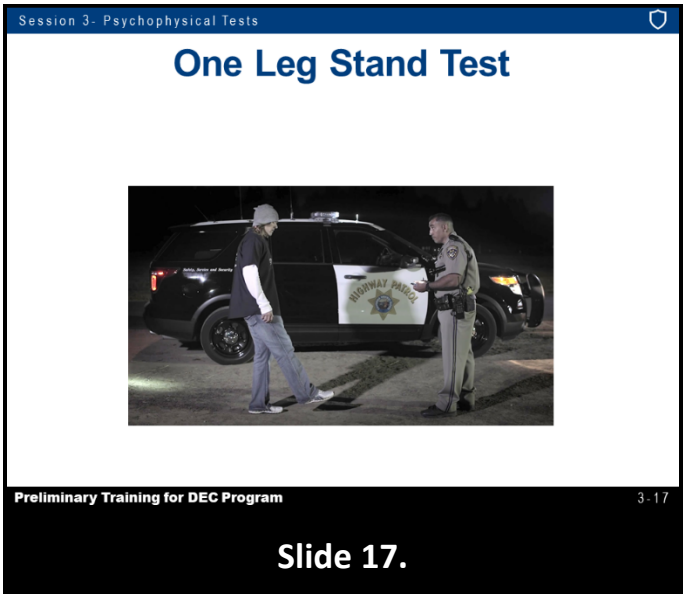
If the subject misses heel-to-toe, indicate with a slash mark between the feet and label with an "M". The "M" indicates "missed".

DREs are not limited to only documenting the above evidence during the test. DREs are encouraged to record sufficient evidence to deliver effective testimony in court.



Slide 16.

C. One Leg Stand (OLS)



Slide 17.

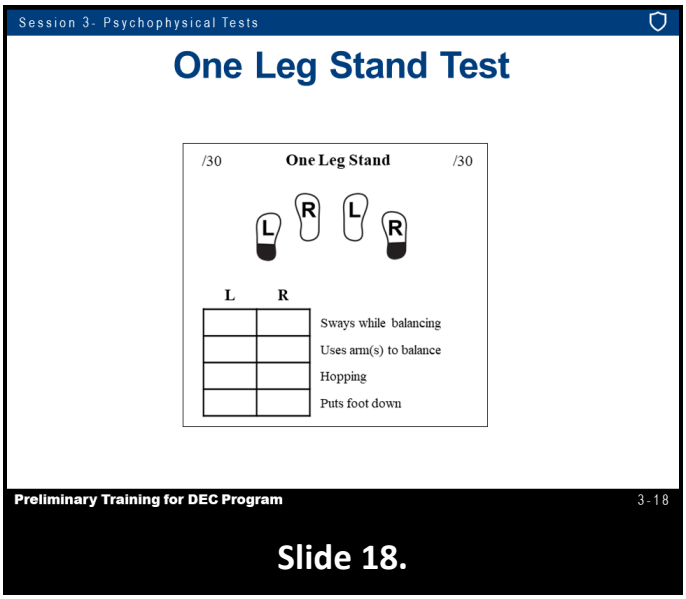
OLS is the third divided attention test administered during the drug influence evaluation. For drug evaluation purposes, OLS is given twice to the subject. First, the subject is required to perform the OLS while standing on the left foot.

Next, they are required to perform the test while standing on the right foot. Otherwise, the OLS is used in the same fashion as in SFST.

Review of OLS Administrative Procedures

The test has two stages, the instruction stage and the balance and counting stage. During the instruction stage, the subject must stand with the feet together, arms at the side, facing the examiner. Demonstrate the stance the subject is required to maintain.

The subject must be told they will have to stand on the left foot and raise the right foot approximately **6** inches off the ground, with both legs held straight and the raised foot parallel to the ground. The examiner must demonstrate the one-leg stance. Emphasize the subject must keep the foot raised throughout the test.

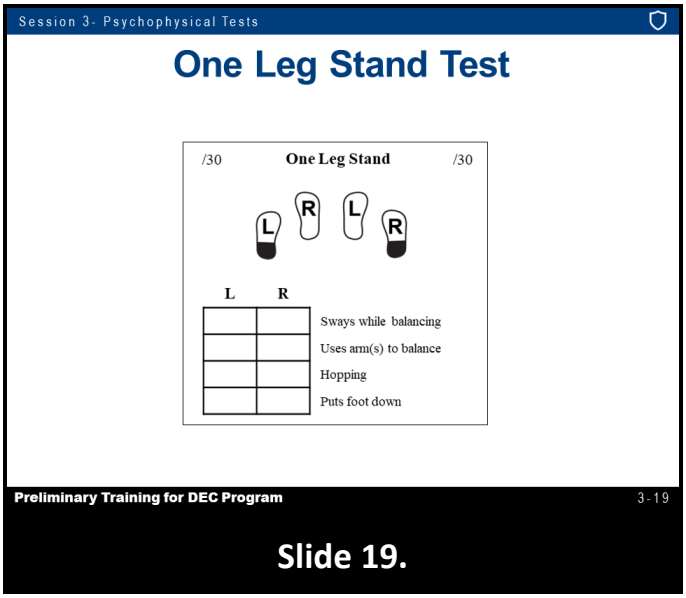


Slide 18.

The subject must be told they must look at the raised foot during the test. Emphasize the examiner should not look at his or her own foot while giving the instructions; for safety reasons, the examiner must keep the eyes on the subject at all times.

The subject must be told they will have to count out loud in the following manner: “one thousand one, one thousand two, one thousand three” and so on until told to stop. After giving the instructions, the examiner should ask the subject if they understand.

After the subject has completed the test on the left foot, they must be told to repeat the test on the right foot.



Slide 19.

Recording Results of the OLS

For drug evaluation purposes, we use the same clues on the OLS we use for SFST. The OLS clues are:

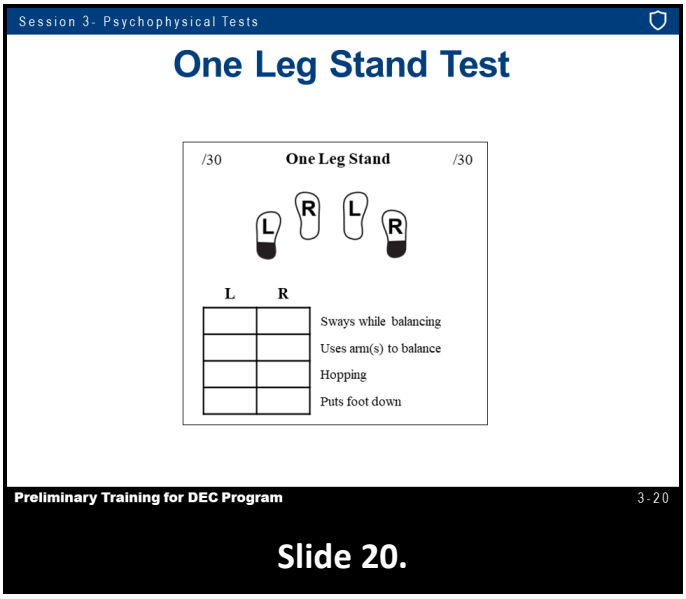
- Sways while balancing
- Uses arm(s) to balance
- Hopping
- Puts foot down

Indicate above the feet the number they were counting when they put their foot down.

Check marks should be made or a number recorded to indicate the number of times the subject swayed, used arm(s) to balance, hopped, or put their foot down.

The subject's actual count during the 30 seconds should be documented in the top area of the box above the foot on which the subject was standing.

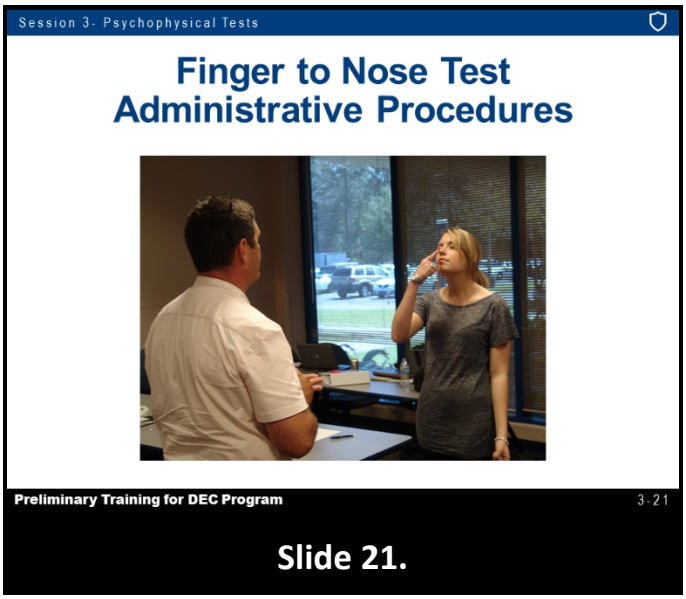
DREs should also be observant for the presence of other indicators, such as body tremors and improper counting during this test.



Slide 20.

The original SCRI studies suggested individuals over 65 years of age, people with back, leg, or inner ear problems, or people who are overweight by 50 or more pounds may have difficulty performing this test. Less than 1.5% of the test subjects in the original studies were over 65 years of age. There was no data containing the weight of the test subjects included in the final report. Also, the SCRI studies suggest individuals wearing heels more than 2 inches high should be given the opportunity to remove their shoes.

D. Finger to Nose (FTN)



Slide 21.

The FTN is the final divided attention test used in the drug influence evaluation. FTN differs from the other three tests in that the examiner must continue to give instructions to the subject throughout the test.

Administrative Procedures for FTN

- The subject must be told he/she will be given a series of commands, i.e., “left, right, etc.” to indicate which fingertip is to be brought to the tip of the nose
- The subject must be told to stand with feet together, arms down at the sides, facing the examiner
- The examiner should demonstrate the stance
- The subject must be told to close his/her hands, rotate the palms forward and then to extend the index fingers from the closed hands
- The examiner must tell subject they will be asked to touch the tip of the index finger to the tip of the nose

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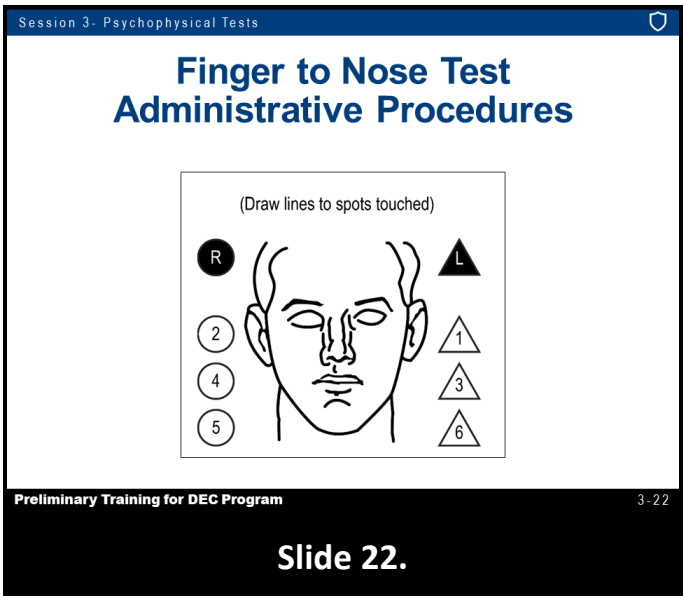

Slide 22.

- The examiner must demonstrate to the subject how they are expected to touch the fingertip to the nose (without actually touching the nose)
- Demonstrate: When I say ‘left,’ touch the tip of your left index finger to the tip of your nose
- The examiner must tell the subject they are expected to return the arm to the side immediately after touching the fingertip to the nose
- Demonstrate the movement of the fingertip to the nose by standing at an angle to the subject so he/she can see the proper method for touching the nose
- The subject must be told to tilt the head back slightly and to close the eyes and keep them closed until the examiner says to open them
- The examiner should demonstrate the stance with head tilted back, arms at the sides with index fingers extended

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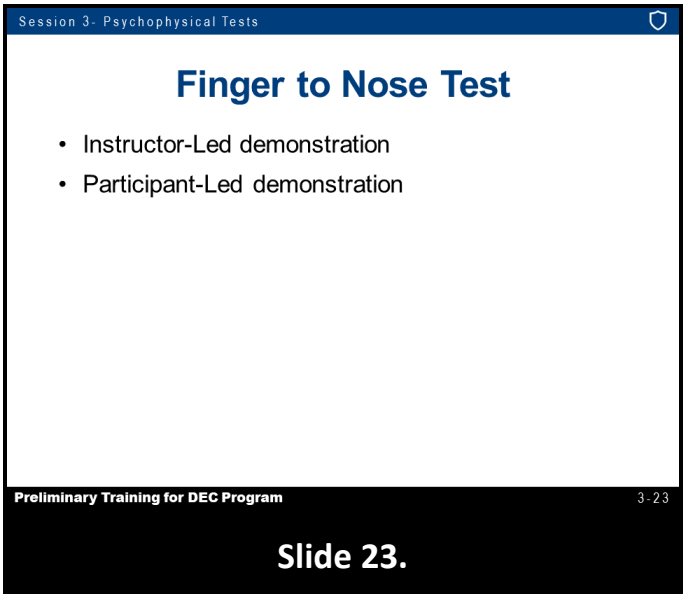

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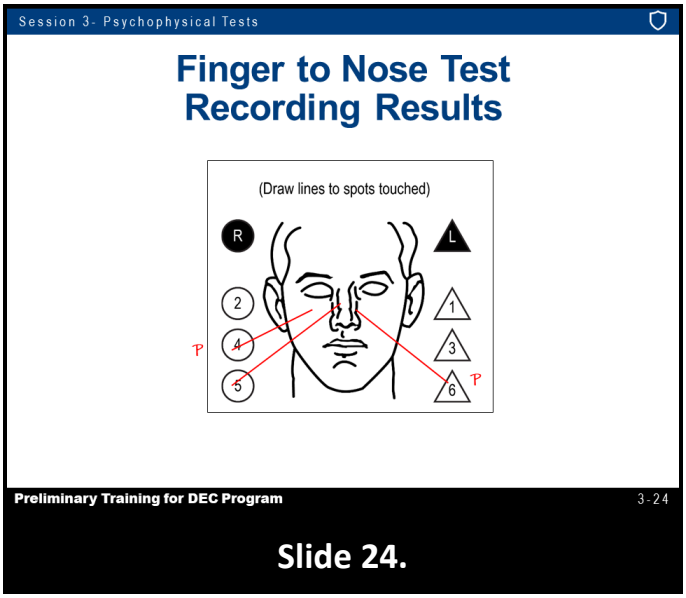
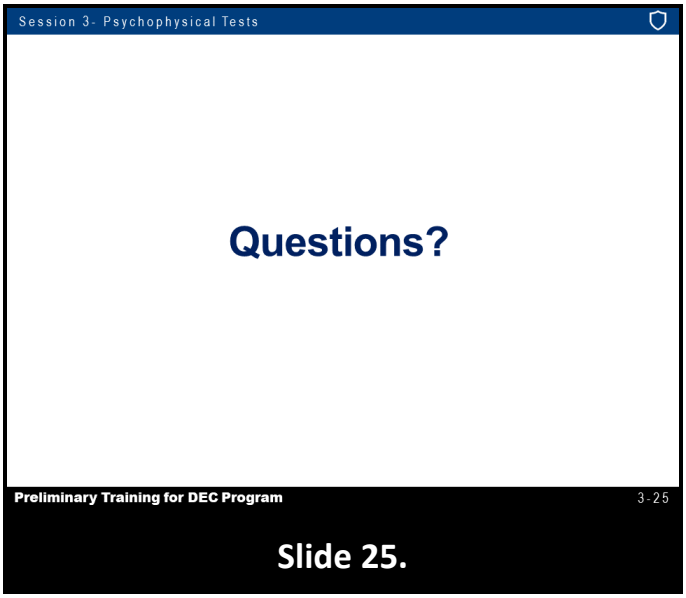


Slide 24.

The results of FTN test are recorded by drawing a “map” showing where the fingertips touched on each attempt. A line should be drawn to the appropriate circle or triangle to indicate where the subject touched their nose. Suggestion: If the DRE draws the line from the place where the subject touches to the appropriate circle or triangle, it enables them to draw a straighter line.


Session 3- Psychophysical Tests
Questions?
Preliminary Training for DEC Program
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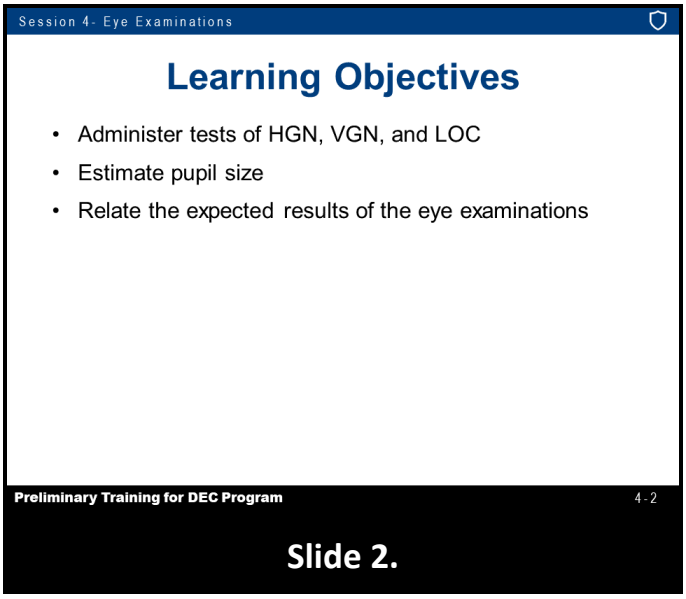
4 PRELIMINARY TRAINING FOR DEC PROGRAM

THE EYE EXAMINATIONS

LEARNING OBJECTIVES

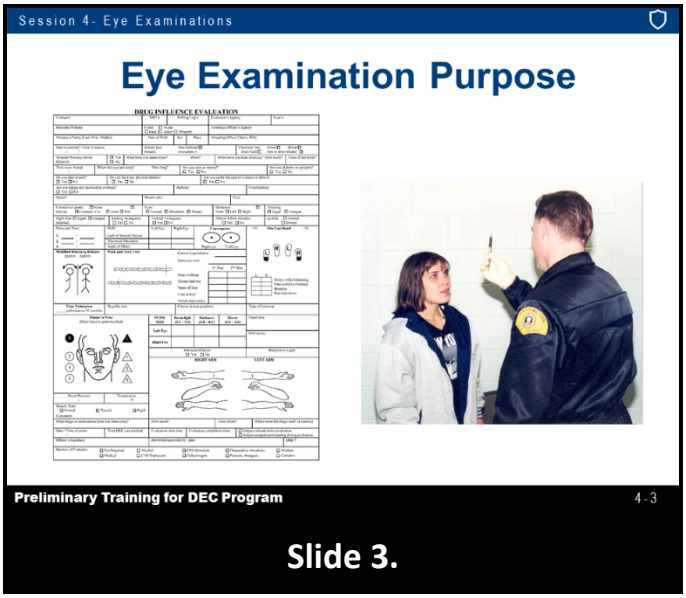
- Administer tests of Horizontal Gaze Nystagmus (HGN), Vertical Gaze Nystagmus (VGN), and Lack of Convergence (LOC)
- Estimate pupil size
- Relate the expected results of the eye examinations to the seven categories of drugs

CONTENTS



Slide 2.

A. Purposes of the Eye Examinations



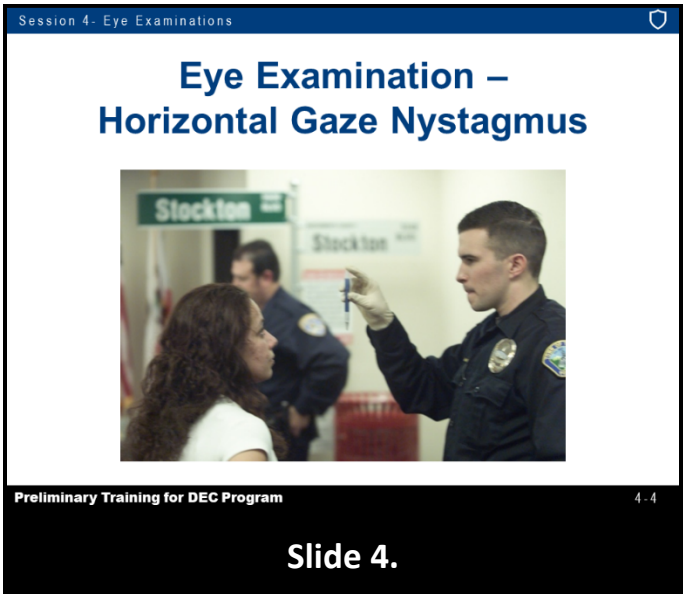
Slide 3.

The principal purpose of all of the eye examinations is to obtain articulable facts indicating the presence or absence of specific categories of drugs. Certain drug categories usually cause the eyes to react in specific ways. Other drug categories usually do not cause those reactions. Any deficiency in eye movement or pupil response, especially if it is acquired or of recent onset, can impair a person's ability to see properly.

Drug impairment, including from alcohol, can affect eye movements in several ways, depending on the nature of the intoxicant used. Drug use, including alcohol, is understood to cause physiological changes that are of recent onset and acquired: 1) Lack of smooth pursuit can impair the ability to see details (such as when reading a sign) or make accurate observations (as of the direction and speed of another vehicle) when there is relative motion between the observer and the target (one or the other is moving, or both are moving but at different speeds and/or different directions); 2) Acquired nystagmus (either at or before maximum deviation) causes a reduction of visual acuity, primarily because of the suppression of visual processing during the fast phase of the nystagmus; and 3) Lack of convergence can cause double vision (diplopia) when looking at objects up close or when frequently or repeatedly changing viewing distance between far and near (such as when looking back and forth from the road to the car's dashboard).

Individuals with long-standing abnormality or deficiency often learn to compensate in some manner. One example includes making a head movement rather than an eye movement when someone has a natural lack of smooth pursuit, not due to intoxication, illness, or trauma.

Likewise, someone who has a constant and long-standing nystagmus may be able to detect and extract visual information between successive eye movements. Therefore, while the appearance to the officer may be abnormal, the person is not necessarily impaired.



Slide 4.

The tests of HGN and VGN provide important indicators of the drug categories that may or may not be present. Prior to the administration of the HGN, the subject's eyes should be checked for Equal Pupil Size, Resting Nystagmus and Equal Tracking.

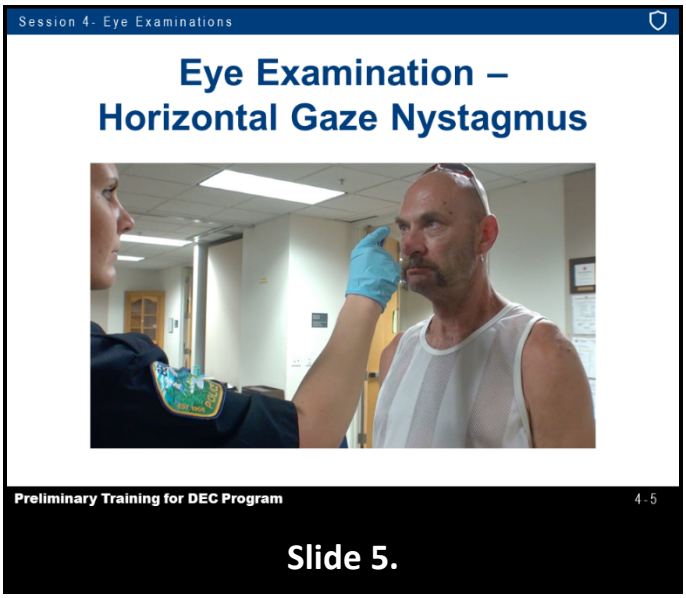
The check for Equal Pupil Size is simply done by visibly checking to see if both pupils are equal in size. Both pupils should be of approximately equal size. A difference of ½ mm would still constitute equal pupil size. 1 mm difference or more may indicate a possible medical condition.

The check for Equal Tracking is done by moving the stimulus smoothly across the subject's entire field of vision checking to see if the eyes track together or if one lags behind.

If the subject's pupils are noticeably unequal in size or if the eyes do not track together, there may be a chance of a medical condition or pathological disorder.

If Resting Nystagmus is present it could also indicate a medical condition or a high dose of a Dissociative Anesthetic drug. This part of the examination may require more than one check to ensure a medical condition or pathological disorder does not exist.

If HGN is observed, it is likely the subject may have taken a CNS Depressant, Dissociative Anesthetic, an Inhalant, or a combination of those.

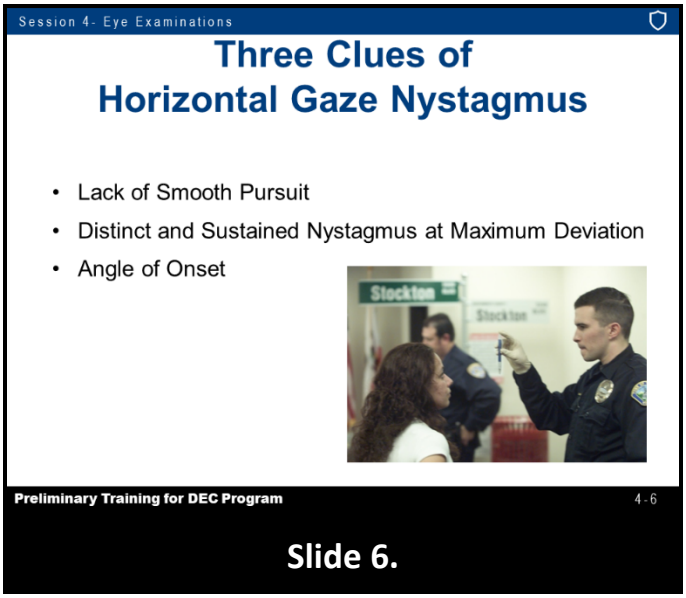


Slide 5.

Officers are reminded to ask questions about the subject's eye and general health conditions prior to administering the HGN test. If a subject responds or volunteers information he or she is blind in one eye or has an artificial eye, and the subject has Equal Tracking, the officer should make note of that and may proceed with the HGN test. If there are any abnormal findings on the pre-test checks, the officer may choose not to continue with the testing. If HGN testing is continued, officers are reminded this does not follow the standardized protocol and should acknowledge such in any report.

If HGN testing is conducted on a person with a blind eye, typical inconsistent findings could be related to the blind eye not being able to see or track the stimulus or when the normal eye can no longer see the stimulus, e.g., when checking Distinct and Sustained Nystagmus at Maximum Deviation on the blind eye side.

B. Procedures and Clues

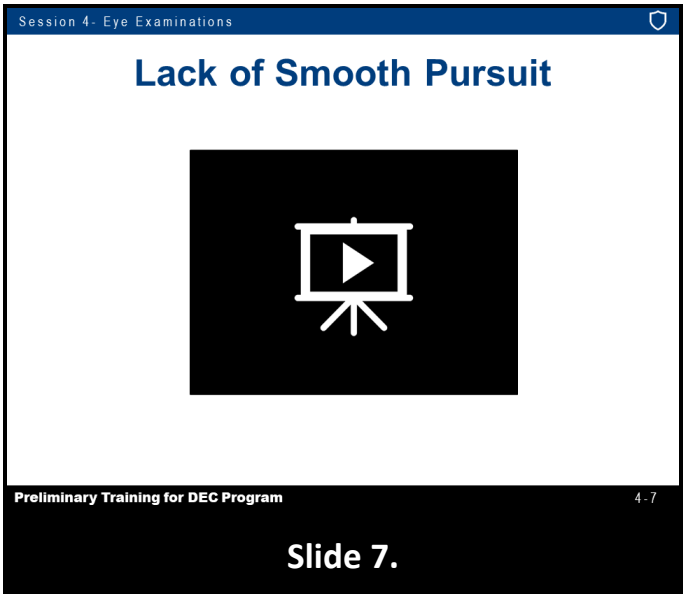


Slide 6.

Prior to the administration of the HGN test, the subject's eyeglasses should be removed and the eyes are checked separately for Equal Pupil Size, Resting Nystagmus, and Equal Tracking. **(Look for and be aware of contacts, especially colored contacts, because some colored contacts may affect the ability to compare and estimate pupil size.)**

As pointed out earlier, if the eyes do not track together or if the pupils are noticeably unequal in size, the chance of a medical disorder or injuries causing the nystagmus may be present. Prior to the administration, Resting Nystagmus may also be observed at this time.

The HGN test consists of three separate checks, administered independently to each eye.



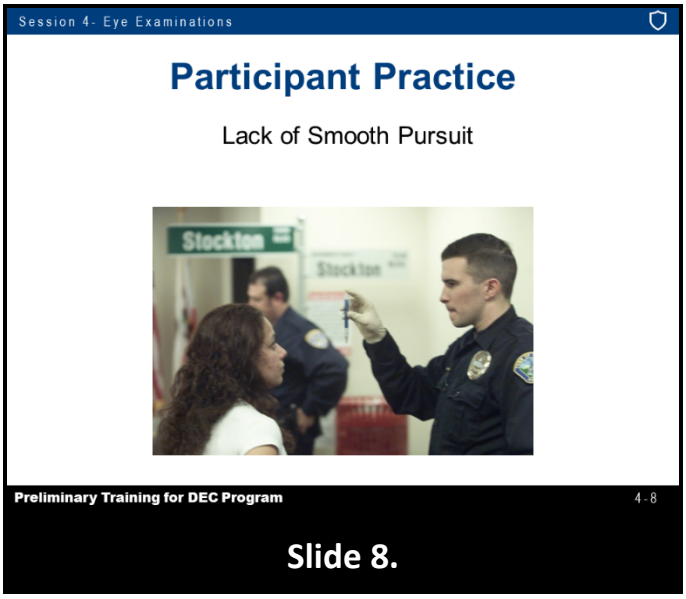
The first check is for "Lack of Smooth Pursuit." While not an actual Gaze Nystagmus, Lack of Smooth Pursuit is a validated clue in the HGN test.

- Position the stimulus approximately 12 to 15 inches from of the subject's nose
- Hold the tip of the stimulus slightly above the subject's eye level
- Instruct the subject to hold their head still and follow the stimulus with the eyes only
- Move the stimulus smoothly, all the way to the subject's left. Move the object from center to the side as far as the eye can move. This should take approximately two seconds. Then move all the way to the subject's right at the same speed to check the right eye. Return to the center and repeat this step.
- The stimulus should move at a speed requiring approximately two seconds to bring it from the center to the side.
- While the eye is moving, examine it for evidence of a Lack of Smooth Pursuit

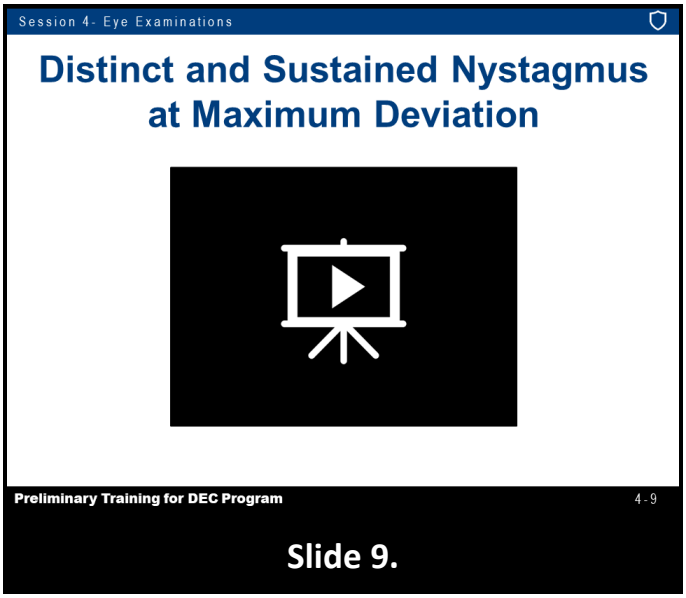
If the subject's pupils are noticeably unequal in size or if the eyes do not track together, there may be a chance of a medical condition or pathological disorder.

If Resting Nystagmus is present it could also indicate a medical condition or a high dose of a Dissociative Anesthetic drug. This part of the examination may require more than one check to ensure a medical condition or pathological disorder does not exist.

If HGN is observed, it is likely the subject may have taken a CNS Depressant, Dissociative Anesthetic, an Inhalant, or a combination of those.



Slide 8.



Slide 9.

The second check is for Distinct and Sustained Nystagmus at Maximum Deviation. Once you have completed the check for Lack of Smooth Pursuit, you will check the eyes for distinct and sustained nystagmus when the eye is held at maximum deviation, beginning with the subject's left eye.

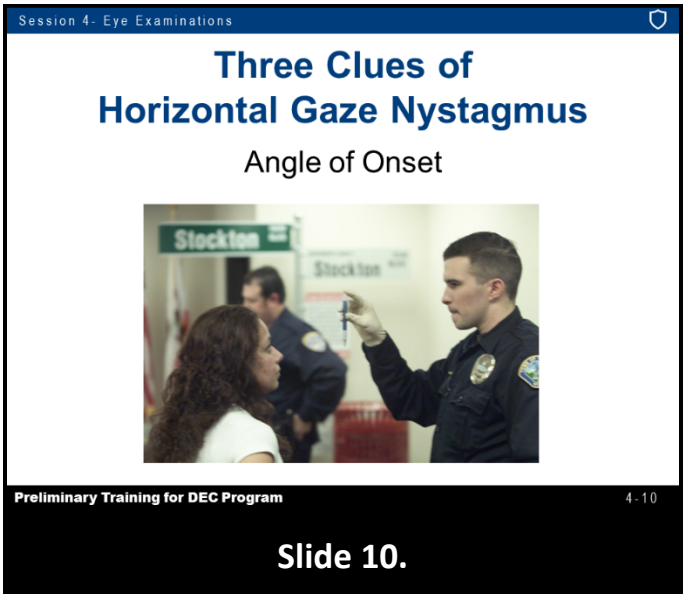
The Mechanics of Clue Number 2: Once again, position the stimulus approximately 12 - 15 inches (30 - 38 cm) in front of subject's nose and slightly above eye level.

Move the stimulus to the individual's left side until there is no more white of the eye visible.

Hold the left eye in that position for a minimum of four (4) seconds. Four seconds will not cause Fatigue Nystagmus. This type of nystagmus may begin if a subject's eye is held at maximum deviation for more than 30 seconds.

A slightly or barely visible tremor is not sufficient to consider this clue present. A definite, strong jerking must be seen.

Participant Practice: Participants' initial practice of the check for Distinct and Sustained Nystagmus at Maximum Deviation.



Slide 10.

The final check is for the Angle of Onset of Nystagmus.

- Position the stimulus as before
- Slowly move the stimulus to the subject's left side, carefully watching the eye for the first sign of jerking

Stimulus should be moved at a speed that takes approximately four seconds or more to travel from center to approximately 45 degrees. Moving the stimulus at a slower speed aids the officer in observing when the eye first begins to jerk.

- If jerking is observed, hold the stimulus at that position and verify the nystagmus continues. If jerking is not evident with the stimulus held steady, you have not located the point of onset. Therefore, resume moving the stimulus slowly toward the side until you notice the jerking again. When you locate the point of onset of nystagmus, stop moving the stimulus and estimate the angle of onset. If the nystagmus is not observed prior to approximately 45 degrees, stop and hold the stimulus at an approximately 45-degree angle to verify the nystagmus is not present.
- Then, repeat the process for the right eye
- Then, again check onset for the left eye, and again for the right

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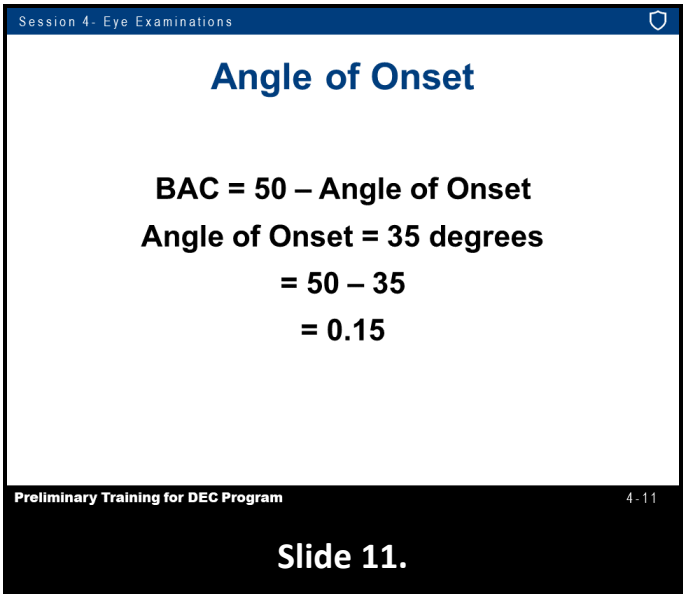


Slide 11.

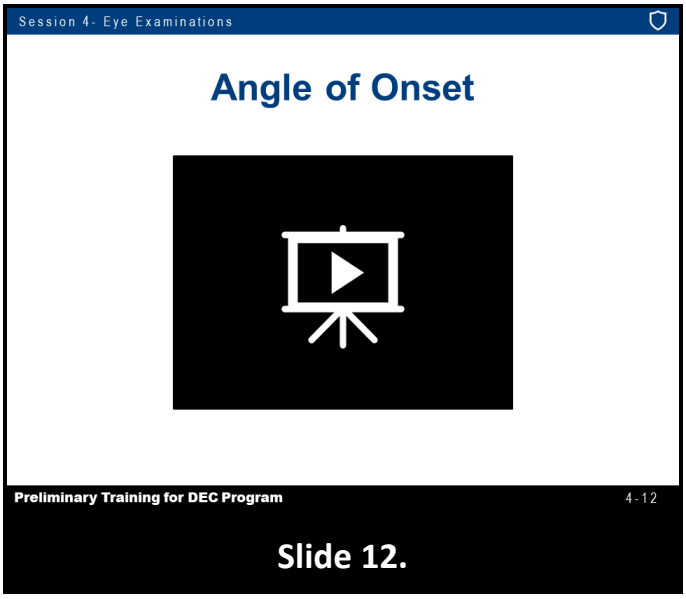
The consistency of onset angle and blood alcohol concentration (BAC) can be compared using the following formula:

- Explanation: BAC = 100 x blood alcohol (e.g., if blood alcohol is 0.10, BAC = 10)
- Example: If onset angle is 35 degrees, then BAC = 50 - 35 = 15
- The corresponding BAC would be approximately 0.15

Keep in mind this formula is only a statistical approximation. It is not an exact relationship for all subjects at all times.

By comparing the subject's BAC with the angle of onset of HGN, it may be possible to determine alcohol is or is not the sole cause of the observed nystagmus. If the Angle of Onset is significantly inconsistent with BAC, the implication may be the subject has also taken a CNS Depressant other than alcohol, Dissociative Anesthetic, an Inhalant, or the subject may have a medical condition.

A DRE is expected to be able to estimate the Angle of Onset of Nystagmus to the nearest 5-degree increment over the range from 30 to 45 degrees. If the subject's eyes begin to jerk before they have moved to the 30-degree mark, you will not attempt to estimate the angle precisely, but will record they exhibit "immediate onset." From 30 degrees and beyond you will record a numeric estimate of onset.



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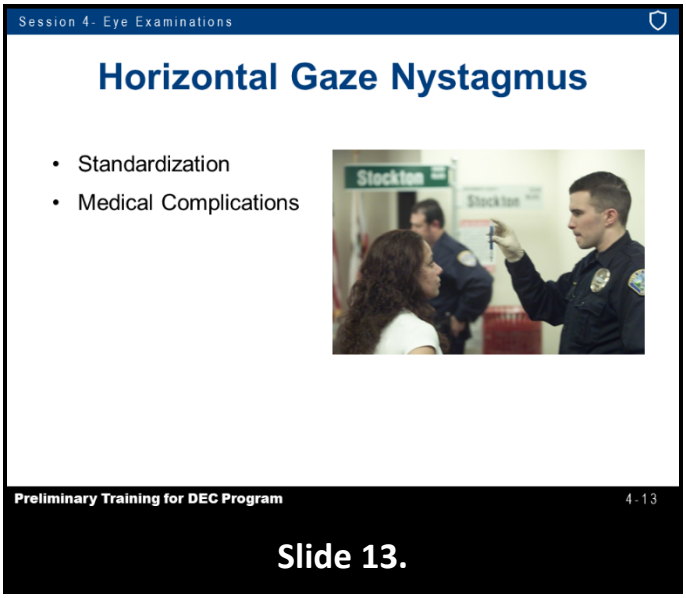
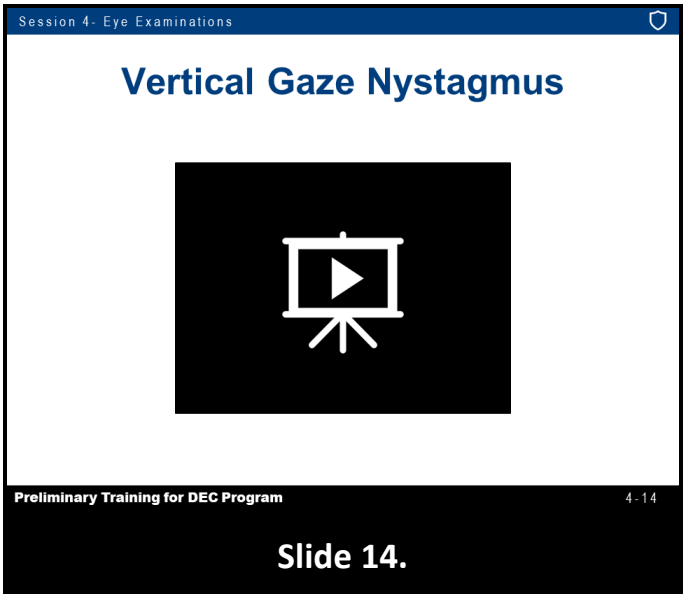


Slide 13.

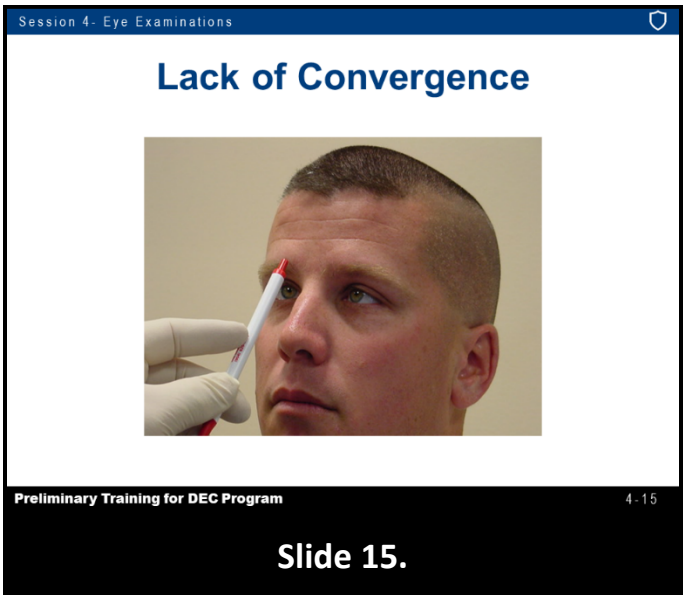
Be alert for Medical Complications such as stroke, brain tumor, or other injury to the brain. These kinds of injuries often will cause the two eyes to behave quite differently from one another.



Slide 14.

- Position the stimulus horizontally, approximately 12 to 15 inches in front of the subject's nose
- Point out to the subject he or she will have to keep their head steady and try to keep their eyes focused on the stimulus as it moves upward
- Raise the stimulus until the subject's eyes are elevated as far as possible
- Watch closely for evidence of up-and-down jerking

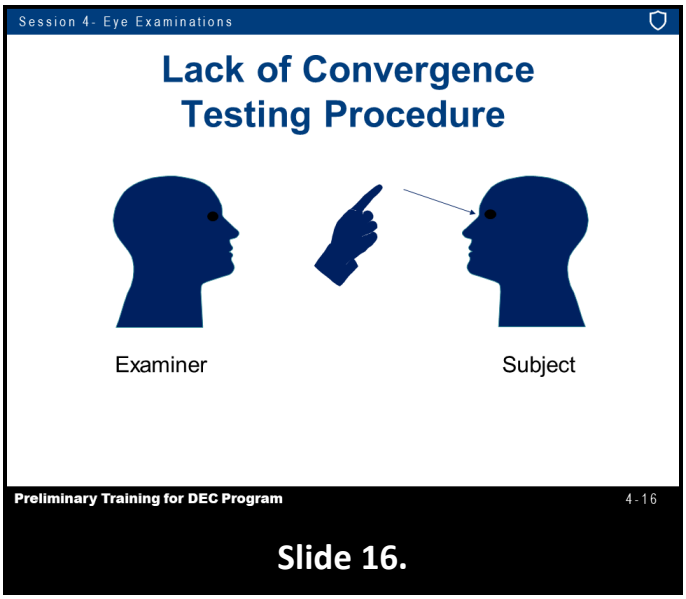
If VGN is observed, the implication may be the subject took Dissociative Anesthetics, fairly large doses of Depressants, or Inhalants (for that individual).



Slide 15.

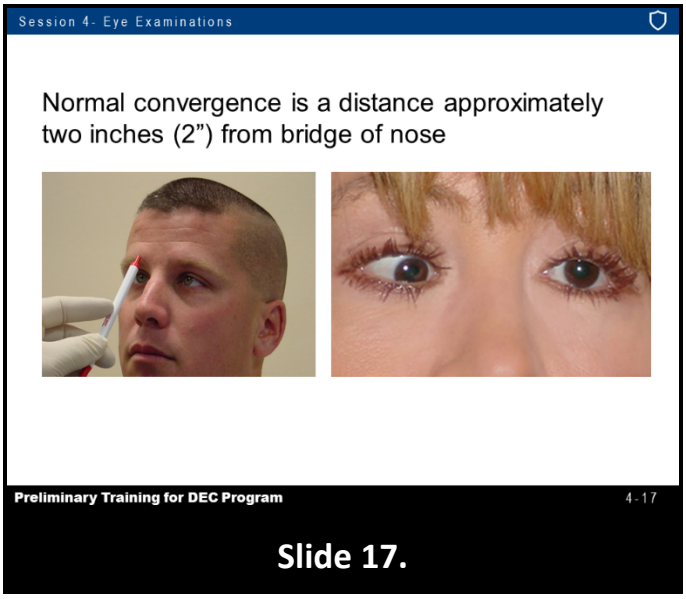
The test for LOC determines whether the subject is able to cross his or her eyes. The check for LOC can provide another clue as to the possible presence of Depressants, Inhalants, or Dissociative Anesthetics. LOC is also an indicator of the possible presence of Cannabis.

Any deficiency in eye movement or pupil response, especially if it is acquired or of recent onset, can impair a person's ability to see properly. Drug impairment, including from alcohol, may result in lack of convergence causing double vision (diplopia) when looking at objects up close or when frequently or repeatedly changing viewing distance between far and near (such as when looking back and forth from the road to the car's dashboard).



Slide 16.

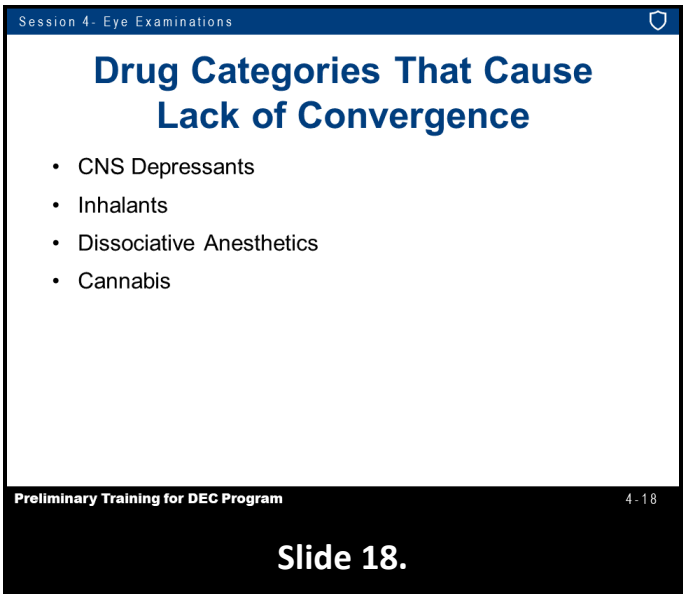
- Position the stimulus approximately 12 to 15 inches in front of the subject's nose in the same position we use for the HGN test
- Inform the subject you are going to move the stimulus around in a circle in front of his or her face and to follow the stimulus with his or her eyes only
- Start to move the object slowly in a circle
- Verify the subject is tracking the stimulus
- Stop moving in a circular manner with the stimulus above eye level
- Slowly move the stimulus down to within approximately two inches of the bridge of the nose
- Hold this position for approximately (1) second and observe the subject's eyes to determine whether both eyes converge on the stimulus
- It is recommended the DRE repeat the check for LOC (i.e., conduct the check at least two times) to confirm the finding. If the results differ, then a third check is permissible to confirm the observations. No delay between checks is required.



Slide 17.

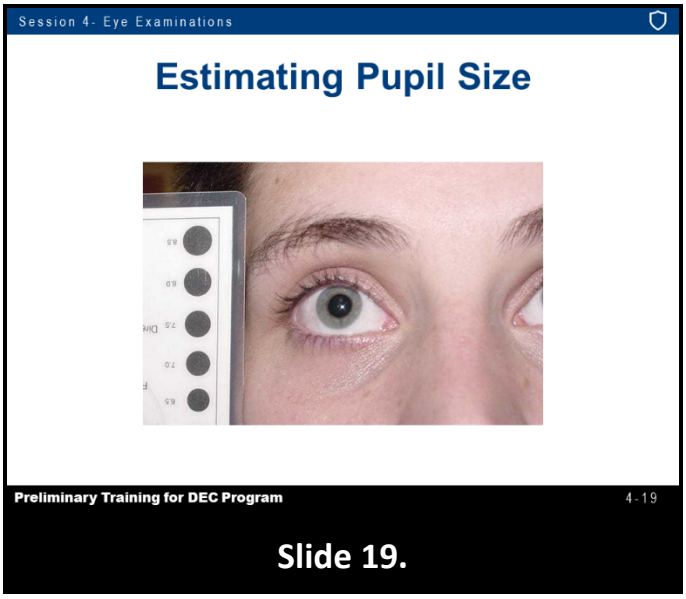
If the eyes converge (cross) when the stimulus is approximately two inches from the bridge of the nose, then LOC is "not present". LOC is present if the subject's eyes do not come together and cross as they track and stay aligned on the stimulus. In a non-impaired subject, the eyes should come together (converge) and remain converged for one second.

If the eyes do not converge or remain converged on the stimulus for one second, then LOC is present.



Slide 18.

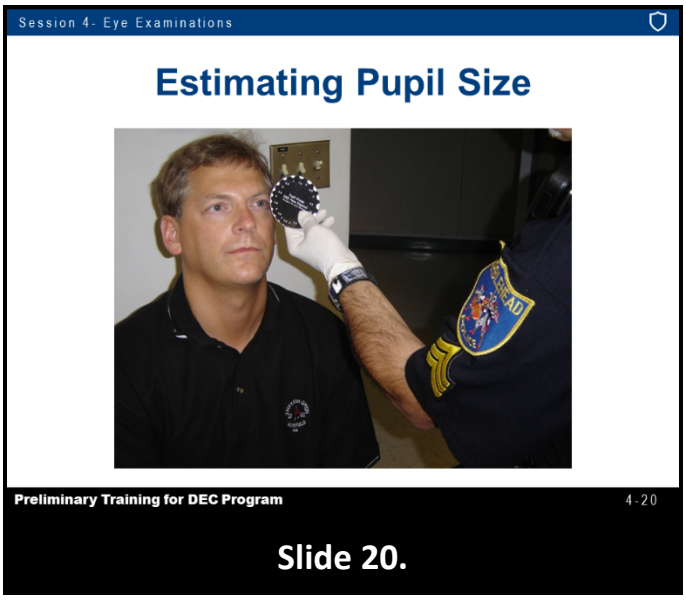
Drug categories which usually cause LOC include CNS Depressants, Inhalants, Dissociative Anesthetics, and Cannabis.



Slide 19.

We use a device called a pupillometer to estimate the size of the subject's pupil. The DRE pupillometer has a series of circles or semi-circles with diameters usually ranging from 1.0 mm to 10.0 mm in half millimeter increments.

The pupillometer is held alongside the subject's eye and moved up and down until the circle or semi-circle closest in size to the pupil is located. The pupil size estimations are recorded as the numeric value that corresponds to the diameter of the circle or semi-circle closest in size to the subject's pupil in each lighting condition.



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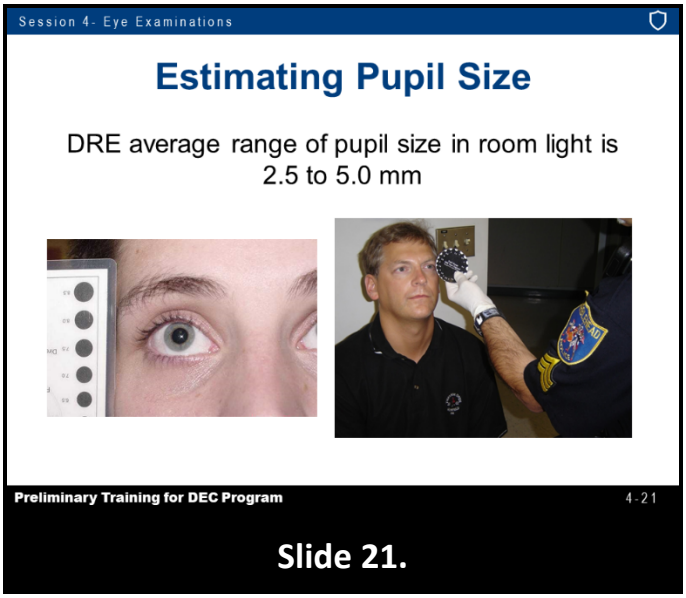
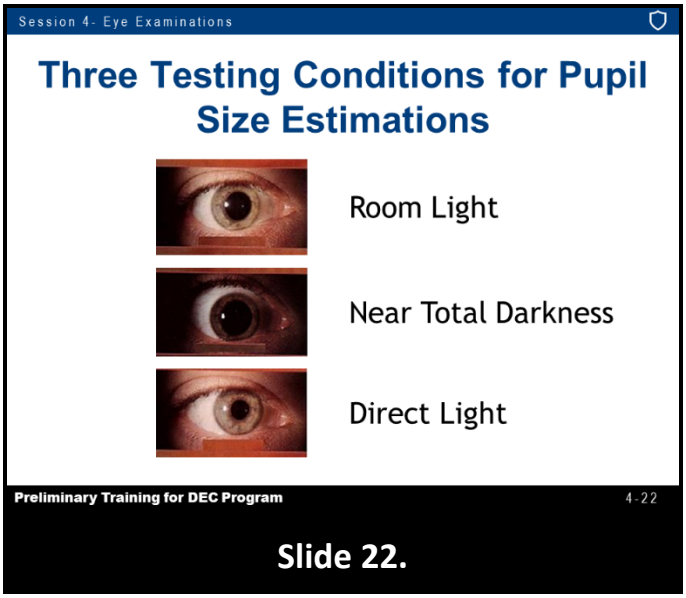


Slide 21.

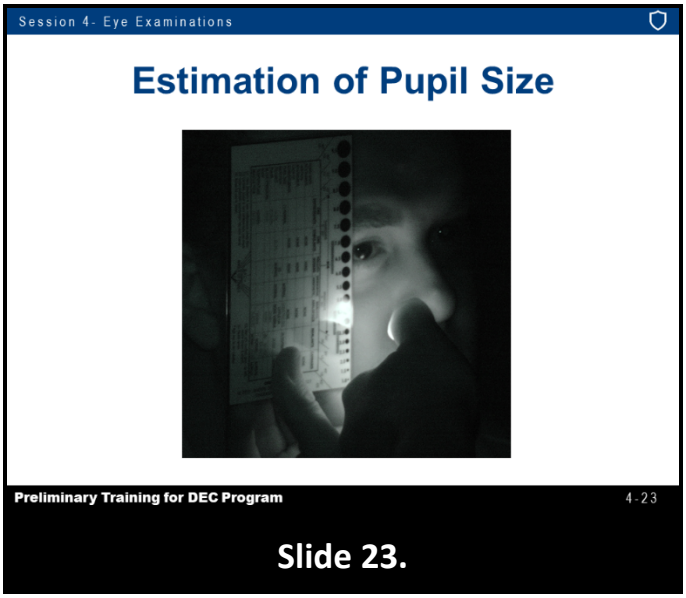
8.5 or larger
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5 or smaller



Slide 22.

We estimate pupil size under three (3) different lighting conditions: Room Light, Near Total Darkness, and Direct Light. Different testing conditions create different demands on the autonomic nervous system, including the pupil. Examining the pupils in three different lighting conditions is similar to examining other clinical indicators, i.e., pulse or blood pressure in different conditions.

In the Drug Evaluation and Classification (DEC) Program and DRE training we use the terms "Normal," "Average," "Average Ranges," or "DRE Average Range". "Normal" means a range of values which represents the "middle" or "typical" value the majority of non-impaired people would be expected to exhibit or have in a specific test.

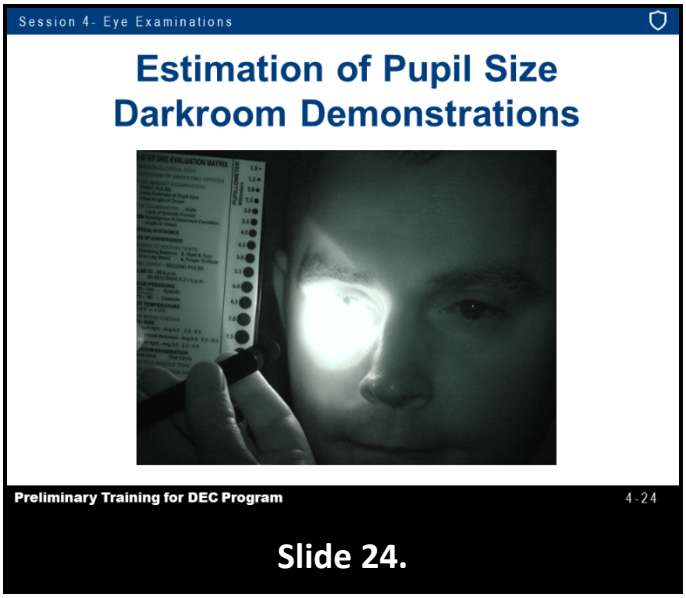


Slide 23.

In the Estimation of Pupil Size under Room Light, pupils are examined in Room Light prior to darkening the room.

In the Estimation of Pupil Size under Near Total Darkness and Direct Light, the final two pupil size estimations are made with the use of a penlight in a near totally darkened room. Prior to estimating the pupil sizes, we darken the room and wait approximately 90 seconds to allow both the subject's eyes and our own to adapt to the dark.

For the estimation under Near Total Darkness, completely cover the tip of the penlight with your finger or thumb so only a slight glow is exhibited and no white light emerges. Bring the glowing tip up toward the subject's left eye until you can distinguish the pupil from the colored portion of the eye (iris). Position the pupillometer alongside the pupil (left eye first) and locate the circle or semi-circle closest in size to the pupil. Repeat the procedure for the subject's right eye.

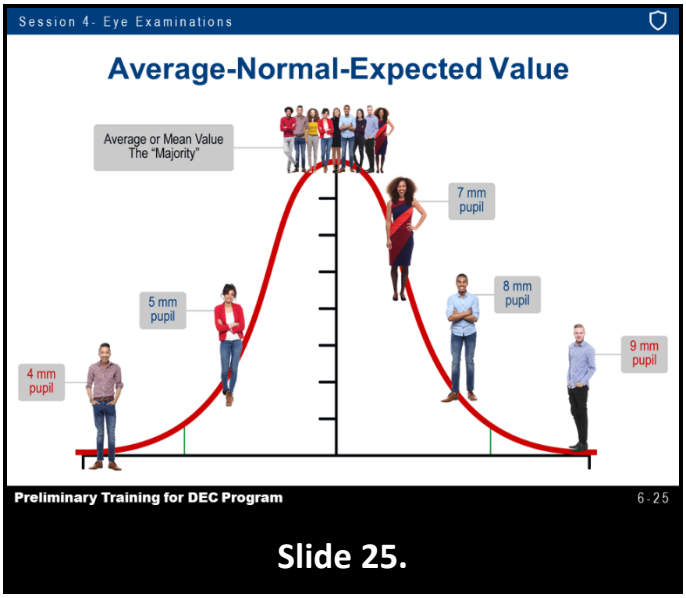


Slide 24.

For the estimation under Direct Light, from a darkened environment, quickly illuminate the left eye and hold it there for a minimum of 15 seconds. This can be accomplished by activating the penlight pre-positioned in front of the eye, or by activating the penlight with the light covered and positioned in front of the eye. The objective is to capture an accurate assessment of the reaction to light by minimizing the pupil's exposure to light before the penlight can be directed solely into the eye.

The penlight should be positioned so the beam just "fits" or approximately fills the eye socket. Bring the pupillometer up alongside the left eye and find the circle or semi-circle closest in size to the pupil. Repeat the procedure for the right eye.

Average Sizes for the Pupil: Since we estimate pupil size under three different lighting conditions (Room Light, Near Total Darkness, and Direct Light) the range of pupil sizes will vary.



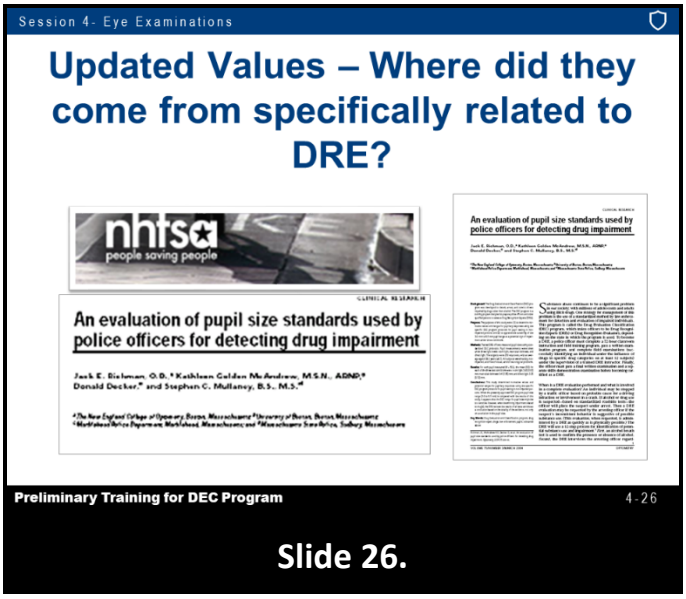
Slide 25.

Basic Concepts Relative to Interpreting Pupil Sizes: It is important to understand a few basic concepts relative to interpreting pupil sizes. Understanding these concepts will allow DREs to better understand the relationship of pupil size to impairment.

Mean values and average ranges: scientifically validated studies were conducted to determine normative values for pupil size in non-impaired persons. These studies show what one would expect a person to exhibit when their pupil sizes are checked under different lighting conditions. Sometimes average means "in the middle" or sum of all numbers divided by the number in a particular group. What we use for interpretation purposes are "average ranges" of pupil sizes.

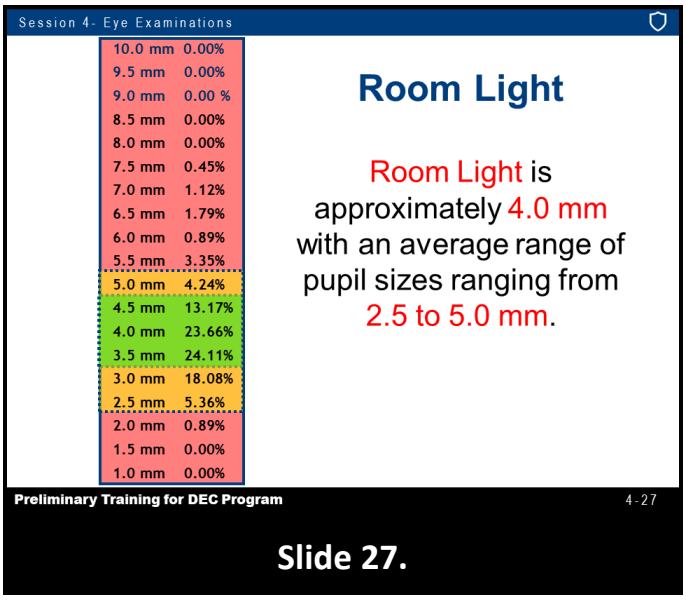
As a DRE, you will be making your decision of impairment based on clinical, psychophysical, and behavioral indicators. This includes using pupil sizes as one of the factors in determining that impairment.

With many people, even under very bright light, the pupils won't constrict much below a diameter of 2.0 mm and, even under near total dark conditions, the pupils usually only dilate to a diameter of not more than 8.5 mm.



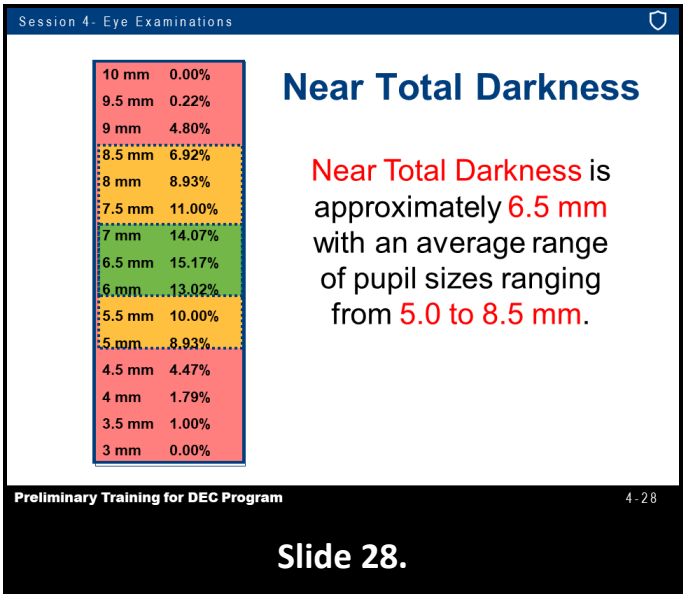
Slide 26.

Studies have indicated there are significant differences between the average pupil size in these three conditions. Consequently, the use of three distinct pupil sizes range for each of the different testing conditions may be more useful to determine impairment versus non-impairment.



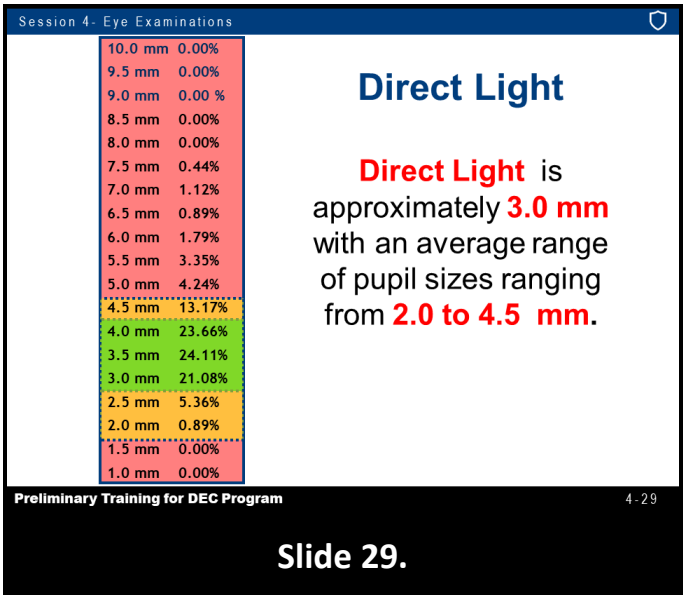
Slide 27.

Room Light is approximately 4.0 mm with an average range of pupil sizes of 2.5 to 5.0 mm. 88% of non-impaired subjects fall within the range of 2.5 to 5.0 mm. In fact, 61% of non-impaired subjects fall within 3.5 to 4.5 mm.



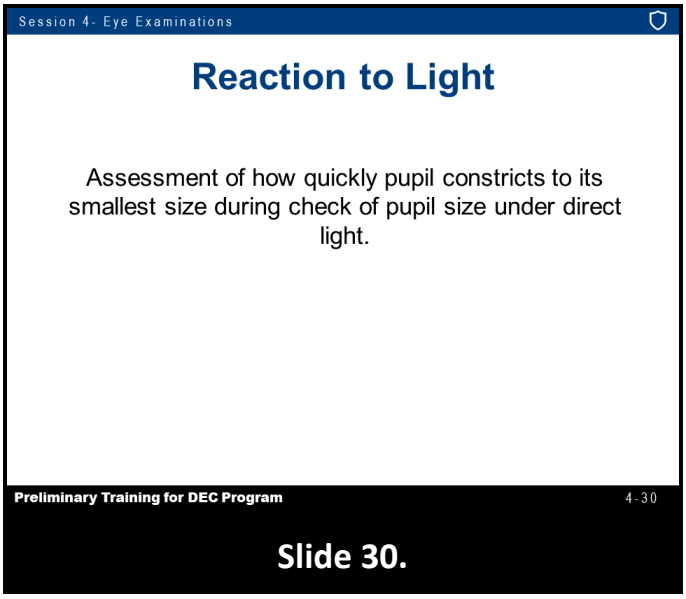
Slide 28.

Near Total Darkness is approximately 6.5 mm with an average range of pupil sizes of 5.0 to 8.5 mm. About 88% of non-impaired subjects fall within the range of 5.0 to 8.5 mm. In fact, 53% of non-impaired subjects fall within 6.0 to 7.5 mm.



Slide 29.

Direct Light is approximately 3.0 mm with an average range of pupil sizes of 2.0 to 4.5 mm. 88% of non-impaired subjects fall within the range of 2.0 to 4.5 mm. In fact, almost 69% of non-impaired subjects fall within 3.0 to 4.0 mm. Many drugs, however, will affect the dilation or constriction of the pupils and many cause the pupil size to go outside these ranges.



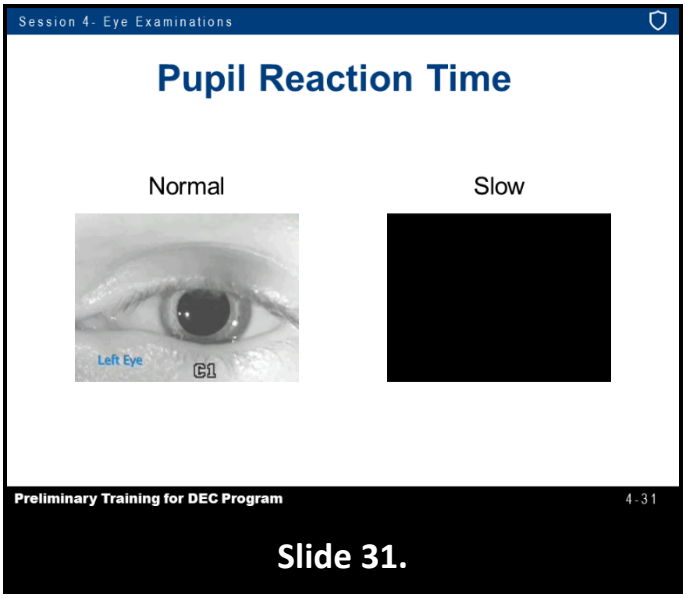
Slide 30.

Assessment of how quickly the pupil constricts to its smallest size during the check of pupil size under direct light when the uncovered light is brought from the side of the subject's face and the light beam is moved directly into the subject's eye.

As you bring the beam of light directly into the subject's eye, note how the pupil reacts.

Under ordinary conditions, the pupil should react very quickly and constrict noticeably when the light beam strikes the eye. Under the influence of certain categories of drugs, the pupil's reaction may be slow or there may be no visible reaction at all. For DRE purposes, we consider the pupil's reaction to be slow if it takes more than one second to reach its smallest size.

Hold the direct light on the subject's eye for a minimum of 15 seconds to assess pupil reaction. Caution should be used by the officer so as not to move the light beam or allow the bulb to change in light intensity. When you have completed this process for the left eye, repeat it for the right eye.



Slide 31.

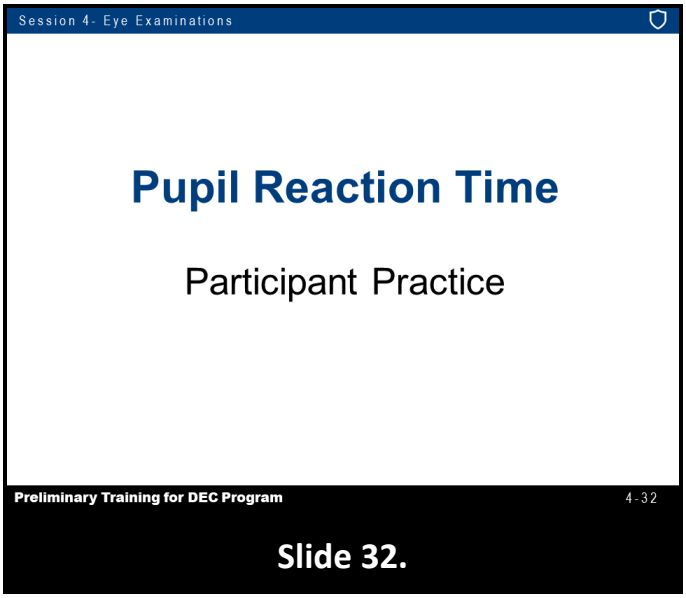
The check of the pupil's Reaction to Light takes place at the same time as the test of pupil size under Direct Light.

Observe the subject's pupil size as the penlight is aimed directly at the subject's eye.

As you bring the beam of light directly into the subject's eye, note how the pupil reacts.

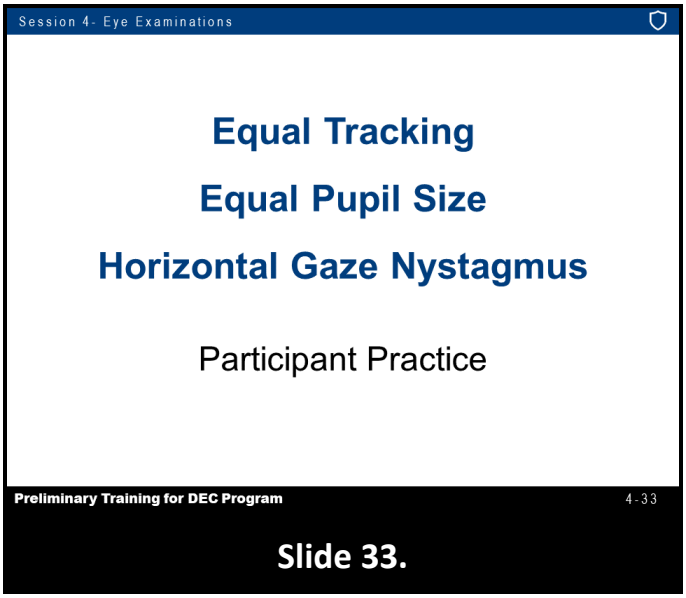
Under ordinary conditions, the pupil should react very quickly and constrict noticeably when the light beam strikes the eye. For DRE purposes, we consider the pupil's reaction to be slow if it takes more than one second to reach its smallest size.

Under the influence of certain categories of drugs, the pupil's reaction may be very sluggish or there may be no visible constriction at all.



Slide 32.

C. Demonstrations



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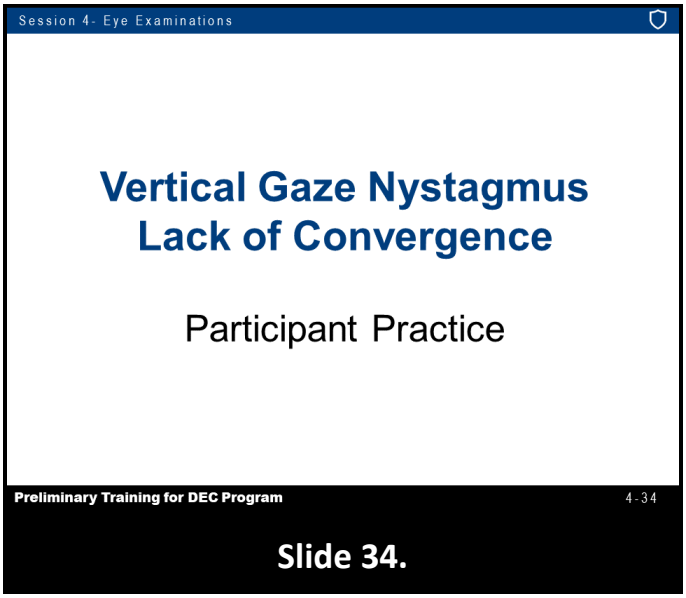
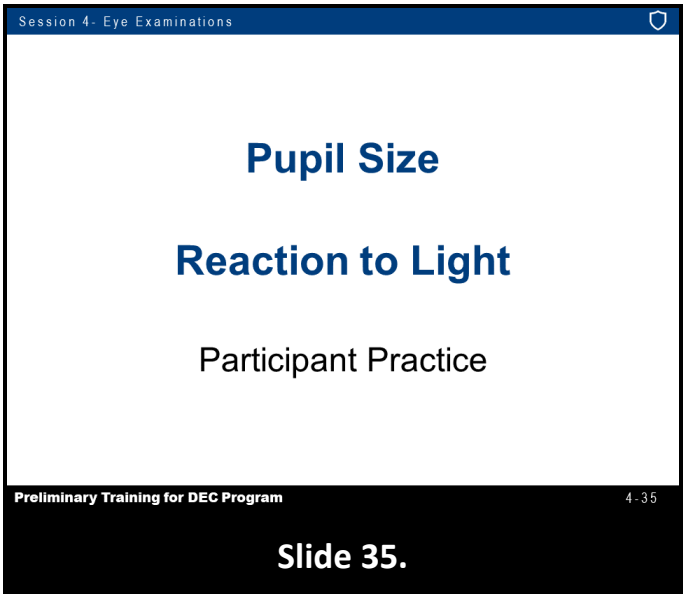


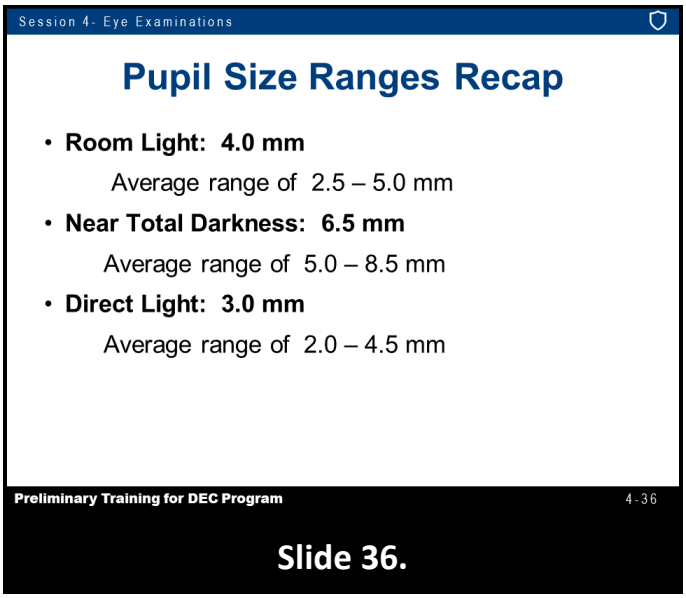
Slide 34.



Slide 35.

The checks of Pupil Size, Equal Tracking, and Reaction to Light provide useful indicators of the possible presence of many drug categories.

CNS Depressants, CNS Stimulants, and Inhalants will usually cause the pupils to react slowly to light. CNS Stimulants, Hallucinogens, and Cannabis usually will cause the pupils to dilate. Narcotic Analgesics will usually cause the pupils to constrict with little or no visible reaction to light.

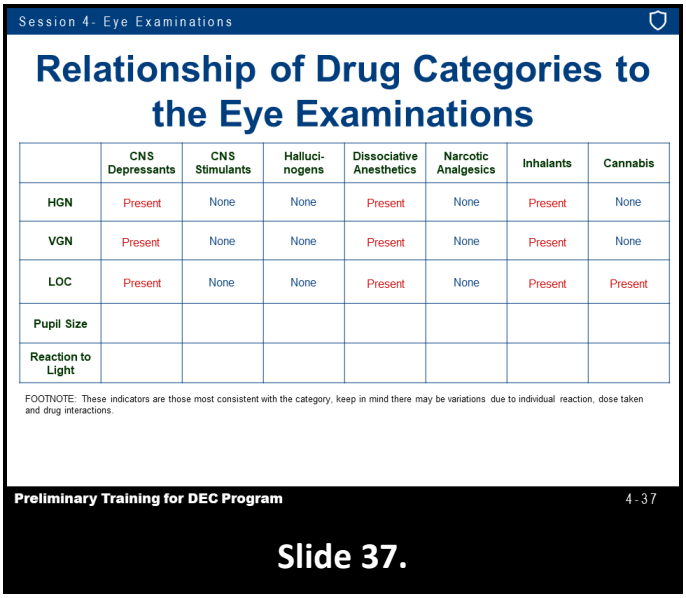


Slide 36.

To review, the DRE pupil size ranges for the majority of non-impaired people generally are:

- Room Light: 4.0 mm with an average range of 2.5 – 5.0 mm
- Near Total Darkness: 6.5 mm with an average range of 5.0 – 8.5 mm
- Direct Light: 3.0 mm with an average range of 2.0 – 4.5 mm

D. Relationship of Drug Categories to the Eye Examinations

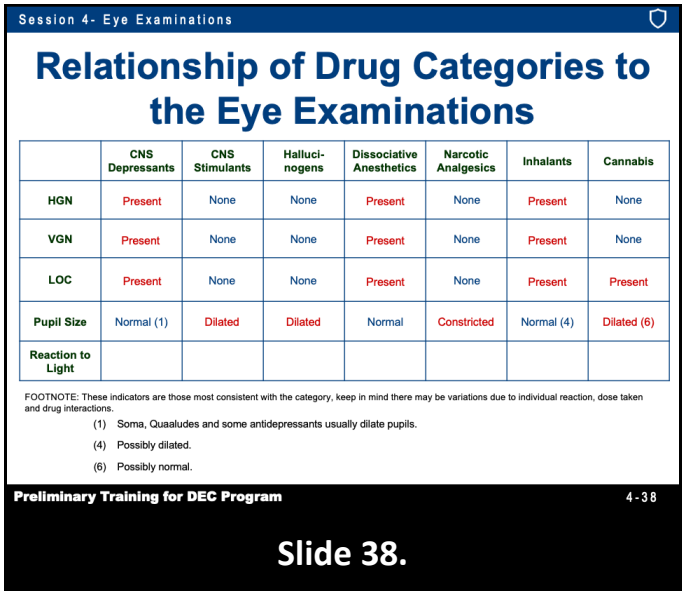


Slide 37.

Three of the seven drug categories normally will cause HGN.

CNS Depressants, Inhalants, and Dissociative Anesthetics normally will cause HGN. The other four categories normally will not cause HGN. Any drug that will cause HGN also will cause VGN if a high enough dose of the drug is taken. Depressants, Inhalants, and Dissociative Anesthetics can all cause VGN at higher doses for that individual. But if a drug will not cause HGN, then it will not cause VGN. All drugs that cause nystagmus also will cause the eyes to be unable to converge. Therefore, Depressants, Inhalants, and Dissociative Anesthetics, including PCP and its analogs usually will cause LOC. Interestingly, there is one category of drug that does not cause nystagmus but usually does cause LOC.

Cannabis usually does cause LOC, even though it does not cause nystagmus. The other three categories do not cause a LOC.



	CNS Depressants	CNS Stimulants	Halluci-nogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (1)	Dilated	Dilated	Normal	Constricted	Normal (4)	Dilated (6)
Reaction to Light							

FOOTNOTE: These indicators are those most consistent with the category, keep in mind there may be variations due to individual reaction, dose taken and drug interactions.

(1) Soma, Quaaludes and some antidepressants usually dilate pupils.

(4) Possibly dilated.

(6) Possibly normal.

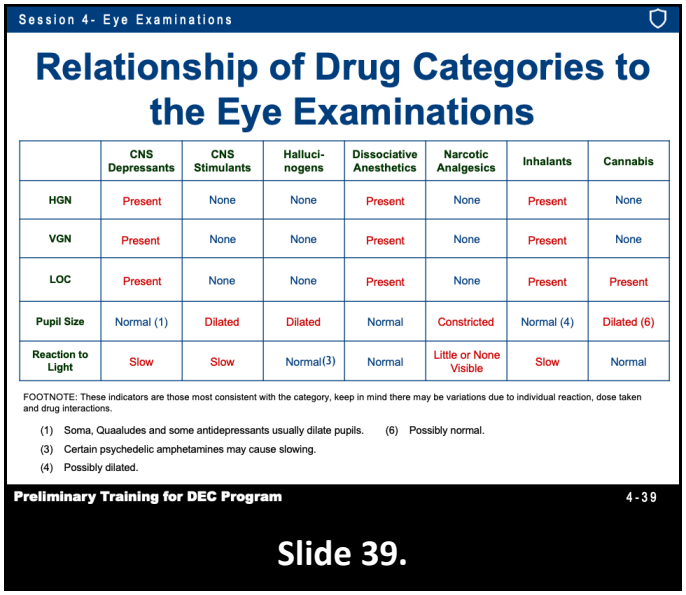
Slide 38.

An interesting and important fact is the drugs that cause nystagmus usually don't affect pupil size and the drugs that don't cause nystagmus usually do affect pupil size. CNS Stimulants and Hallucinogens usually cause the pupils to become larger or "dilated." Cannabis may cause the pupils to dilate.

Narcotic Analgesics usually cause the pupils to become smaller or "constricted." Dissociative Anesthetics and most Inhalants tend to leave pupil size in the average ranges.

CNS Depressants also usually leave the pupils near the average range. However, there are some exceptions, i.e., Depressant drugs that usually dilate the pupils.

Soma, Quaaludes, and some antidepressants usually dilate pupils.

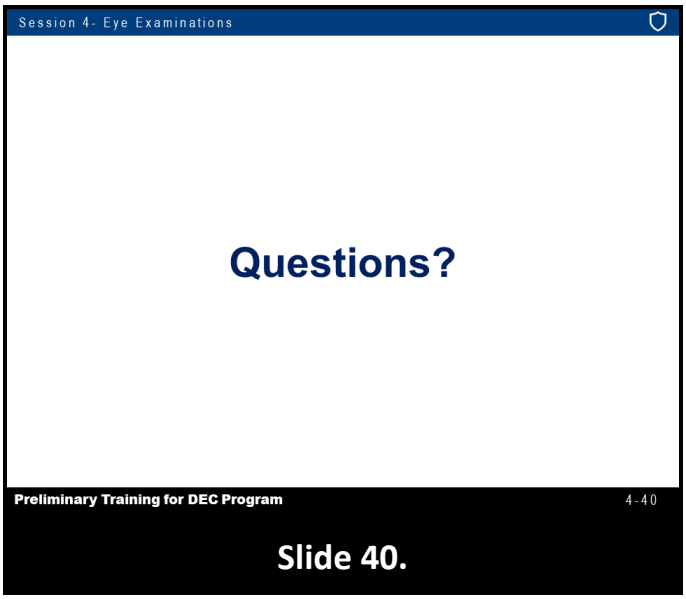


Slide 39.

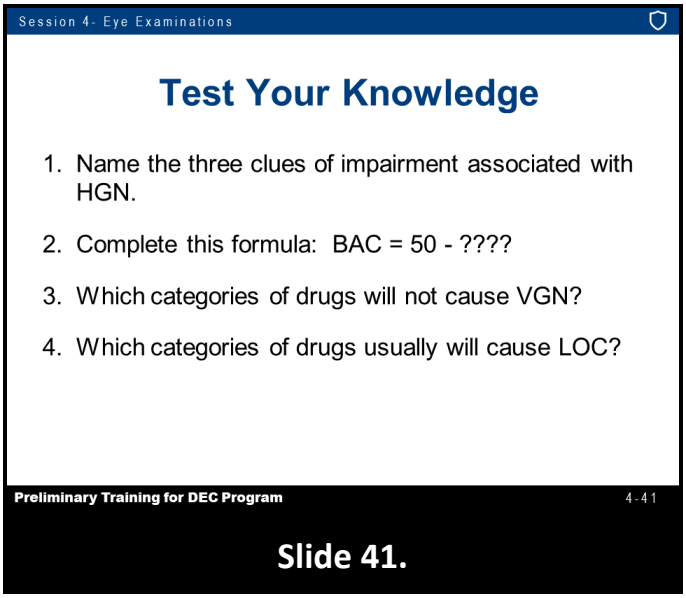
Generally, the pupillary reaction to light is either slowed by the effect of the drug or the pupil reacts normally. This effect may be difficult to observe with Narcotic Analgesics. Though there is always some reaction to light, the constricted pupil caused by Narcotic Analgesics makes it difficult to perceive a change in the pupil size.

CNS Depressants and CNS Stimulants usually cause a slowed Reaction to Light. With Hallucinogens, Dissociative Anesthetics, and Cannabis the pupillary Reaction to Light is usually normal.

Inhalants will usually slow pupillary reaction.



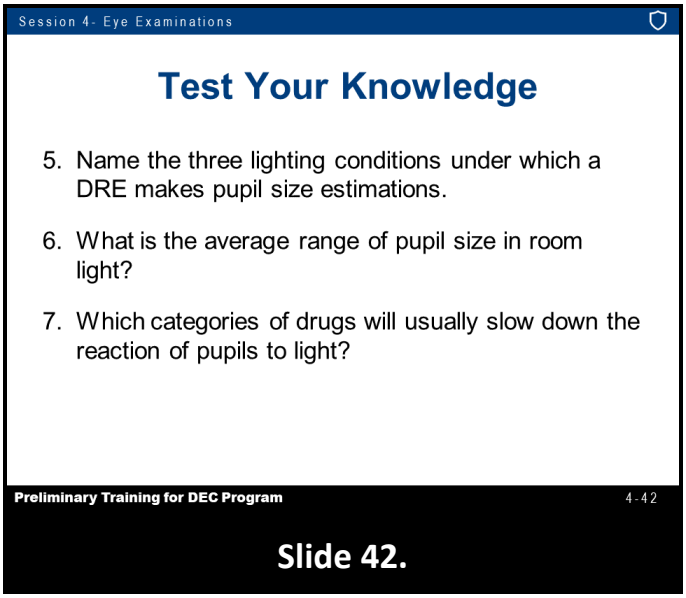
Slide 40.



Slide 41.

Test Your Knowledge

1. Name the three clues of impairment associated with HGN.
2. Complete this formula: BAC = 50 - ????
3. Which categories of drugs will not cause VGN?
4. Which categories of drugs usually will cause LOC?



5. Name the three lighting conditions under which a DRE makes pupil size estimations.
6. What is the average range of pupil size for room light?
7. Which categories of drugs will usually slow down the reaction of the pupils to light?

Understanding the Terms "Normal" vs. "Average"
in the DRE Opinion and Decision-Making Process

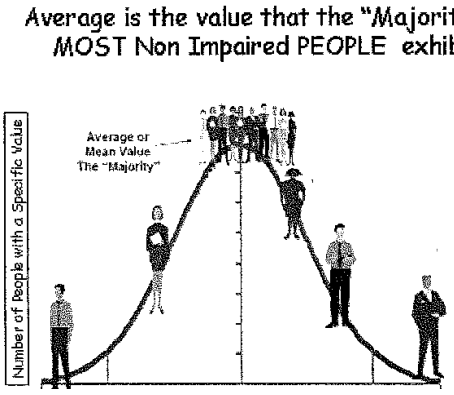
Dr. Jack E. Rickman, O.D., New England College of Optometry (Retired), Don Decker, Massachusetts DRE State Coordinator, Charles Hayes, International Association of Chiefs of Police – DRE Regional Operations Coordinator.

The Drug Evaluation and Classification (DEC) training program and the Drug Recognition Expert (DRE) examination process utilizes a standardized and systematic process assessing a variety of physical indicators to identify drug-impaired drivers. ("Drug Evaluation and Classification Program 7-Day School Training manual, 2013"). These indicators are also referred to as signs and symptoms and are based on accepted information within the medical and health care community ("Drug Effects on Psychomotor Performance" Randall C Baselt, Ph.D., Biomedical Publications).

During a DRE drug influence evaluation, the DRE uses controlled and standardized methods to assess a person's pulse, blood pressure, body temperature, pupil size, reaction to light and psychomotor functions. The DRE also evaluates the suspect's visual tracking, smooth pursuit and Horizontal and Vertical Gaze Nystagmus (HGN and VGN).

A DRE is trained to reach a conclusion (opinion) of the person's condition based on the interpretation of all these signs and indicators as well as the facts of the situation in its entirety. An opinion is not based simply on one or two elements of the evaluation, but on the totality of the information gained during the investigation.

Many of the DRE evaluation results involve the concept of "normal" or average values or average ranges therefore it is important that the DRE understand the concept of physical indicators of impairment and how they relate to their opinion making process.
Average values or ranges are based on the values for the majority of healthy non-impaired people. Average within the DRE process is the number that represents the value that the majority of non-impaired people would exhibit or have in a specific test. (Refer to graph below)



For example, the "average" or "mean value" for pupil size in near total darkness is 6.5 mm. This means that when all the sizes were measured in a large number of pupils in healthy non-impaired adults, the majority of the people had a pupil size approximately 6.5 mm. ("An

Evaluation of the Pupil Size Standards Used By Police Officers for Detecting Drug Impairment" by Richman, McAndrew, Decker, and Mullaney, *Optometry, March 2004*)

In scientific and clinical information, the terms "mean", "average" or "average range" are commonly used. Average range typically means a range of values or results that are "close to" average, but can be plus (above) or minus (below) from the "average" value for the majority of healthy non-impaired people.

Average then is a quantity that represents the middle or typical value that the majority of healthy non-impaired people would exhibit in a specific test, i.e., pupil size, pulse rate, body temperatures. The average or mean value is the total of a group of numbers divided by the total number of values in the group typically using a standard deviation. For example, a group of non-impaired males and females would be given a specific test, e.g., pupil size estimation in near total darkness, and the results were determined for the averages in order to create the reference range for that group. Though the average pupil size was approximately 6.5 mm, the average range for the majority of non-impaired subjects was 5 mm to 8.5 mm. (Richman, et al).

In the DEC Program, the use of the terms "normal", "average", "average ranges" or "DRE average range" are often used interchangeably. There are situations where a DRE uses the term "normal" when referring to a non-impaired result for a particular function or test. But since the DRE does not know what "normal" is for the individual being tested, a better and more accurate descriptor would be with the "DRE average ranges" which relate to values for healthy non-impaired persons for that particular function of test. If a DRE deems that a result is "normal" or within the "normal ranges" it does not mean the person is normal from a medical standpoint. A DRE does not make a medical diagnosis which is beyond the scope and purpose of the DRE evaluation.

Summary:
From the DRE perspective the closer the test finding is to the average value for the majority of non-impaired people, the more likely the person is not exhibiting impairment in that particular function or test.

The further from the test finding to the average value for the majority of non-impaired people and the edge of the "average range for the majority of non-impaired people", the more likely the person is exhibiting an effect related to impairment in the particular function or test.
The further the finding outside the average range for the majority of non-impaired people the greater the likelihood that the person is exhibiting impairment in the particular function or test.

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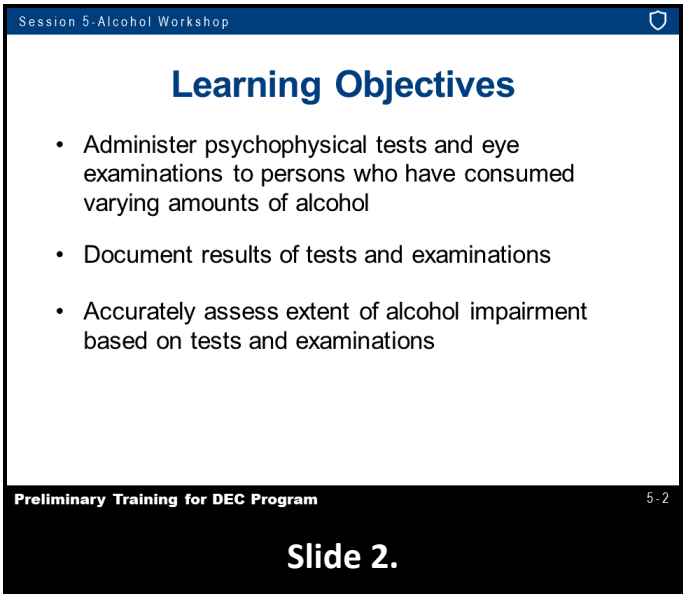
5 PRELIMINARY TRAINING FOR DEC PROGRAM

ALCOHOL WORKSHOP

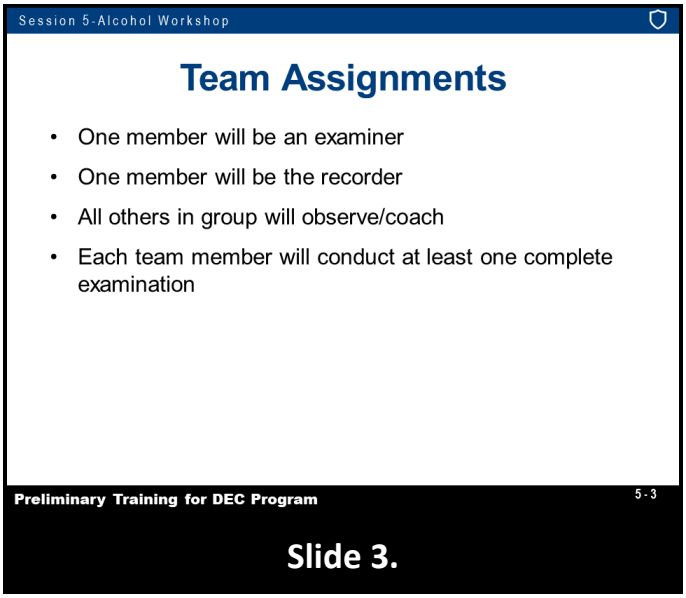
LEARNING OBJECTIVES

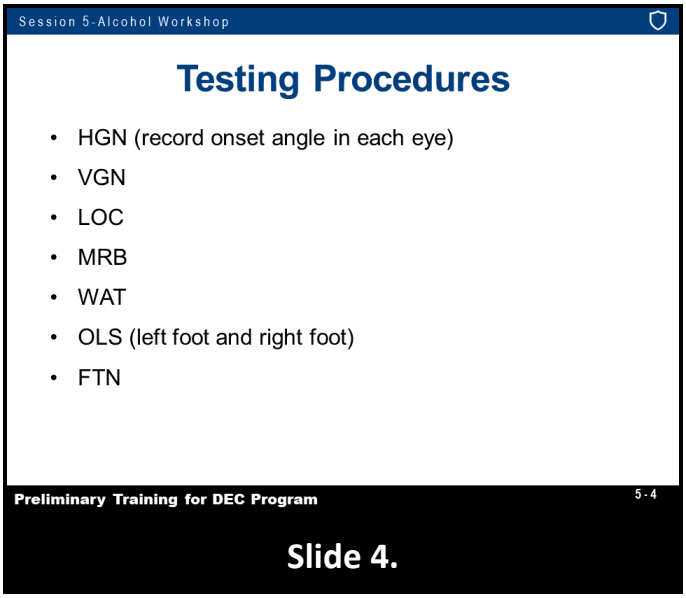
- Administer the psychophysical tests and the eye examinations to persons who have consumed varying amounts of alcohol
- Document the results of these tests and examinations
- Accurately assess the extent of a person's alcohol impairment based on the tests and examinations

CONTENTS



A. Assignments and Procedures





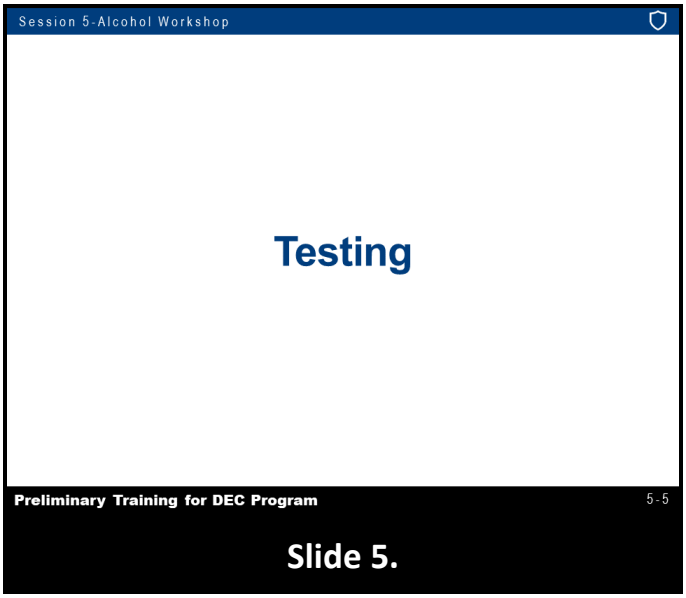
Slide 4.

Each team will conduct the following sequence of tests and examinations on each volunteer:

- Horizontal Gaze Nystagmus (HGN) (record angle of onset in each eye)
- Vertical Gaze Nystagmus (VGN)
- Lack of Convergence (LOC)
- Modified Romberg Balance (MRB)
- Walk and Turn (WAT)
- One Leg Stand (OLS) (standing on left leg)
- OLS (standing on right leg)
- Finger to Nose (FTN)

Upon completing the test and examinations, the team members will record their best estimate as to the volunteer's blood alcohol concentration (BAC).

B. Testing



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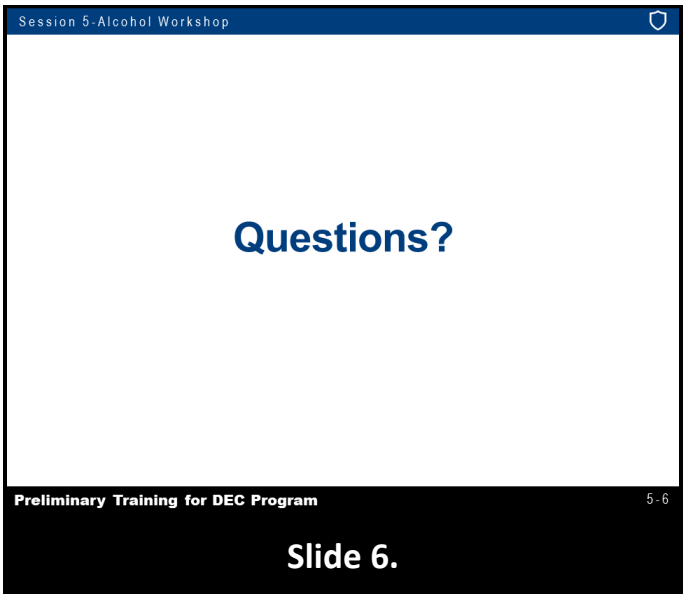
C. Feedback and Discussion

D. Alcohol Workshop SFST Proficiency Checklist



Slide 6.

PARTICIPANT PROFICIENCY EXAMINATION
STANDARDIZED FIELD SOBRIETY TESTs

Name_____ Date_____/_____/_____

Agency_____

I. HORIZONTAL GAZE NYSTAGMUS

1. _____ Have subject remove glasses if worn.
2. _____ Gives proper verbal instructions.
3. _____ Stimulus held in proper position (approximately 12”-15” from nose, just slightly above eye level).
4. _____ Check for equal pupil size and resting nystagmus.
5. _____ Check for equal tracking.
6. _____ Smooth movement from center of nose to maximum deviation in approximately 2 seconds and then back across subject’s face to maximum deviation in right eye, then back to center.
   Check left eye, then right eye. (Repeat).
7. _____ Eye held at maximum deviation for a minimum of 4 seconds (no white showing). Check left eye, then right eye. (Repeat)
8. _____ Eye moved slowly (approximately 4 seconds) from center to 45° angle. Check left eye, then right eye. (Repeat)
9. _____ Total the clues.
10. _____ Check for Vertical Gaze Nystagmus. (Repeat)

II. WALK AND TURN

1. _____ Instructions given from a safe position.
2. _____ Tells subject to place feet on a line in heel-to-toe manner (left foot behind right foot) with arms at sides and gives demonstration.
3. _____ Tells subject not to begin test until instructed to do so and asks if subject understands.
4. _____ Tells subject to take nine heel-to-toe steps on the line and demonstrates.
5. _____ Explains and demonstrates turning procedure.
6. _____ Tells subject to return on the line taking nine heel-to-toe steps.
7. _____ Tells subject to count steps out loud.

8. _____ Tells subject to look at feet while walking.
9. _____ Tells subject not to raise arms from sides.
10. _____ Tells subject not to stop walking once they begin.
11. _____ Asks subject if all instructions are understood.

III. ONE LEG STAND

1. _____ Instructions given from a safe position.
2. _____ Tells subject to stand straight, place feet together, and hold arms at sides.
3. _____ Tells subject not to begin test until instructed to do so and asks if subject understands.
4. _____ Tells subject to raise one leg, either leg, approximately 6" from the ground, keeping raised foot parallel to the ground and gives demonstration.
5. _____ Tells subject to keep both legs straight and to look at elevated foot.
6. _____ Tells subject to count out loud in the following manner: one thousand one, one thousand two, one thousand three, and so on until told to stop, and gives demonstration.
7. _____ Asks subject if all instructions are understood.
8. _____ Checks actual time subject holds leg up. (Time for 30 seconds.).

Instructor: _____

Note: In order to pass the proficiency examination, the participant must explain and proficiently complete each of the steps listed.

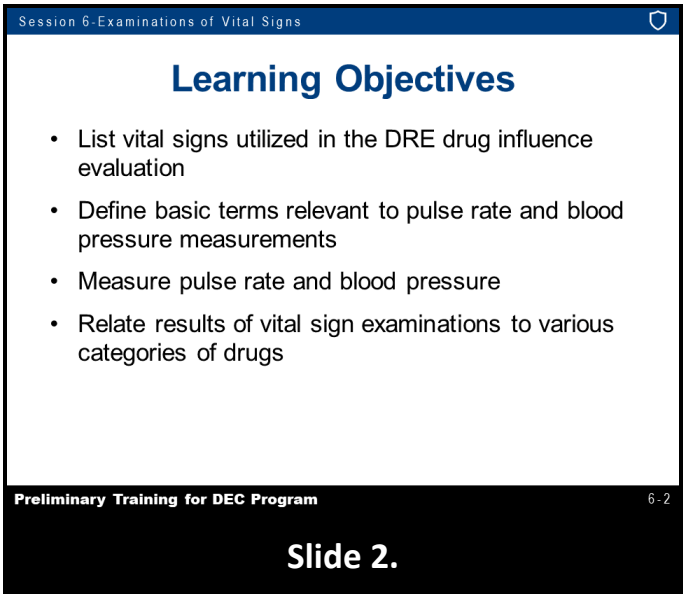
6 PRELIMINARY TRAINING FOR DEC PROGRAM

EXAMINATION OF VITAL SIGNS

LEARNING OBJECTIVES

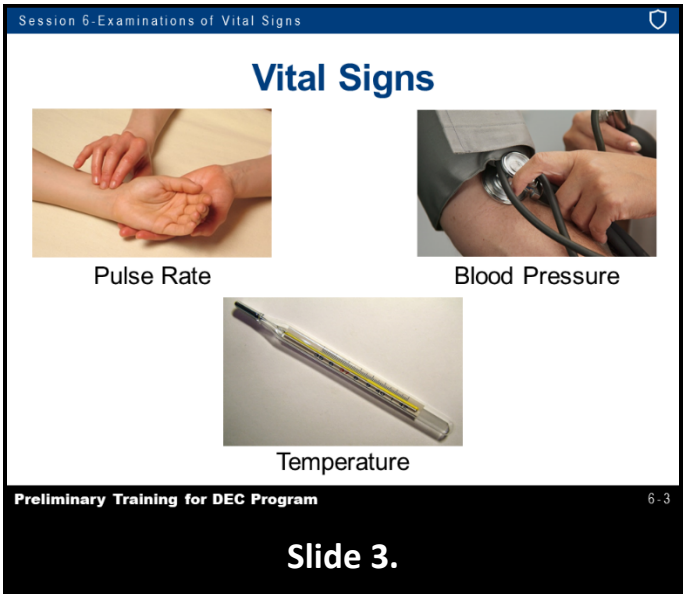
- List the vital signs utilized in the Drug Recognition Expert (DRE) drug influence evaluation
- Define basic terms relevant to pulse rate and blood pressure measurements
- Measure pulse rate
- Measure blood pressure
- Relate the results of vital sign examinations to the various categories of drugs

CONTENTS



Slide 2.

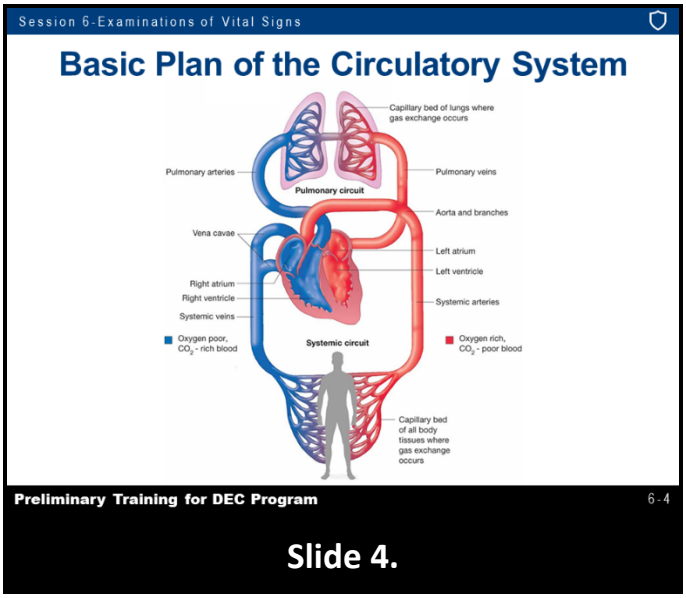
A. Purpose of the Examination



Slide 3.

The vital signs relevant to the drug influence evaluation process include pulse rate, blood pressure, and temperature.

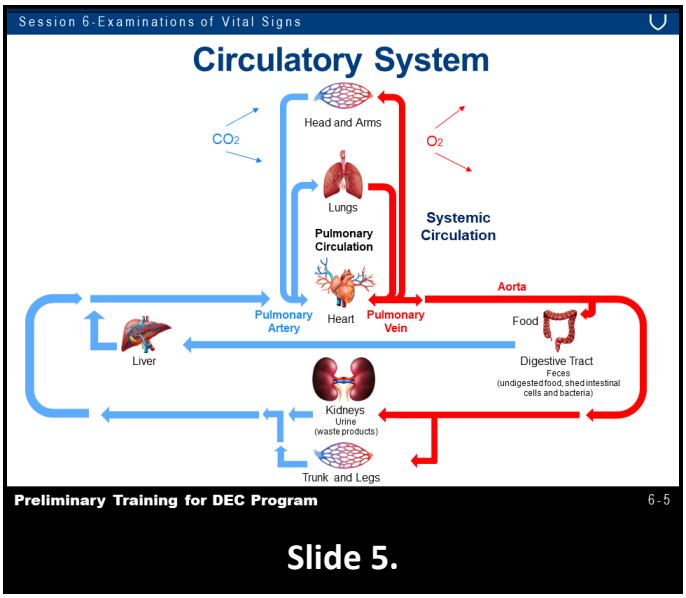
Different types of drugs affect these vital signs in different ways. Certain drugs tend to "speed up" the body and elevate these vital signs. For clarification, pulse may quicken, blood pressure may rise, and/or temperature may rise. Other drugs tend to "slow down" the body and lower these vital signs. For clarification, pulse may slow, blood pressure may drop, and/or temperature may fall. Systematic examination of the vital signs gives us much useful information concerning the possible presence or absence of various categories of drugs.



Slide 4.

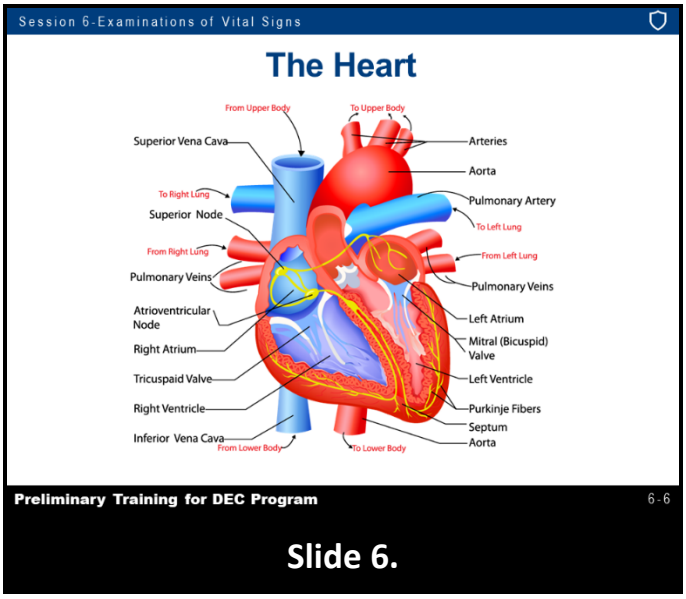
Before we look at the vital signs, we need to look at the circulatory system and how it works. Circulation is a closed system where blood is propelled by contractions of the heart. Blood is driven into arteries, arteries divide into smaller and smaller branches, and finally into meshwork of fine capillaries which pervade body tissues.

Meshwork joins up again to form small veins which become larger trunks as they travel centrally towards the heart.



Slide 5.

There are two separate circulation systems. Systemic system involves the whole body and is driven by the left side of the heart. Pulmonary system deals with the passage of blood through the lungs and is driven by the right side of the heart.



Slide 6.

The heart is the pump and has two sides. The left atrium and ventricle which is the upper chamber (atrium) receives blood from the great veins, the lower chamber discharges blood into the great arteries. The left side pumps blood through the aorta and the arteries to the tissues.

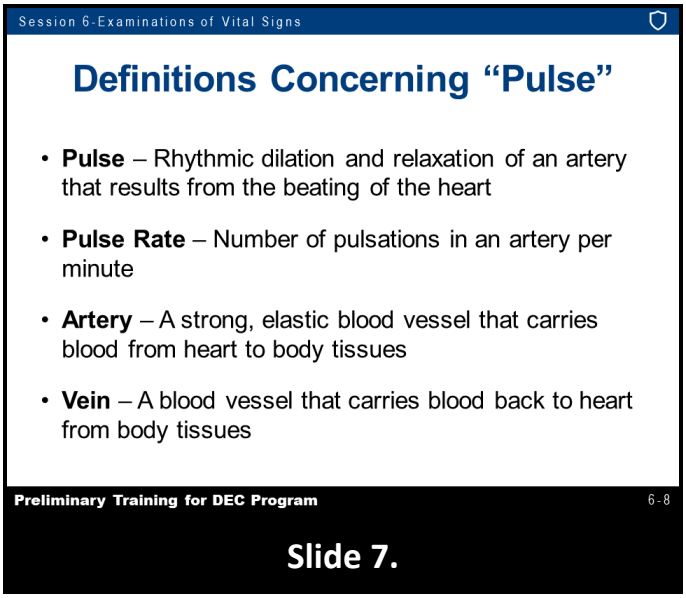
Blood, after passing through the tissues, returns via the veins to the right side. The right side pumps blood through the pulmonary artery to the lungs and returns it to the left side of the heart again via the four pulmonary veins and consists of the right atrium and ventricle.

NOTE: The pulmonary artery is the only artery that carries de-oxygenated blood; all other arteries carry blood that has received fresh oxygen from the lungs. Likewise, the pulmonary vein is the only vein that carries blood rich in oxygen; all other veins carry blood depleted of oxygen back to the heart.

The normal heart continues to beat regularly and continuously with a rest interval never longer than a fraction of a second. Heart rate is the number of beats per minute.

Pulse rate is the number of pulsations per minute**. For DRE purposes, the average range for the pulse rate is 60-90 pulsation beats per minute.**

B. Procedures and Clues



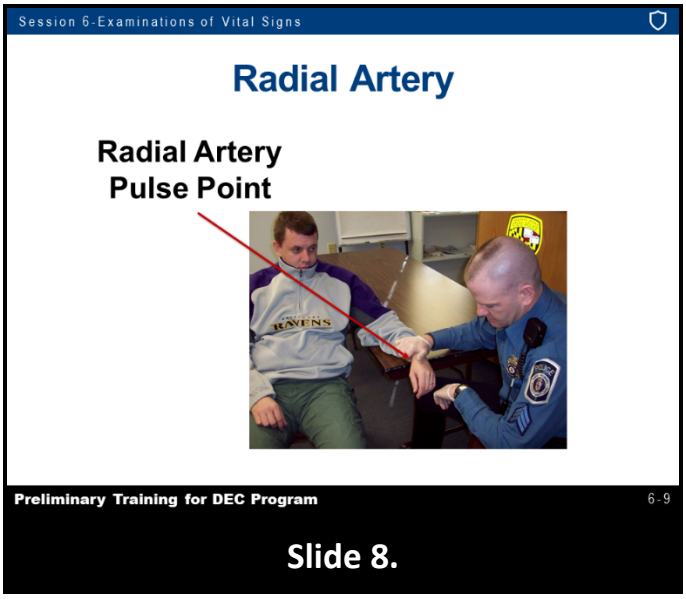
Slide 7.

Measurement of Pulse Rate: Pulse is the rhythmic dilation and relaxation of an artery that results from the beating of the heart. Pulse rate is the number of pulsations in an artery per minute.

An artery is a strong, elastic blood vessel that carries blood away from the heart. A vein is a blood vessel that carries blood back to the heart from the body tissues. When the heart contracts, it squeezes blood out of its chambers into the arteries. The surging blood causes the arteries to expand. By placing your fingers on the skin next to an artery and pressing down, you can feel the artery expand as the blood surges through.

By keeping your fingers on the artery and counting the number of pulses that occur in one minute, you will measure the pulse rate.

Pulse is easy to measure once you locate an artery close to the surface of the skin.



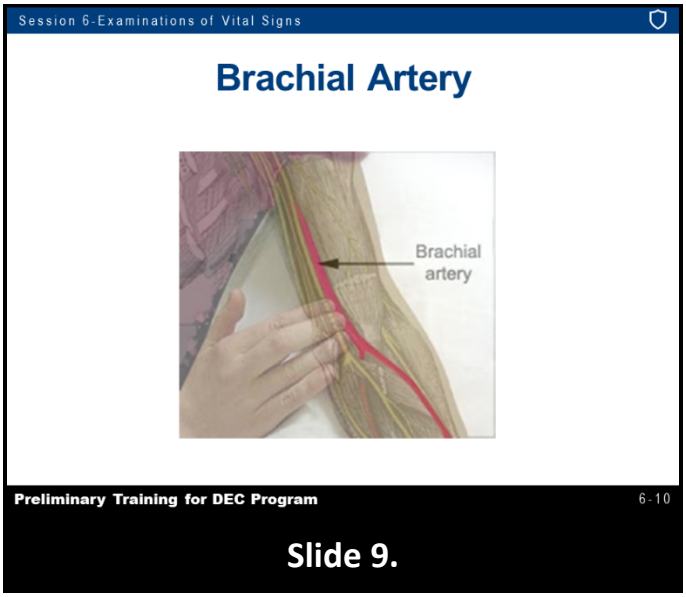
Slide 8.

One convenient pulse point involves the radial artery. The radial artery can be located in or near the natural crease of the wrist, on the side of the wrist next to the thumb. Hold your left hand out, with the palm down.

Place the tips of your right hand's index finger and middle finger into the crease of your left wrist and exert a slight pressure.

Allow your left hand to curl downward or have the subject hold his or her hand in a position that will best permit the DRE to measure the radial pulse point.

You should be able to feel the pulse in your radial artery.



Slide 9.

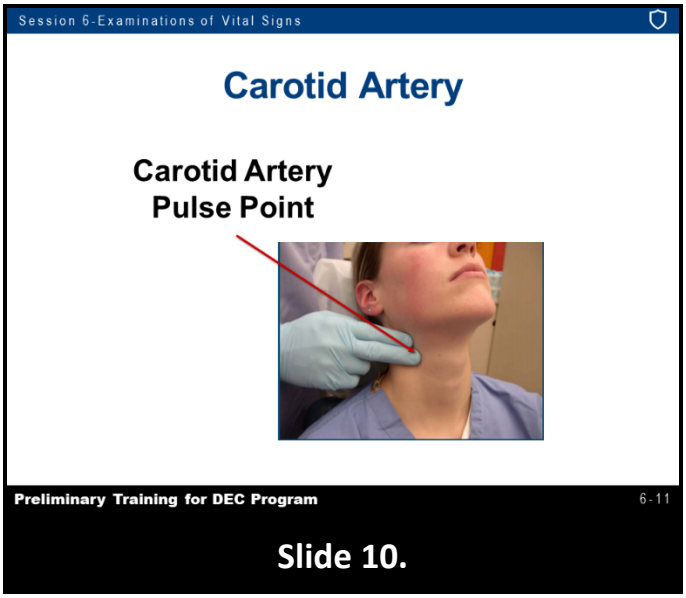
Another pulse point involves the brachial artery.

The brachial artery can be located in the crook of the arm, halfway between the center of the arm and the side of the arm closest to the body.

Hold your left hand out, with the palm up, and point to the brachial artery.

Place the tips of your right hand's index and middle fingers into the crook of your left arm, close to the body, and exert a slight pressure.

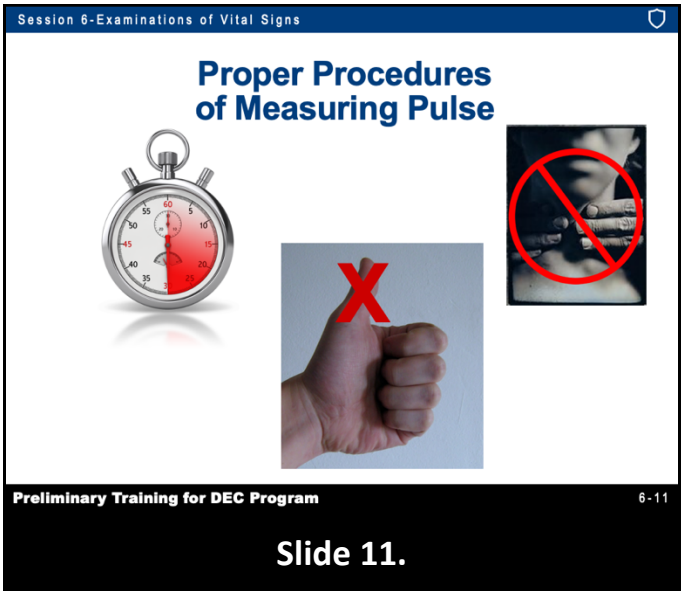
You should be able to feel the pulse in your brachial artery.



Another pulse point involves the carotid artery.

The carotid artery can be located in the neck, on either side of the middle of the throat ("Adam's Apple"). Place the tips of your right hand's index and middle fingers alongside the right side of your "Adam's Apple" or the center of the throat.

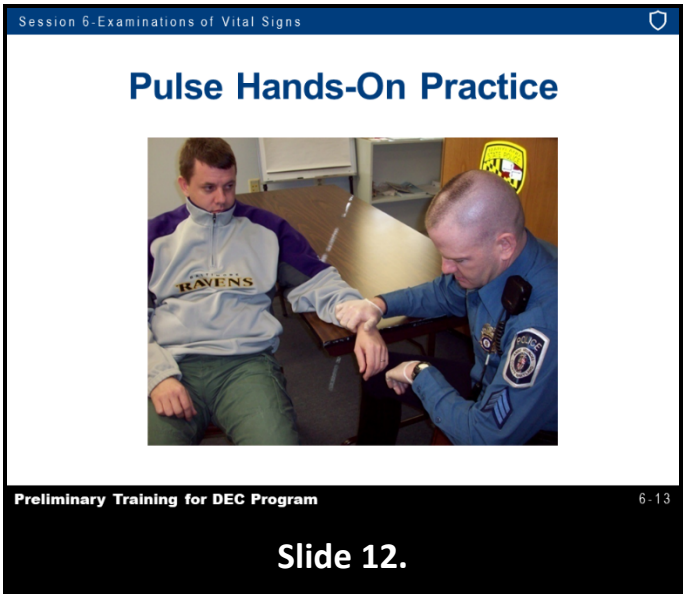
You should be able to feel the pulse in your carotid artery.



Slide 11.

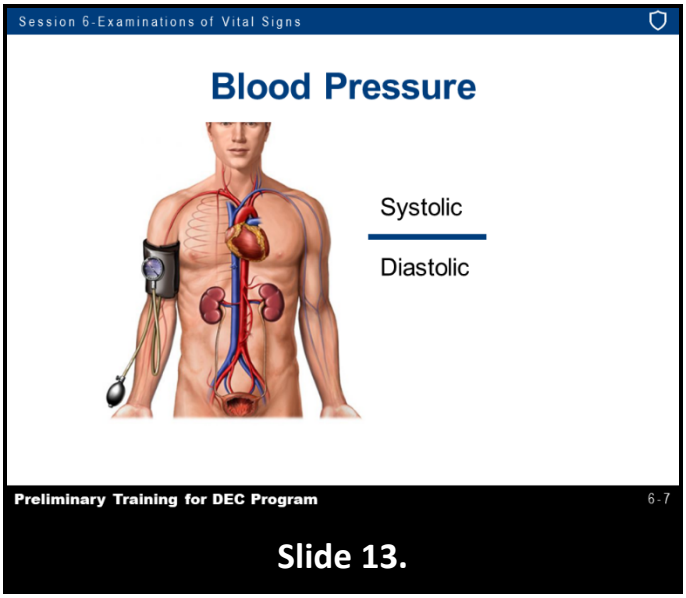
When measuring the pulse rate, use 30 seconds as the standard time interval. Don't use your thumb to apply pressure while measuring a subject's pulse.

If you use the carotid artery pulse point, don't apply pressure to both sides of the middle of the throat: this can cut off the supply of blood to the brain.



Slide 12.

50 or less ____	76-78____
52-54____	80-82____
56-58____	84-86____
60-62____	88-90____
64-66____	92-94____
68-70____	96-98____
72-74____	100+ ____



Slide 13.

Blood pressure is the force exerted on the arteries by the circulating blood.

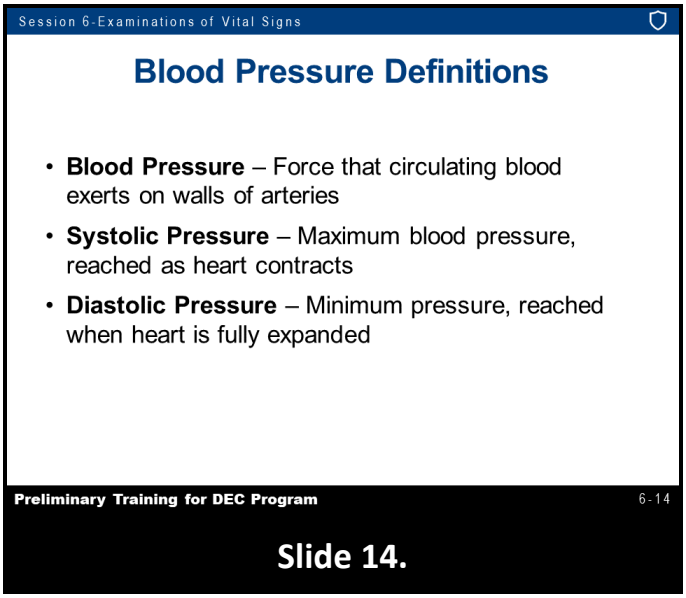
Blood pressure is categorized as systolic or diastolic.

Systolic pressure is the maximum force occurring during contraction. Diastolic pressure represents the minimum force occurring when the heart relaxes.

The DRE average range for systolic blood pressure is 120 to 140. The DRE average range for diastolic blood pressure is 70 to 90.

Control Systems: The functions of the organs of the body are controlled in two ways. This is a function of the endocrine system.

One, by sending "chemical messengers" known as hormones via the blood stream from an endocrine gland where they are produced. Second system of control is by means of the nervous system. This will be covered in greater detail in the Physiology session in the 7-Day school.



Slide 14.

Measurement of Blood Pressure: Blood pressure is the force that the circulating blood exerts on the walls of the arteries. Blood pressure changes constantly as the heart cycles between contraction and expansion. Blood pressure reaches its maximum as the heart contracts and sends the blood surging through the arteries – this is called the systolic pressure. Blood pressure reaches it minimum when the heart is fully expanded – this is called the diastolic pressure. It is always necessary to measure and record both the systolic and diastolic blood pressure.

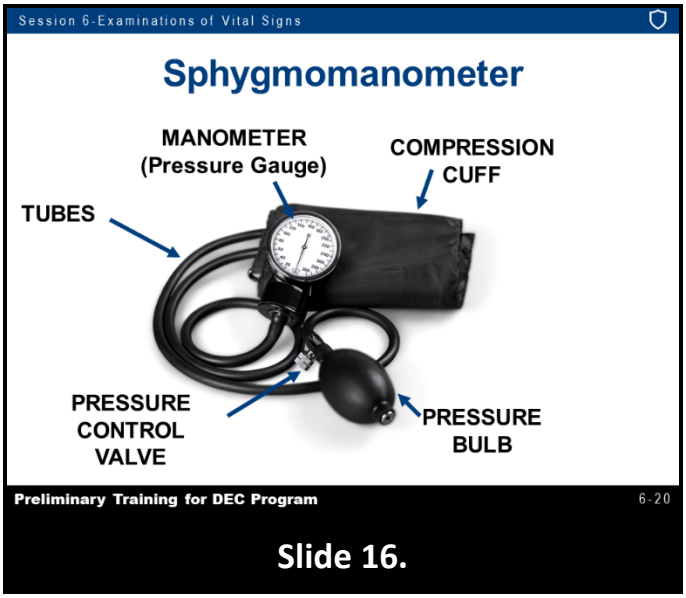
Memory aid:

- **Systolic: "S" for "Superior"**
- **Diastolic: "D" for "Down"**

Slide 15.

The device used for measuring blood pressure is called a sphygmomanometer.

The sphygmomanometer has a special cuff that can be wrapped around the subject's arm and inflated with air pressure.

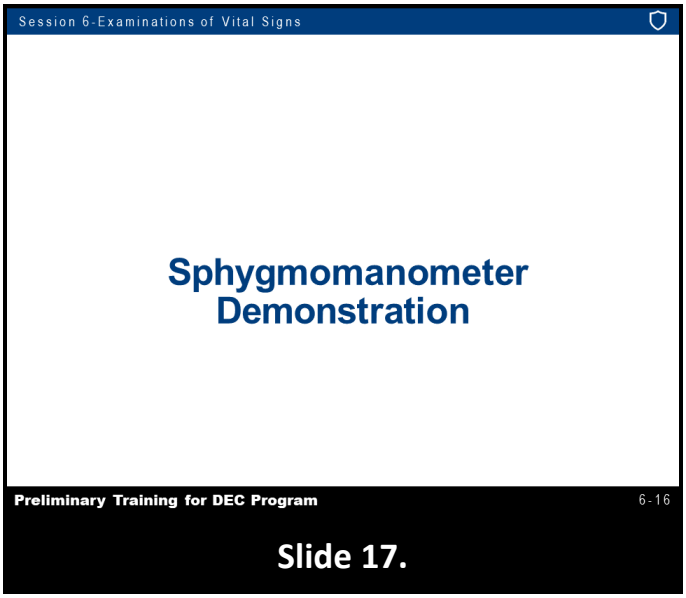


Slide 16.

The compression cuff contains an inflatable rubber bladder. A tube connects the bladder to the manometer, or pressure gauge.

Another tube connects the bladder to the pressure bulb, which can be squeezed to inflate the bladder. The pressure control valve permits inflation of the bladder and regulates the rate at which the bladder is deflated. To inflate the bladder, the pressure control valve must be twisted all the way to the right. When the valve is twisted all the way to the right, air can be pumped into the bladder but no air can escape from the bladder.

To deflate the bladder, twist the valve to the left. The more the valve is twisted to the left, the faster the bladder will deflate.



Slide 17.

As the pressure in the cuff increases, the cuff squeezes tightly on the arm.

When the pressure gets high enough, it will squeeze the artery completely shut.

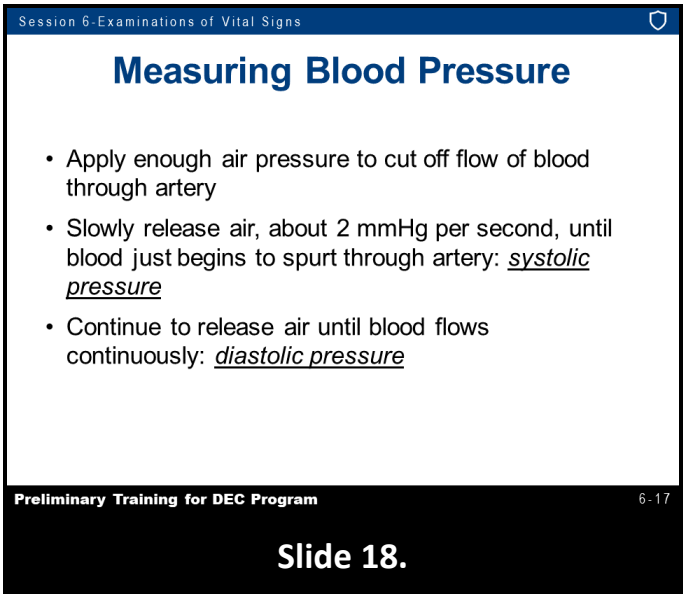
Blood will cease flowing through the brachial artery. Since the brachial artery “feeds” the radial artery, blood will also cease flowing through the radial artery.

If we slowly release the air in the cuff, the pressure on the arm and on the artery will start to drop. Eventually, the pressure will drop enough so blood will once again start to flow through the artery.

Blood will start flowing in the artery once the pressure inside the artery equals the pressure outside the artery.

The two pressures will become equal when the air pressure in the cuff drops down to the systolic pressure.

When that happens, blood will spurt through the artery each time the heart contracts. Once the air pressure in the cuff drops down to the diastolic level, the blood will flow continuously through the artery.



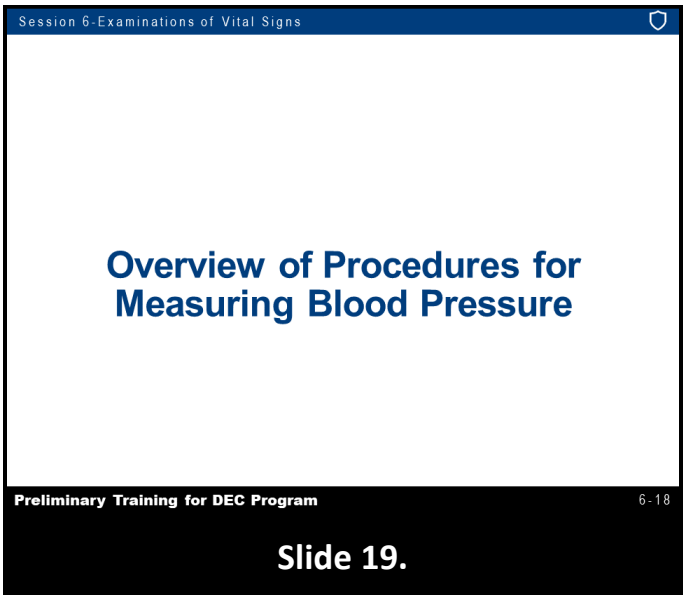
Slide 18.

Apply enough air pressure to the cuff to cut off the flow of blood through the artery (approximately 180 mmHg).

Slowly release the air pressure until the blood just begins to spurt through the artery: that level will be the systolic pressure.

Slowly release the pressure in the cuff.

Continue to release the air pressure until the blood flows continuously through the artery: that level will be the diastolic pressure.



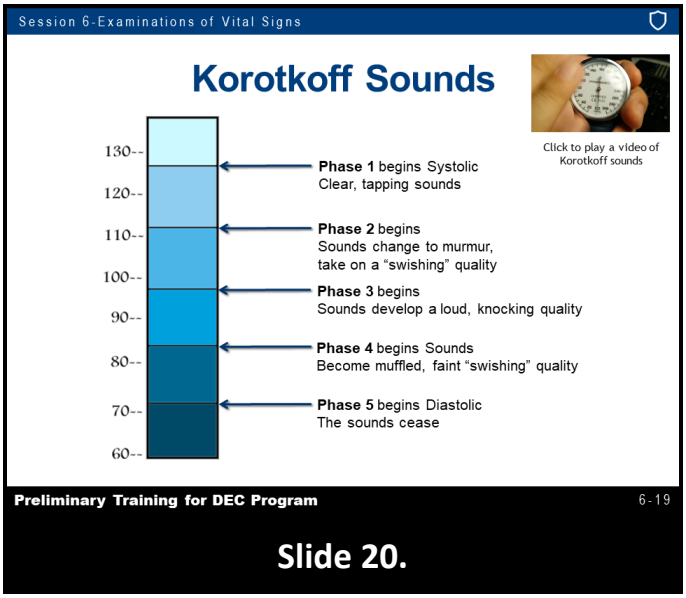
Slide 19.

- Apply the stethoscope to the skin directly above the artery.
- Apply pressure to the cuff, enough to cut off the flow of blood.
- Inflate the cuff on the arm.
- When no blood is flowing through the artery, we hear nothing through the stethoscope.
- Slowly release the air from the cuff, letting the pressure start to drop.
- Release the air in the cuff.

When we drop to the systolic pressure, we start to hear a spurting sound.

As we continue to allow the air pressure to drop, the surges of blood become steadily longer.

When we drop to the diastolic pressure, the blood slows steadily and all sounds cease.



Slide 20.

The sounds we listen to are called Korotkoff Sounds. Named after Dr. Nikolai Korotkoff, a Russian physician who introduced the method of determining blood pressure in 1905.

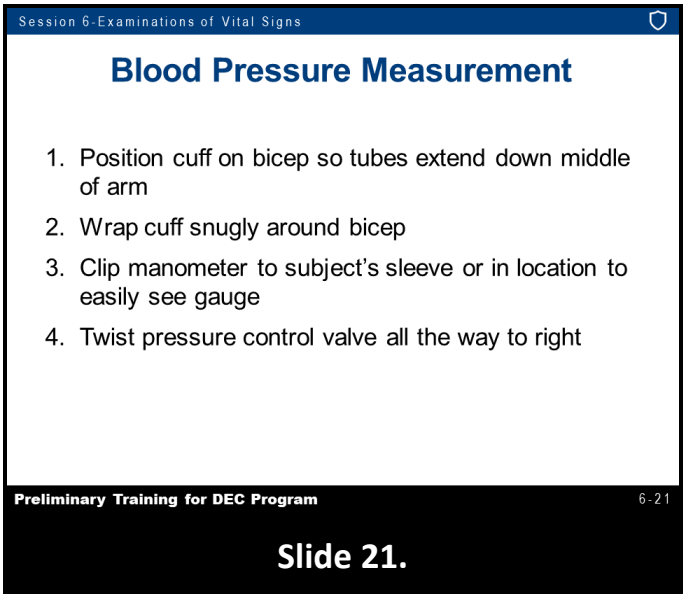
Phase 1: the first appearance of clear, tapping sounds that gradually increase in intensity. **The beginning of Phase 1 corresponds to the systolic pressure.**

Phase 2: the sounds change to a murmur and take on a swishing quality.

Phase 3: the sounds develop a loud, knocking quality (not quite as clear as Phase 1).

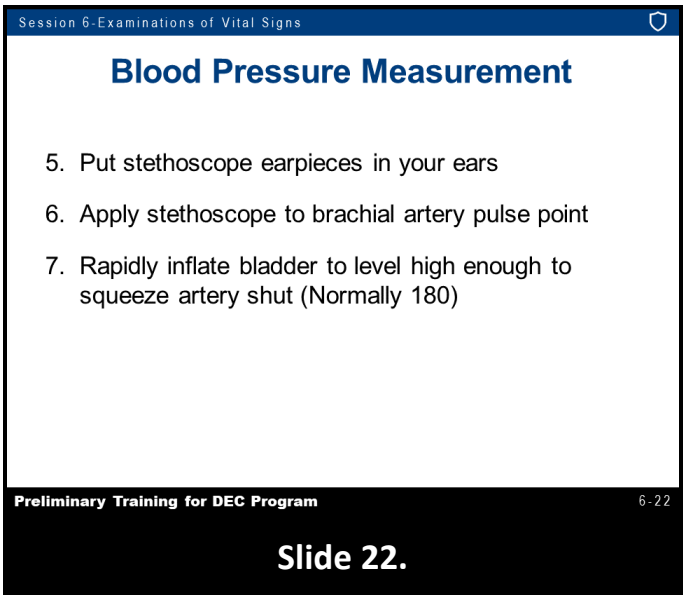
Phase 4: the sounds suddenly become muffled and again have a faint swishing quality.

Phase 5: the sounds cease. **The beginning of Phase 5 corresponds to the diastolic pressure.**



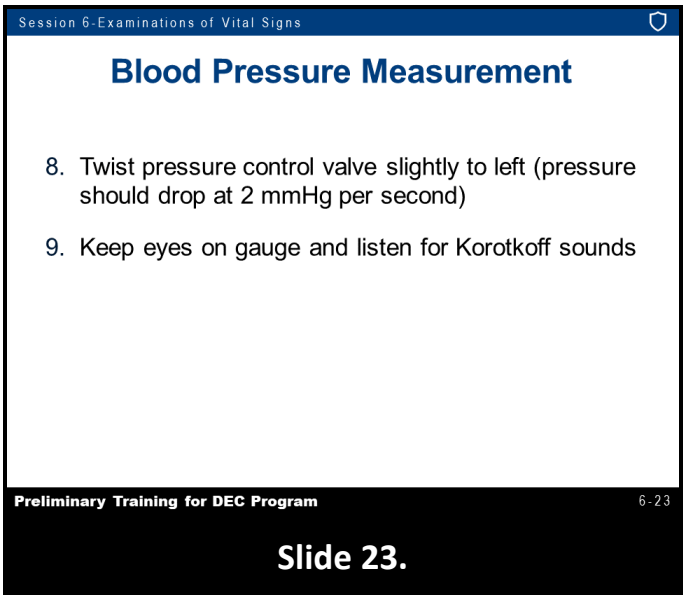
Slide 21.

1. Position the cuff on the bicep so the tubes extend down the middle of the arm.
2. Wrap the cuff snugly around the bicep.
3. Clip the manometer (pressure gauge) on the subject's sleeve, so it is readily viewable.
4. Twist the pressure control valve all the way to the right.



Slide 22.

5. Put the stethoscope earpieces in your ears – Make sure the earpieces are turned forward, i.e., toward the nose.
6. Place the diaphragm or bell of the stethoscope over the brachial artery.
7. Rapidly inflate bladder to a level high enough to squeeze the artery shut (normally 180 mmHg).

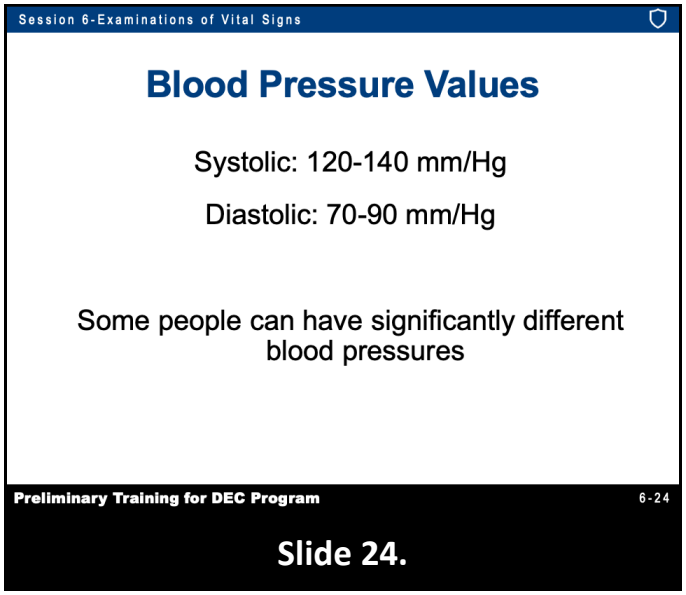


Slide 23.

8. Twist the pressure control valve slightly to the left to release the pressure slowly (pressure should drop at 2 mmHg per second).

9. Keep your eyes on the gauge and listen for the Korotkoff sounds.

The needle on the pressure gauge generally will “bounce” slightly when blood starts to spurt through the artery.

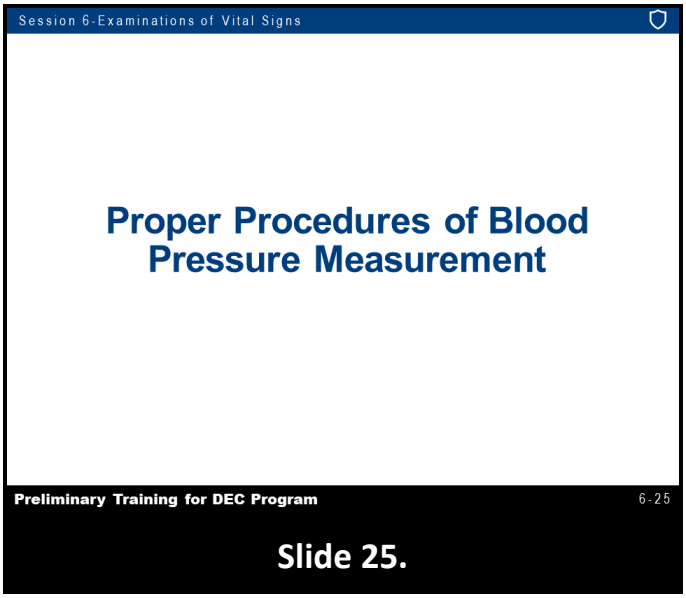


Slide 24.

DRE average blood pressure values are:

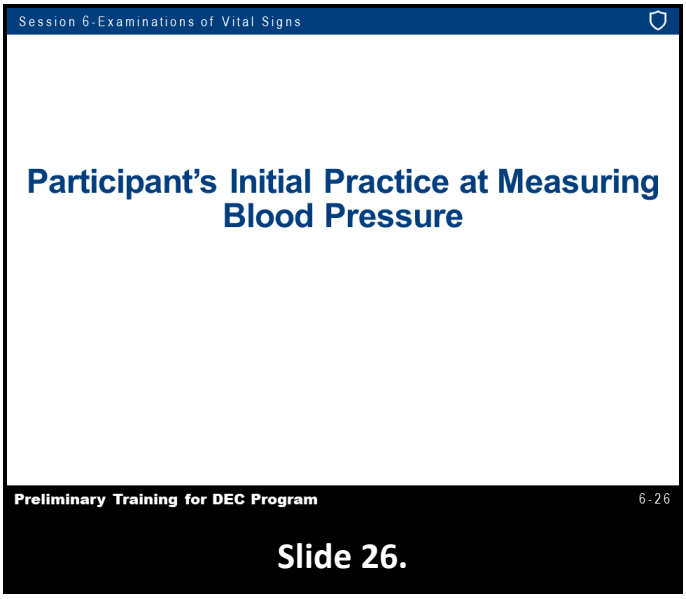
- Systolic: 120-140 mm/Hg
- Diastolic: 70-90 mm/Hg

Some people can have significantly different blood pressures: there is a wide variation in human blood pressure.



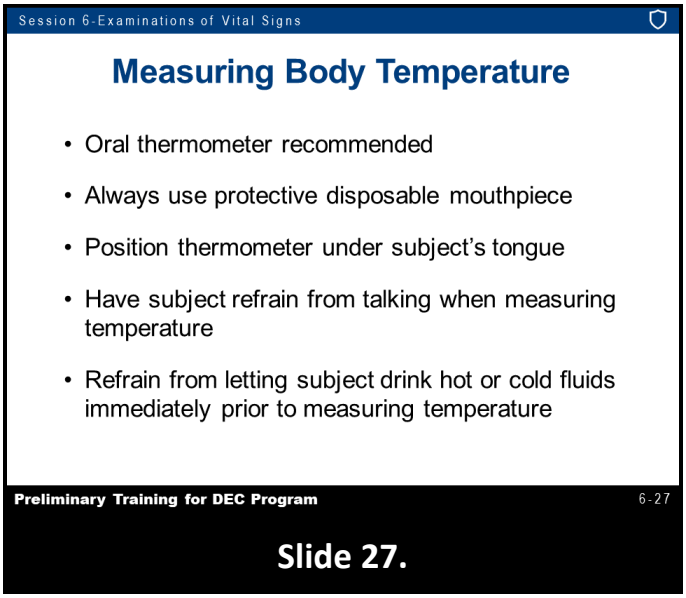
Slide 25.

If you inflate the bladder and then need to repeat the measurement, wait at least three minutes to allow the subject's artery to return to normal. **If difficulty is encountered in hearing the Korotkoff sounds, try having the subject raise his or her arm and clench the fist to allow blood flow back to the heart.** Hold the bell of the stethoscope with your fingers; don't slide it under the cuff – that will distort the measurement.



Slide 26.

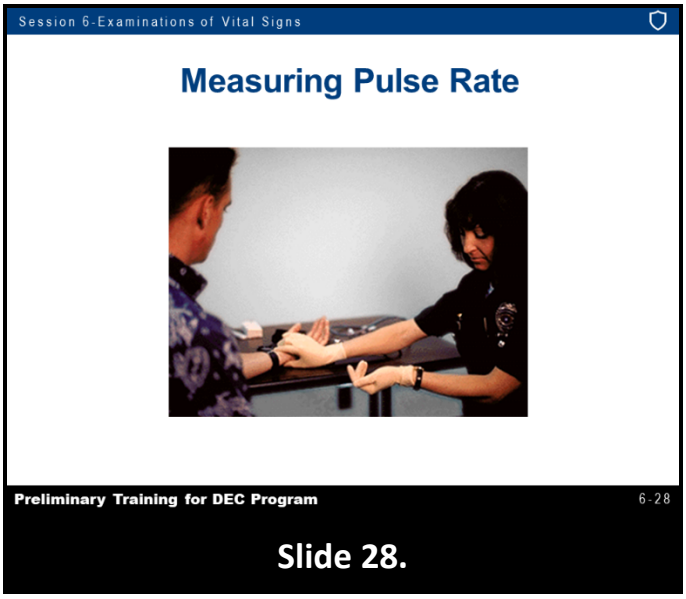
C. Demonstrations



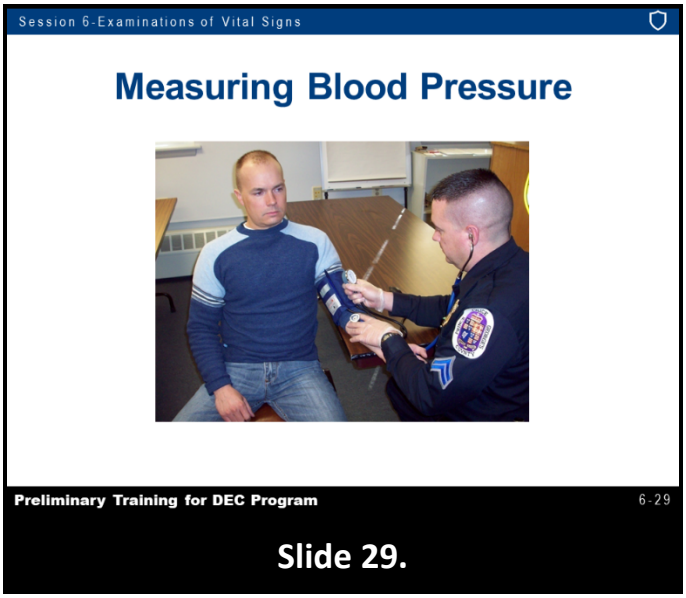
Slide 27.

The range for body temperature taken orally is 98.6 degrees +/- 1 degree. Temperature is measured orally using a thermometer.

A fresh disposable mouthpiece should be used each time. Position thermometer under the subject's tongue. Have subject refrain from talking when measuring temperature. Ensure the subject does not take any hot or cold liquids by mouth prior to taking the temperature. Hot and cold liquids immediately prior to the temperature examination may affect the result.

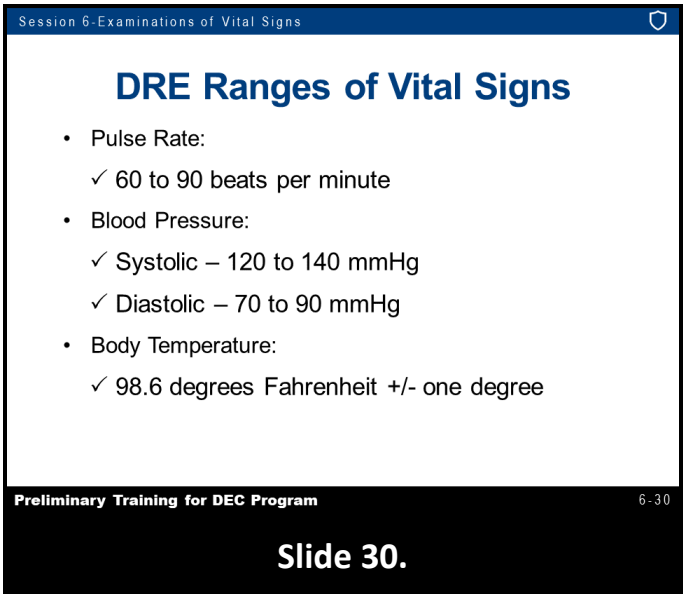


Slide 28.



Slide 29.

D. Ranges of Vital Signs



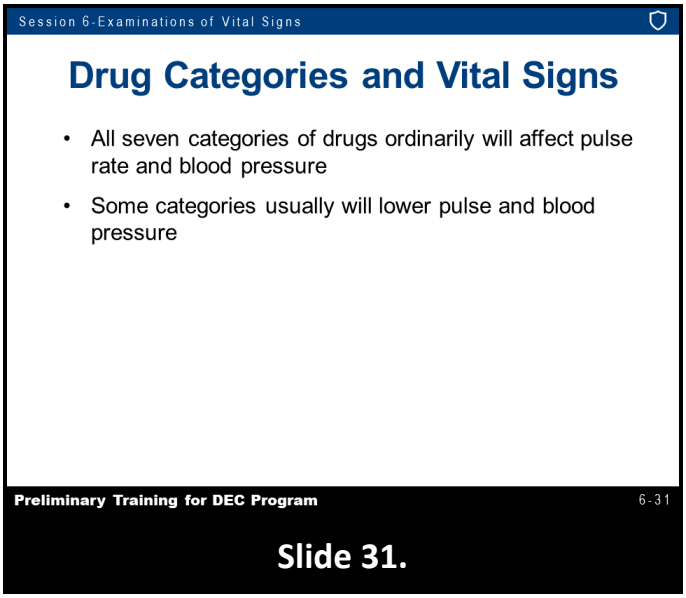
Slide 30.

Human vital signs vary between individuals. However, the DEC Program has identified a set of ranges for each of the three vital sign examinations used in the drug influence evaluation process. These ranges, which are referred to as "DRE average ranges" can also be described as the "expected value" for a non-impaired healthy person. When checking a person's pulse and blood pressure, DREs are assessing the person's cardiovascular system for signs or indicators of being outside of the expected range of a non-impaired healthy person.

DEC Program ranges:

- Pulse rate: 60 to 90 beats per minute
- Blood pressure: Systolic: 120-140 mmHg and Diastolic: 70-90 mmHg
- Body temperature: 98.6 degrees, plus or minus 1 degree

E. Relationship of Drug Categories to the Vital Signs Examinations



Slide 31.

All seven categories of drugs ordinarily will affect pulse rate and blood pressure. Some categories usually will lower pulse and blood pressure.

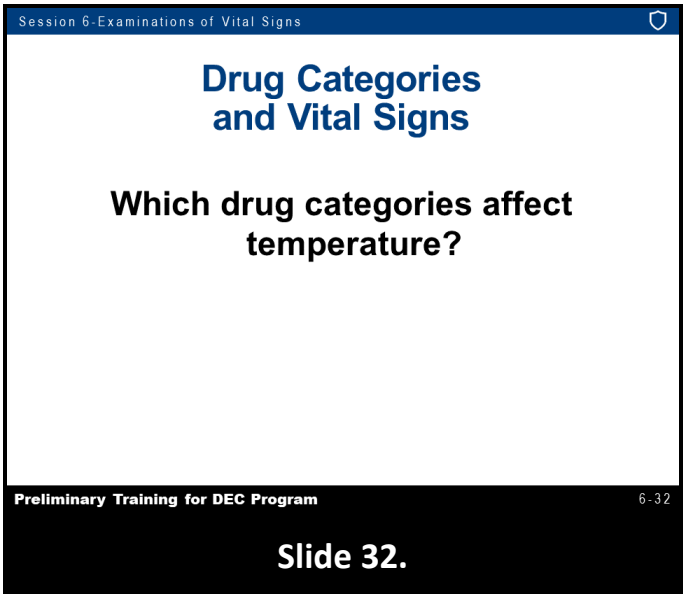
CNS Depressants and Narcotic Analgesics usually lower pulse and BP.

Quaaludes, ETOH, and possibly some antidepressants may cause the pulse to increase. The other five categories all tend to elevate pulse rate.

Most of the drug categories that elevate pulse rate also elevate blood pressure. CNS Stimulants, Hallucinogens, Dissociative Anesthetics, and Cannabis all usually cause blood pressure to rise.

The vast majority of Inhalants, namely, the volatile solvents and the aerosols, also elevate blood pressure. But the remaining small group of Inhalants, the anesthetic gases, actually lowers the blood pressure.

So for Inhalants, the effect on blood pressure will be up or down.



Slide 32.

Three of the categories usually will cause the body temperature to rise.

The drug PCP and its analogs from the Dissociative Anesthetics category usually increase body temperature; PCP users have been known to remove their clothing to cool down.

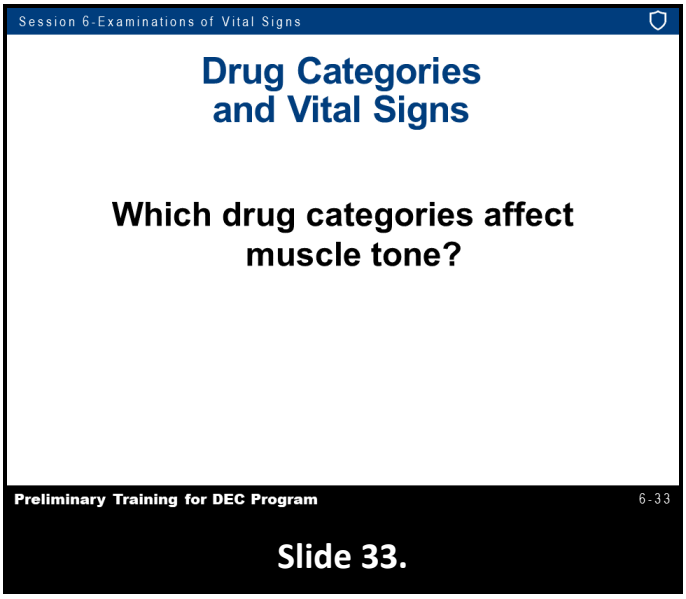
CNS Stimulants and Hallucinogens also will usually increase body temperature.

The effect of Inhalants on body temperature depends on the specific substance inhaled. Some Inhalants may cause temperature to increase or be down. But other Inhalants may leave the temperature near normal.

One category usually causes body temperature to be lowered.

Narcotic Analgesics usually lower body temperature.

The remaining two categories usually do not affect temperature.



Slide 33.

Three of the categories usually will cause the muscle tone to be rigid.

CNS Stimulants, Hallucinogens, and Dissociative Anesthetics will usually cause a rigid muscle tone.

Two categories usually cause muscle tone to be flaccid.

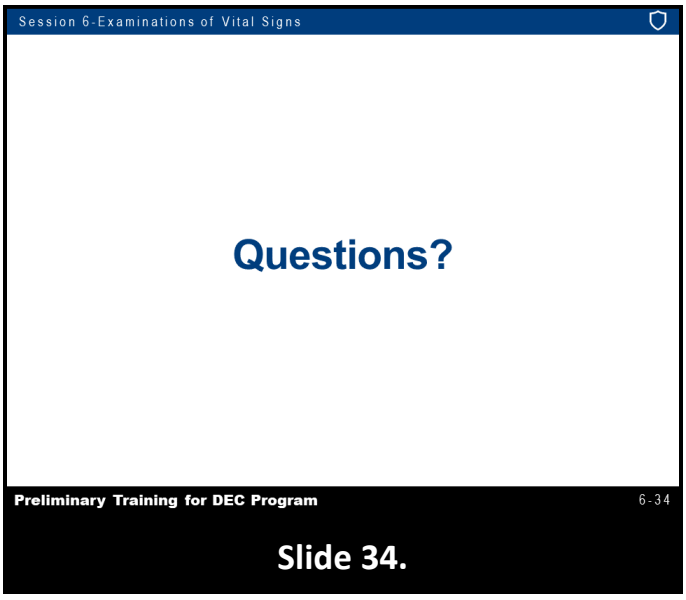
CNS Depressants and Narcotic Analgesics usually cause a flaccid muscle tone.

One category usually causes normal muscle tone.

Cannabis usually causes normal muscle tone.

One category will usually cause either normal or flaccid muscle tone.

Inhalants usually cause either normal or flaccid muscle tone.



Slide 34.

Semi-Blank Matrix

Indicator	CNS Depressant	CNS Stimulant	Hallucinogen	Dissociative Anesthetic	Narcotic Analgesic	Inhalant	Cannabis
HGN							
VGN							
LOC							
Pupil Size							
Reaction to Light							
Pulse							
Blood Pressure							
Body Temperature							
Muscle Tone							

1.

2.

3.

4.

5.

6.

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7 PRELIMINARY TRAINING FOR DEC PROGRAM

OVERVIEW OF SIGNS AND SYMPTOMS

LEARNING OBJECTIVES

- Give examples of specific drugs belonging to the seven drug categories
- Describe the major signs and symptoms of impairment associated with each category

CONTENTS

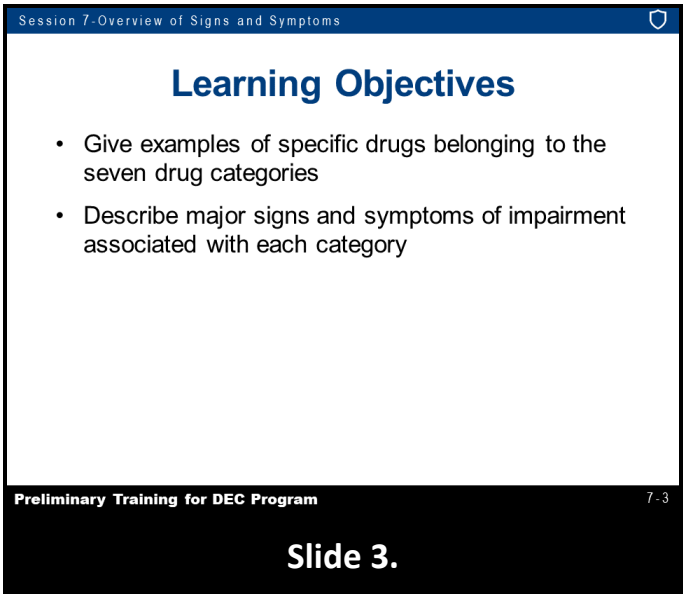
INDICATORS CONSISTENT WITH DRUG CATEGORIES

	CNS Depressants	CNS Stimulants	Hallucinogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present (High Dose)	None	None	Present	None	Present (High Dose)	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (1)	Dilated	Dilated	Normal	Constricted	Normal (4)	Dilated (6)
Reaction to Light	Slow	Slow	Normal (3)	Normal	Little or None Visible	Slow	Normal
Pulse Rate	Down (2)	Up	Up	Up	Down	Up	Up
Blood Pressure	Down	Up	Up	Up	Down	Up/Down (5)	Up
Body Temperature	Normal	Up	Up	Up	Down	Up/Down/ Normal	Normal
Muscle Tone	Flaccid	Rigid	Rigid	Rigid	Flaccid	Normal or Flaccid	Normal

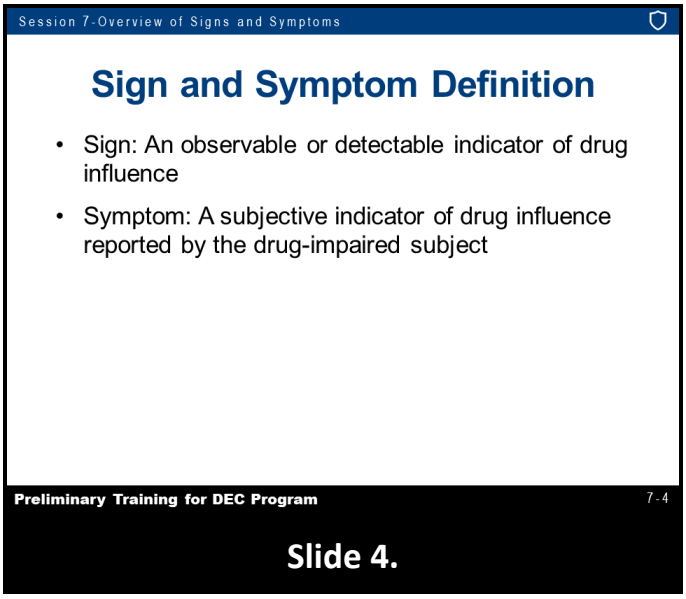
FOOTNOTE: These indicators are those most consistent with the category, keep in mind there may be variations due to individual reaction, dose taken and drug interactions.

(1) Soma, Quaaludes, and some anti-depressants usually dilate
(2) ETOH, Quaaludes, and some anti-depressants may elevate.
(3) Certain psychedelic amphetamines may cause slowing.
(4) Possibly dilated.
(5) Down with anesthetic gases, up with volatile solvents and aerosols.
(6) Possibly normal.

Slide 2.



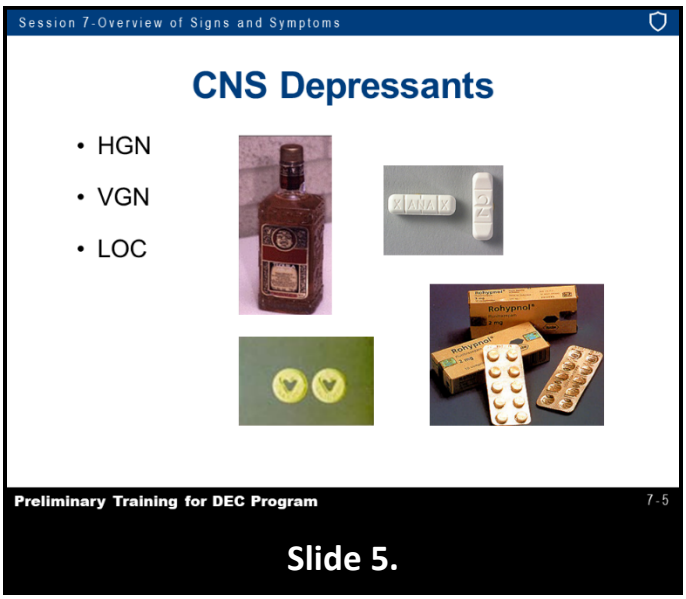
Slide 3.



Slide 4.

Sign: An observable or detectable indicator of drug influence (i.e., dilated pupils, high blood pressure). Symptom: A subjective indicator of drug influence reported by the drug-impaired subject (i.e., "I feel nauseous").

A. CNS Depressants



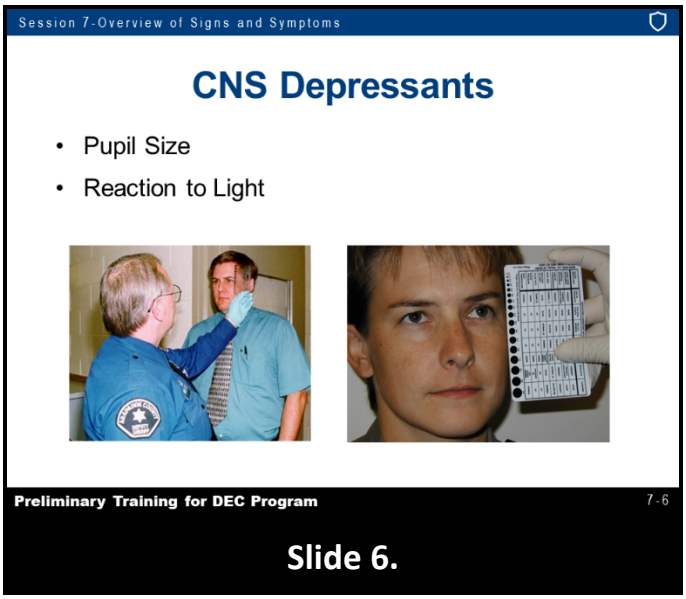
Slide 5.

Central Nervous System (CNS) Depressants is a category that includes many different drugs.

Horizontal Gaze Nystagmus (HGN) usually will be present.

Vertical Gaze Nystagmus (VGN) may be present, especially with high doses (for that individual) of Depressants.

Under the influence of Depressants, Lack of Convergence (LOC) usually will be present.



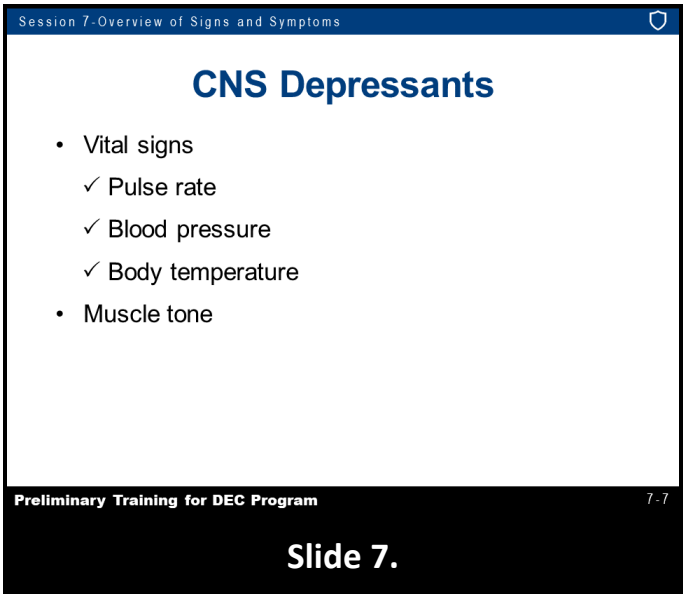
Slide 6.

With depressants there is usually no effect on pupil size; therefore, the pupils will generally be in the average range or expected range.

But some specific Depressant drugs do affect pupil size.

Soma, Methaqualone (Quaaludes), and some antidepressants usually dilate.

Depressants generally will cause pupillary Reaction to Light to be slow.



Slide 7.

Depressants usually lower pulse rate.

But some specific Depressant drugs may elevate the pulse.

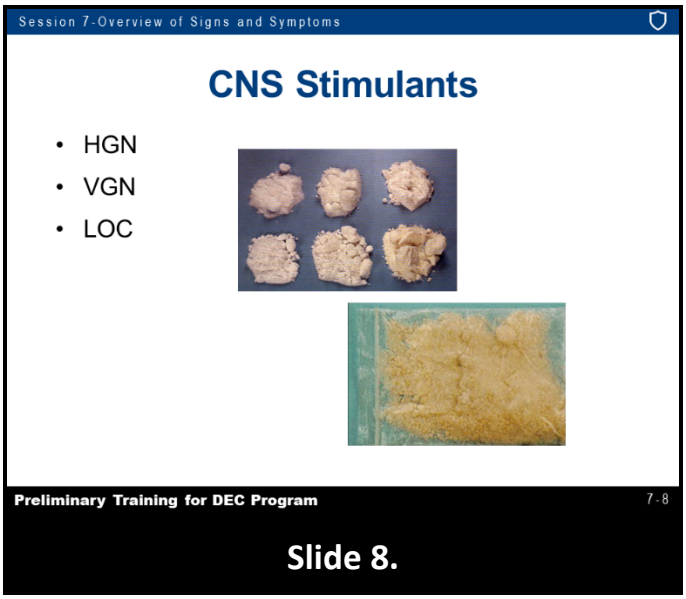
Alcohol, Methaqualone (Quaaludes), and some antidepressants may cause elevation in pulse rate.

Depressants usually lower blood pressure.

Depressants usually do not affect body temperature.

Depressants usually cause flaccid muscle tone.

B. CNS Stimulants

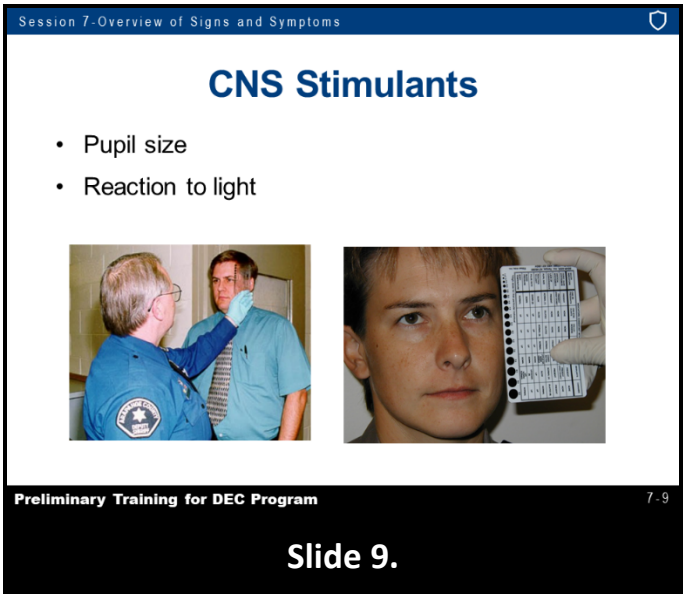


Slide 8.

The CNS Stimulants category includes many drugs.

HGN will not be present.

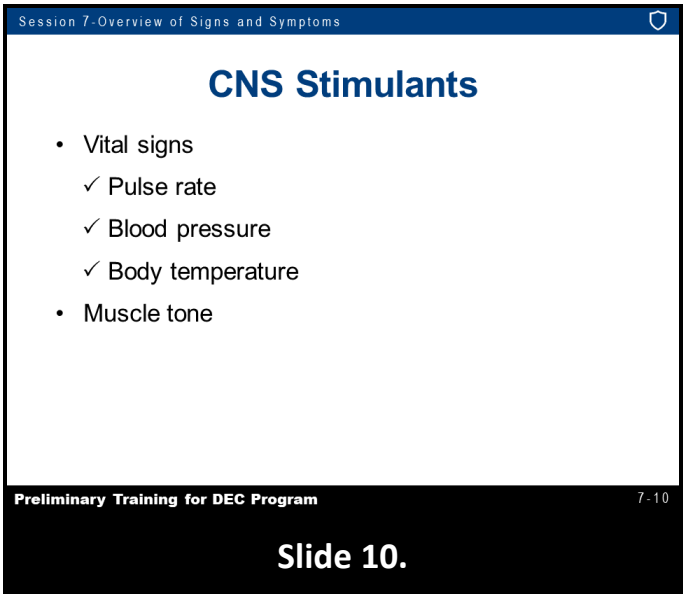
VGN will not be present.



Slide 9.

CNS Stimulants usually cause the pupils to dilate.

We have seen CNS Depressants effect pupillary reaction; similarly, CNS Stimulants may cause a slowing in the pupillary reaction to light.



Slide 10.

Indicators of CNS Stimulant Influence Found in Checks of Vital Signs

CNS Stimulants usually increase pulse rate.

CNS Stimulants usually increase blood pressure.

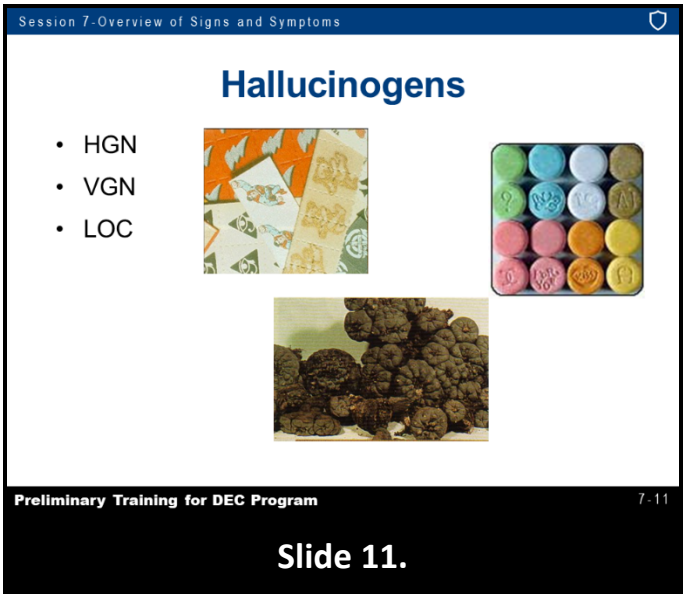
CNS Stimulants usually elevate body temperature.

CNS Stimulants usually cause a rigid muscle tone.

Though not directly related to the vital signs, the DRE may find the subject's muscle tone to be rigid with possible body tremors.

A grinding of the teeth, referred to as "bruxism" may also be noticed.

C. Hallucinogens



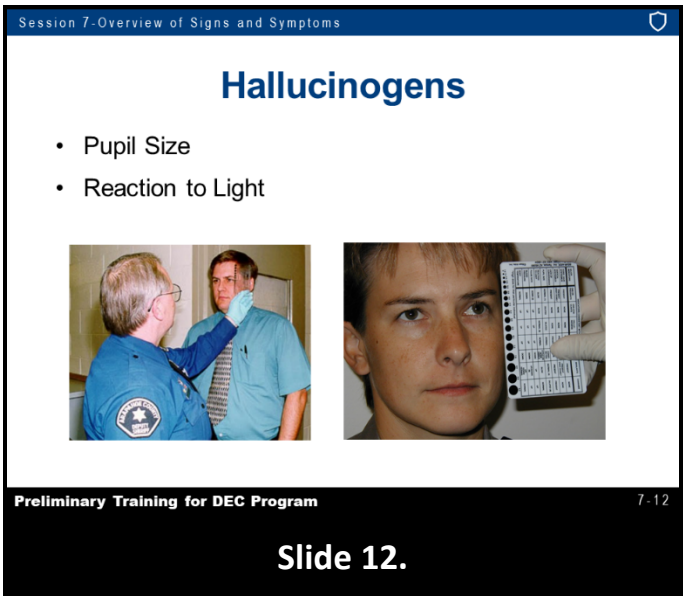
Slide 11.

Hallucinogens include some naturally occurring substances as well as some synthetic drugs.

Hallucinogens typically do not effect HGN and therefore will not be present.

VGN will not be present.

Under the influence of Hallucinogens, the eyes should still be able to converge; therefore, LOC will not be present.

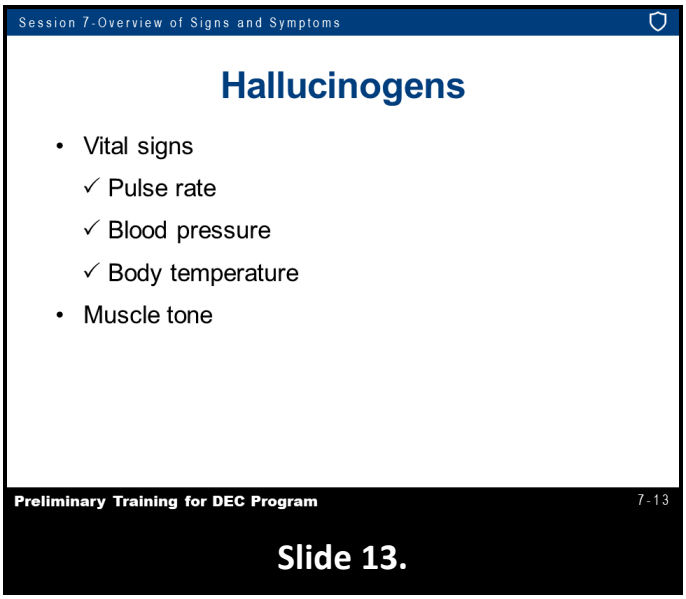


Slide 12.

Hallucinogens usually cause the pupils to dilate.

Normally, Hallucinogens do not effect pupillary reaction to light.

However, certain psychedelic Amphetamines may cause a slowing in the pupillary reaction.



Slide 13.

Hallucinogens usually increase pulse rate.

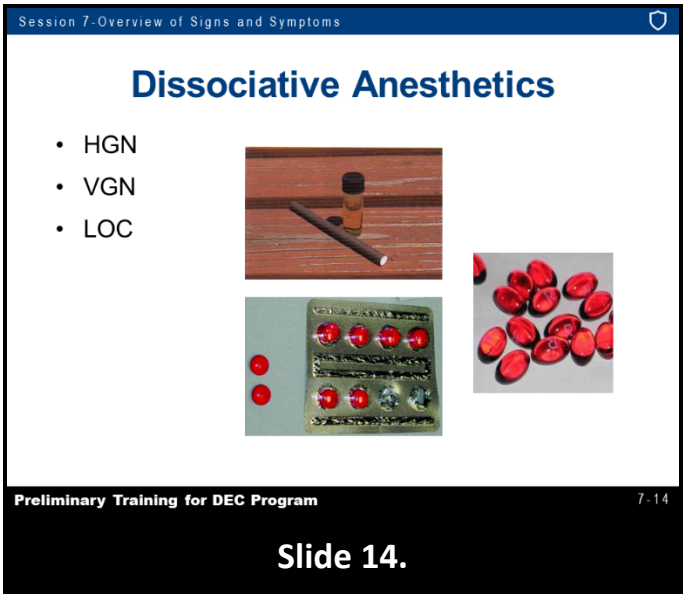
Hallucinogens usually increase blood pressure.

Hallucinogens usually elevate body temperature.

Hallucinogens usually cause a rigid muscle tone.

If we only had these major signs to go by, it would be difficult to distinguish between someone under the influence of CNS Stimulants from someone under the influence of Hallucinogens.

D. Dissociative Anesthetics



Slide 14.

The category called Dissociative Anesthetics consists of the drug PCP, its various analogs, and Dextromethorphan.

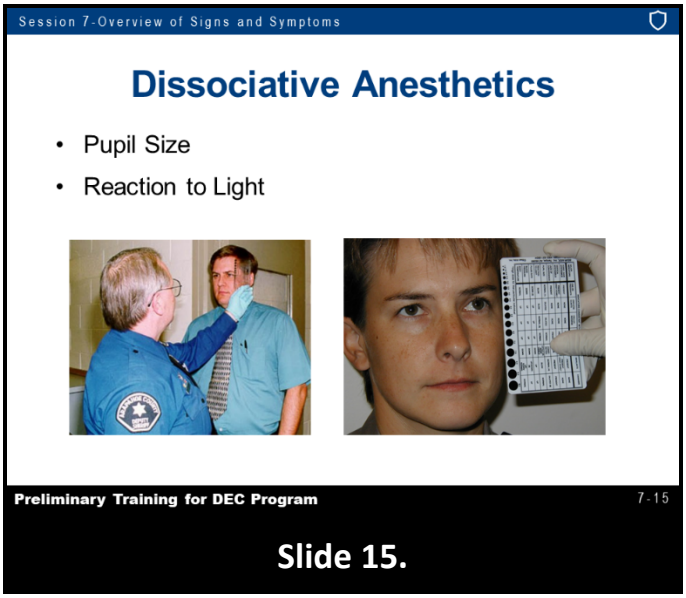
An “analog” of PCP is a drug that is a “chemical first cousin” of PCP; that is, it is a drug that has a slightly different molecular structure from PCP but produces the same effects as PCP.

One of the most popular analogs of PCP is the drug called Ketamine. Ketamine is a legally manufactured (but controlled) drug used as an anesthetic in some surgical applications. Some other analogs of PCP include Ketalar and Ketaset. Dextromethorphan is a drug found in numerous over-the-counter substances.

HGN usually will be present and often with a very early onset.

VGN usually will be present.

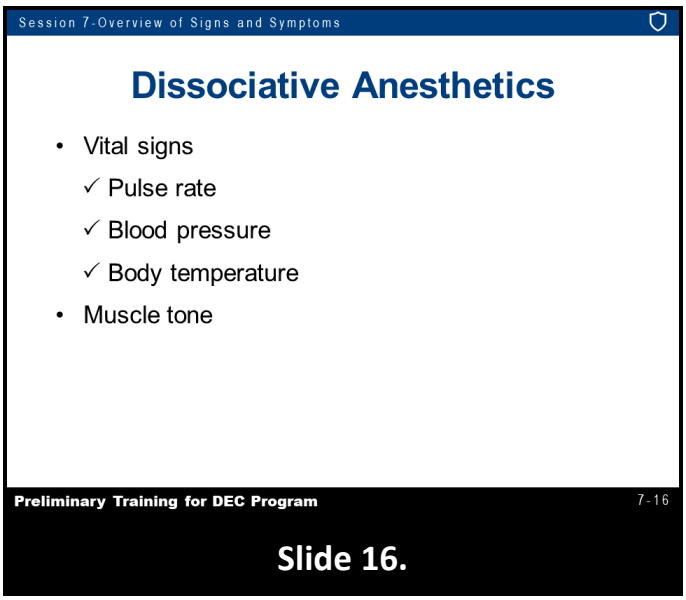
LOC usually will be present.



Slide 15.

Dissociative Anesthetics do not normally affect pupil size; therefore, a person under the influence of a Dissociative Anesthetic, such as PCP, usually will have pupils in the DRE average ranges.

Dissociative Anesthetics normally will not affect pupillary reaction to light.



Slide 16.

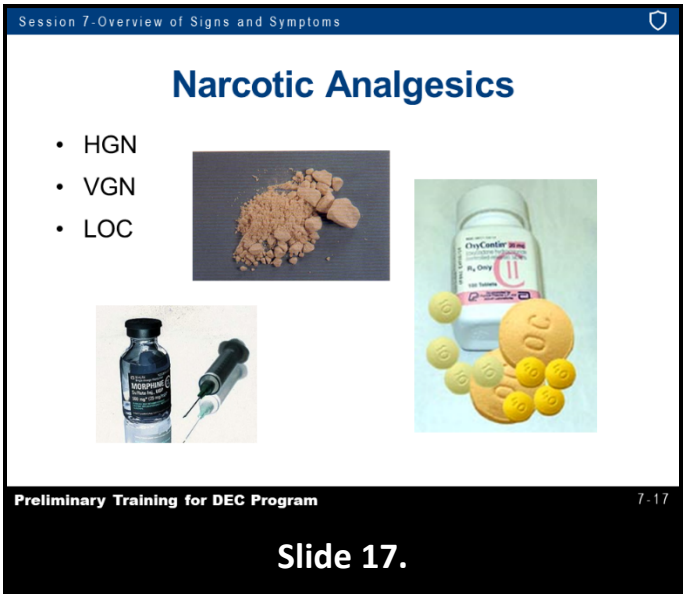
Dissociative Anesthetics usually increase pulse rate.

Dissociative Anesthetics usually elevate blood pressure.

PCP and its analogs usually elevate body temperature. Dextromethorphan may or may not rise temperature.

Dissociative Anesthetics usually cause rigid muscle tone.

E. Narcotic Analgesics



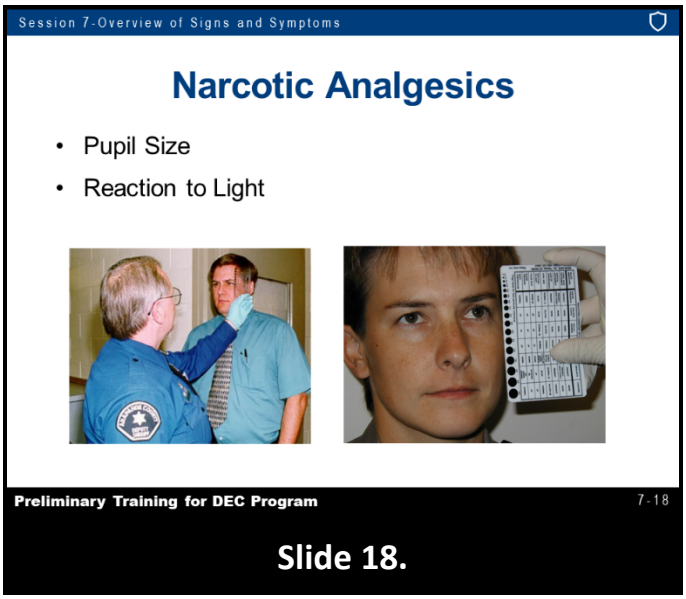
Slide 17.

Narcotic Analgesics include some natural derivatives of Opium as well as some synthetic drugs.

There is typically no effect of HGN on VGN with Narcotic Analgesics, therefore HGN will not be present.

VGN will not be present.

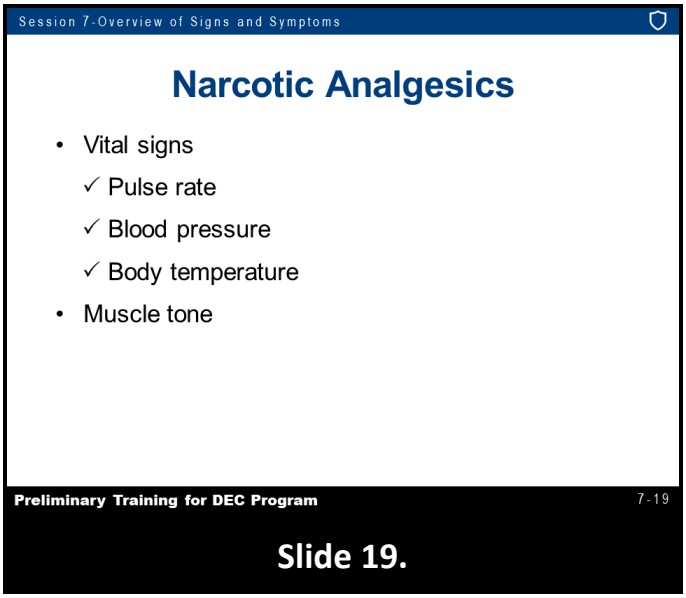
Under the influence of Narcotic Analgesics, the eyes should still be able to converge; therefore, LOC usually is not present.



Slide 18.

Narcotic Analgesics usually cause a very noticeable constriction of the pupils.

Though there is always some reaction to light, the constricted pupils caused by Narcotic Analgesics can make it nearly impossible to observe a change in pupil size. However, when observed it will generally be little or none visible.



Slide 19.

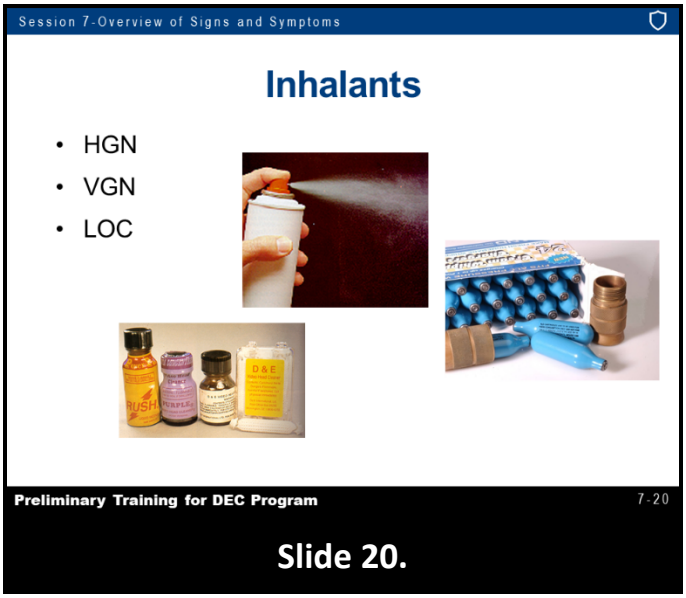
Narcotic Analgesics usually lower pulse rate.

Narcotic Analgesics usually lower blood pressure.

Narcotic Analgesics usually lower body temperature.

With a Narcotic Analgesic, muscle tone will be flaccid.

F. Inhalants



Slide 20.

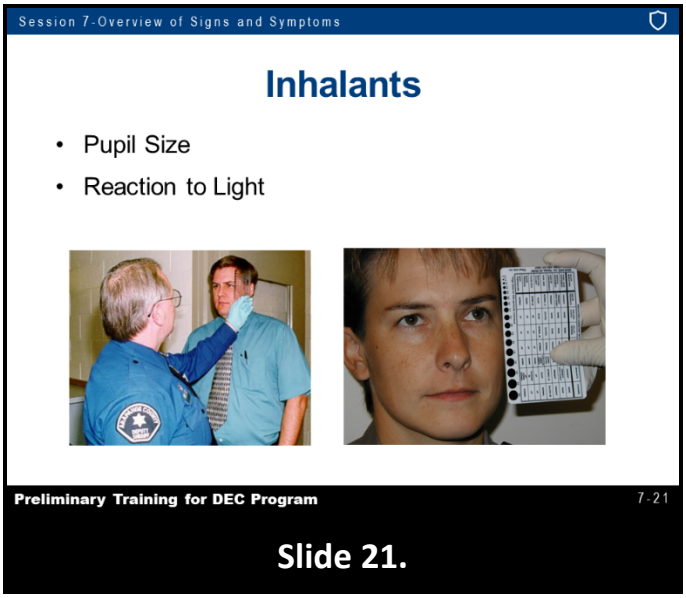
The category of Inhalants includes a wide variety of gases and fumes that have mind-altering effects.

Not all Inhalants affect their users in exactly the same way. There is probably less consistency in the signs and symptoms of Inhalants than there is with any other category. When we talk of the signs and symptoms of Inhalants, we often must qualify our statements. For example, we may say a particular effect will be observed “for most Inhalants”.

With most Inhalants, HGN usually will be present.

With most Inhalants, VGN may be present, especially with large doses.

Under the influence of Inhalants, LOC usually will be present.



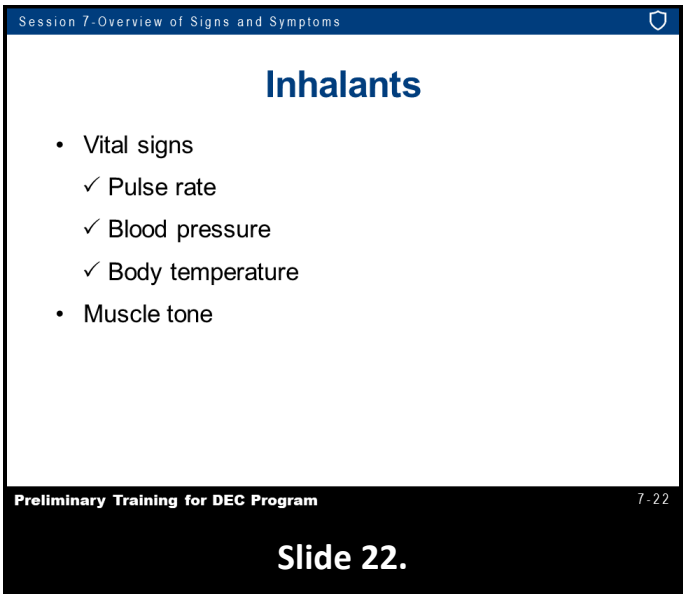
Slide 21.

The effect of Inhalants on pupil size depends on the particular substance inhaled.

Most Inhalants do not effect pupil size and usually leave the pupils in the DRE average ranges.

Some Inhalants may cause pupil dilation.

Depending on the substance used, Inhalants may cause a slowed reaction to light or the pupils may react normally. However, the most frequently observed effect will be a slow reaction to light.



Slide 22.

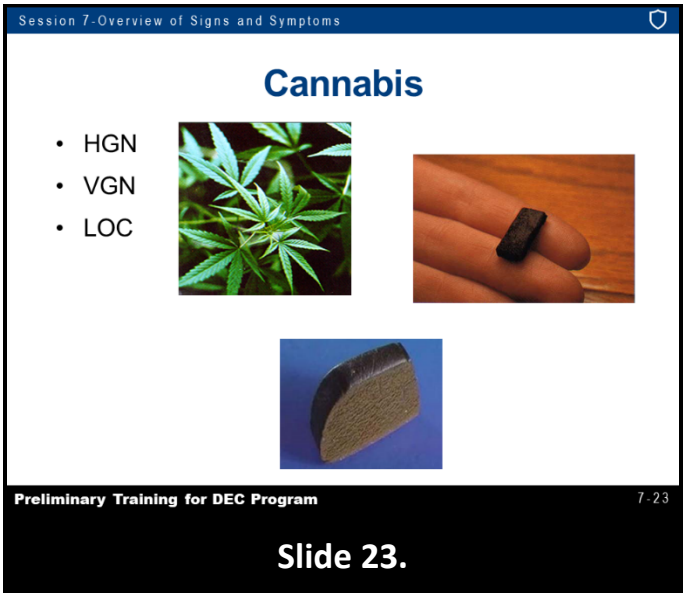
Inhalants usually elevate pulse rate.

Most inhalants usually elevate blood pressure, but some lower blood pressure.

The effects of Inhalants on temperature depend on the particular substance inhaled.

Depending on the Inhalant, muscle tone may or may not be effected resulting in a normal or flaccid muscle tone.

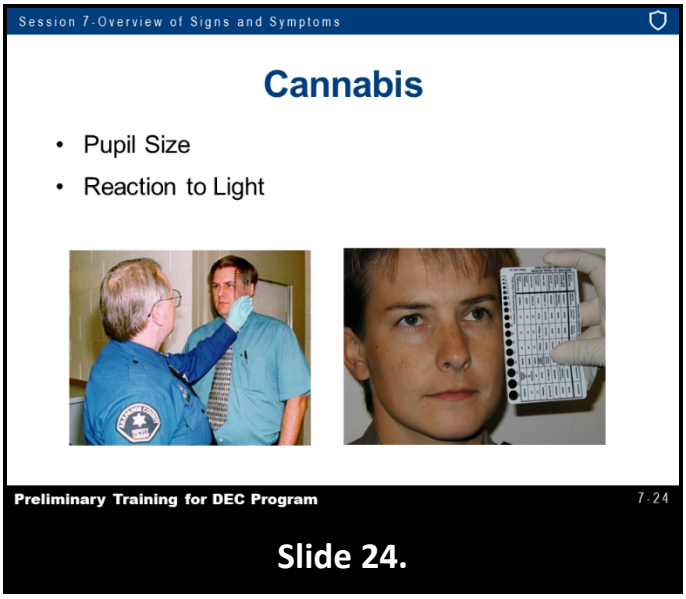
G. Cannabis



Typically Cannabis has no effect on HGN or VGN therefore, HGN will not be present.

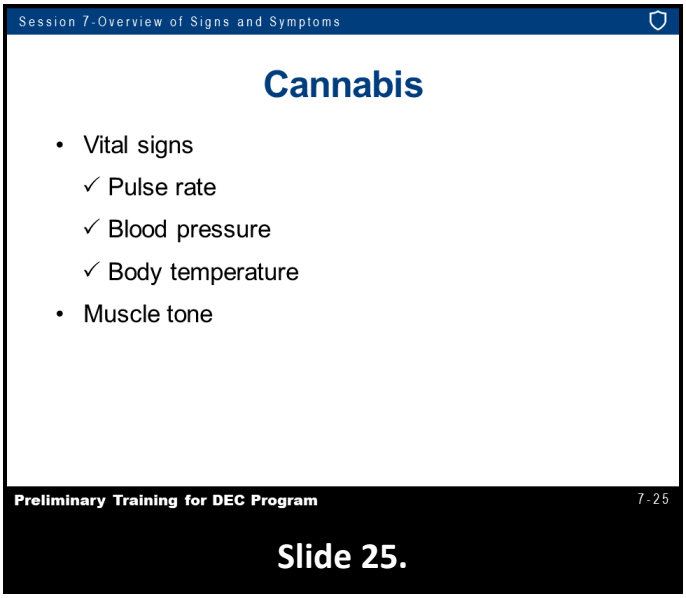
VGN will not be present.

Under the influence of Cannabis, LOC will be present.



Under the influence of Cannabis, the pupils may be dilated or possibly within the DRE average ranges.

The pupillary reaction to light with Cannabis is typically not effected and will appear normal when under the influence of Cannabis.



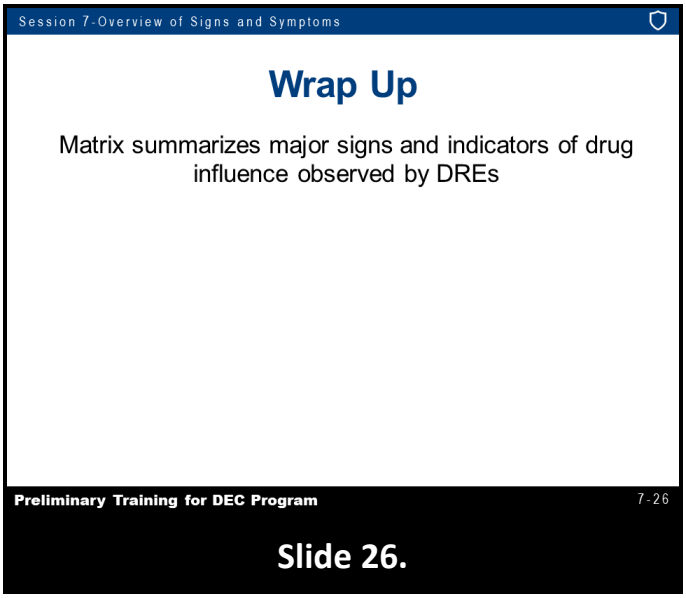
Cannabis usually elevates pulse rate.

Blood pressure with Cannabis impairment can vary depending upon use, tolerance and time of use. Cannabis usually elevates blood pressure.

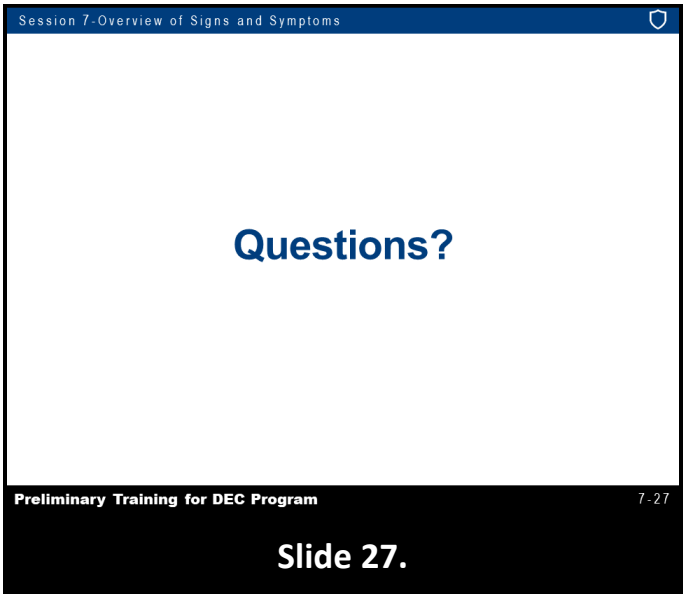
Cannabis usually leaves temperature near the normal body temperature ranges.

Cannabis usually causes normal muscle tone.

H. Wrap-Up



Slide 26.



Slide 27.

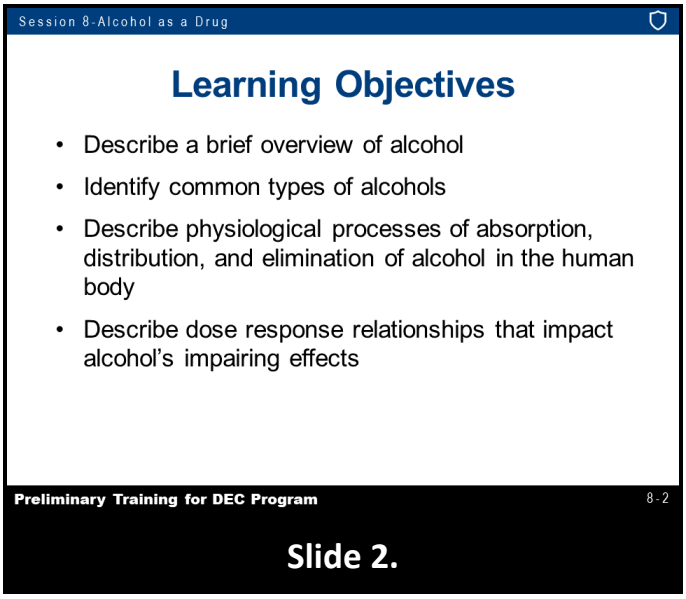
8 PRELIMINARY TRAINING FOR DEC PROGRAM

ALCOHOL AS A DRUG

LEARNING OBJECTIVES

- Describe a brief overview of alcohol
- Identify common types of alcohols
- Describe the physiological processes of absorption, distribution, and elimination of alcohol in the human body
- Describe dose response relationships that impact alcohol's impairing effects

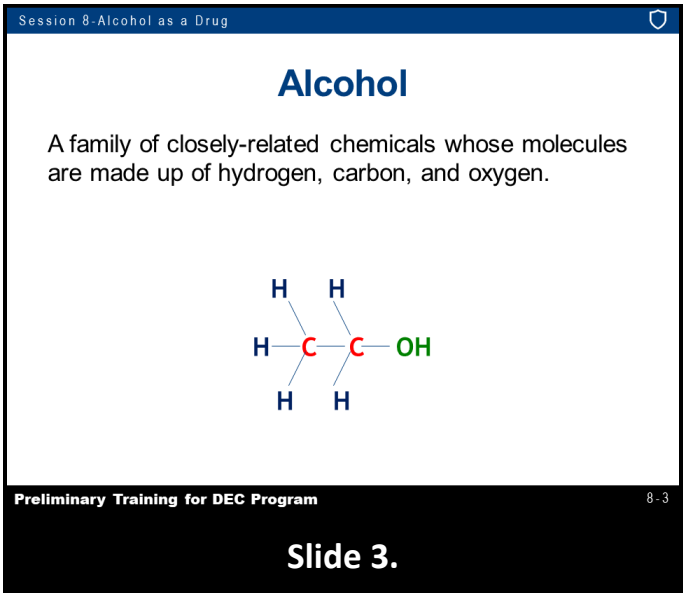
CONTENTS



Slide 2.

Alcohol is a drug. In fact, alcohol is the most commonly abused drug. As Drug Recognition Experts (DREs), the participants will often encounter persons who are under the combined influence of alcohol and some other drug.

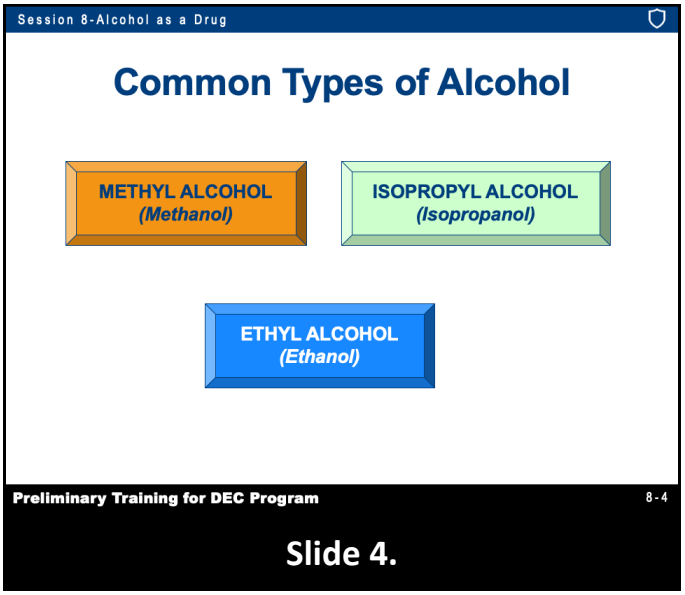
A. Brief Overview of Alcohol



Slide 3.

The word "alcohol" refers to a number of distinct, but similar, chemicals. Each of the chemicals called an "alcohol" is composed of the three elements: hydrogen, carbon, and oxygen. Each of the "alcohols" is a drug within the scope of our definition.

But only one can be tolerated by the human body in substantial quantities.

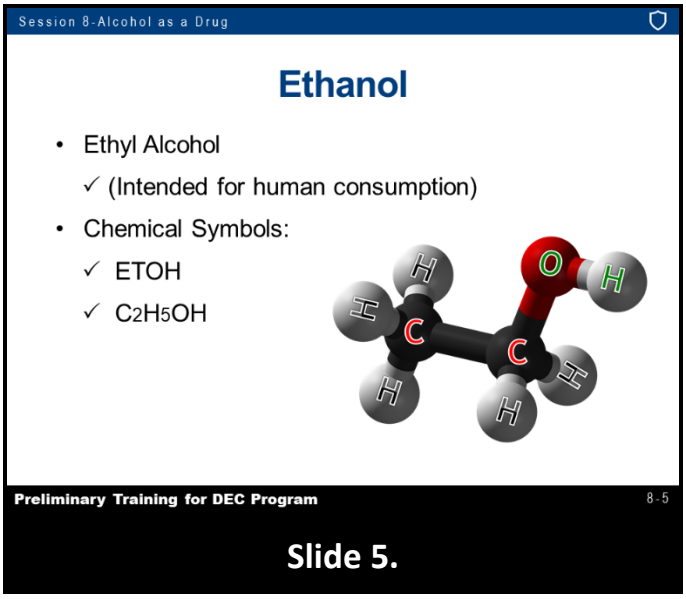


Slide 4.

Three of the more commonly known “alcohols” are Methyl, Isopropyl, and Ethyl. Methyl Alcohol, also known as Methanol, or “wood alcohol”. Isopropyl Alcohol, also known as Isopropanol, or “rubbing alcohol”.

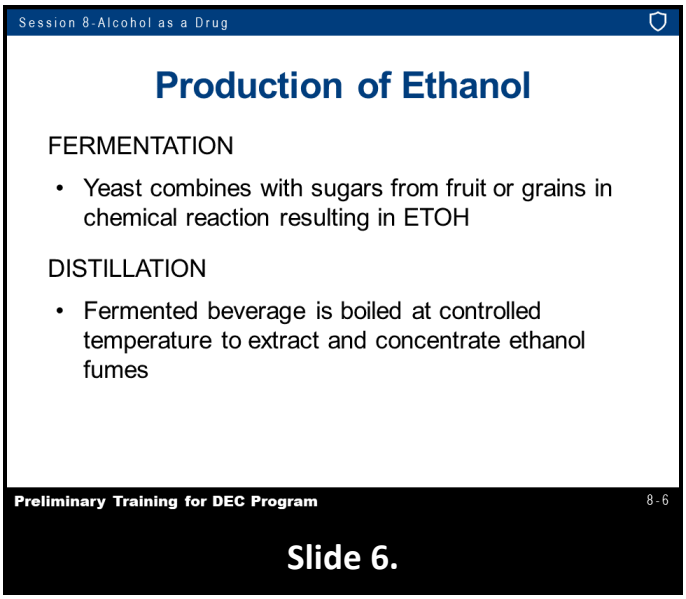
Ethyl Alcohol, also known as Ethanol, or “beverage alcohol”.

Ethanol Alcohol: Ethanol is the kind of alcohol on which we will focus because it is the only type intended for human consumption. Ethanol is the active ingredient in beer, wine, whiskey, and other alcoholic beverages intended for drinking. Like all “alcohols,” ethanol is composed of hydrogen, carbon, and oxygen. Chemists use a number of different symbols to represent ethanol.



Slide 5.

For our purposes, we will use the symbol “ETOH”. The “ET” represents “ethyl” and the “OH” represents an oxygen atom and hydrogen atom, bonded together in what the chemists refer to as the “hydroxy radical”. All alcohols have a hydroxy radical in their molecules. Ethanol has been around for a long time. People drank it long before they learned to write.



Slide 6.

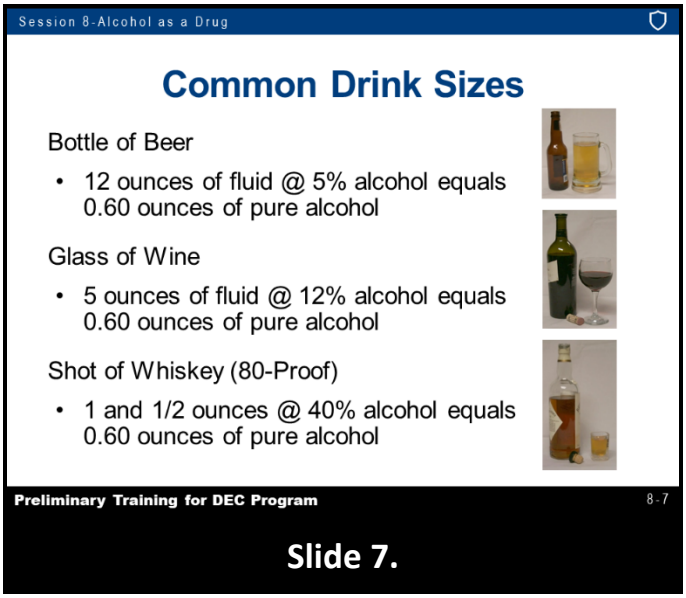
Ethanol is a naturally occurring drug. That is, it is produced through a process called fermentation. In fermentation, spores of yeast, carried by the wind, come in contact with fruit or grain that has fallen to the ground.

Sugars in the fruit or grain chemically react with yeast and produce ethanol. Humans almost certainly first encountered ethanol that had been produced accidentally in this fashion. Of course, today we don't sit around waiting for the wind to bring yeast to fallen fruit. Most fermentation takes place on purpose, under controlled conditions. Through the process of fermentation, we can produce a beverage that has, at most, about 14% ethanol.

When the ethanol concentration reaches 14%, the yeast dies, so fermentation stops.

If we want to have higher concentration ethanol beverages, we have to use another step in the production. Distillation is the process used to produce a higher concentration of ethanol. In distillation, a fermented beverage is heated to the point where the ethanol begins to boil. Ethanol starts to boil at a lower temperature than water. The ethanol vapor is collected and allowed to cool until it turns back into a liquid. By repeating the process of heating the liquid and collecting and cooling the vapors, higher and higher concentrations of ethanol can be produced. Ethanol beverages produced by distillation are called distilled spirits.

Over the centuries in which people have produced ethanol, some general or common-sized servings of different beverages have evolved.



Slide 7.

Beer is usually served in 12-ounce cans or bottles. Since beer averages an ethanol concentration of five percent, a can or bottle contains slightly more than one-half ounce of pure ethanol (craft, microbrewery, and imported beverages may contain a higher ethanol concentration).

Five ounces of wine with an alcohol concentration of 12% contains slightly more than one half ounce of pure alcohol.

Whiskey and other distilled spirits are dispensed in a "shot" glass, which usually contain one and one-half ounces of liquid. Since whiskey usually has an ethanol concentration of 40%, a "shot" of whiskey has slightly more than one-half ounce of pure ethanol.

For all practical purposes, standard sized servings of beer, wine, and whiskey all pack the same "punch."

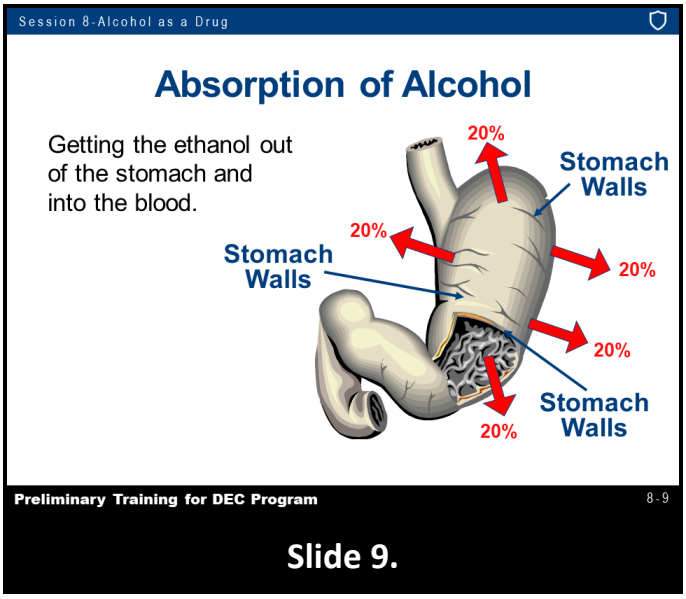
B. Physiological Processes

Slide 8.

Alcohol is the most abused drug in the United States.

Ethanol is a Central Nervous System (CNS) Depressant. It doesn't impair until it gets into the brain. It can't get into the brain until it first gets into the blood. It can't get into the blood until it first gets into the body. **This concept is true with all drugs that impair.**

There are a number of ways in which alcohol can get into the body. It can be injected into a vein via hypodermic needle. It can be inhaled, i.e., alcohol fumes can be brought into the lungs and some molecules will pass into the blood. It could also be inserted as an enema and administered by quickly passing from the large intestine into the blood. But the vast majority of times alcohol gets into the body, it gets there via drinking.

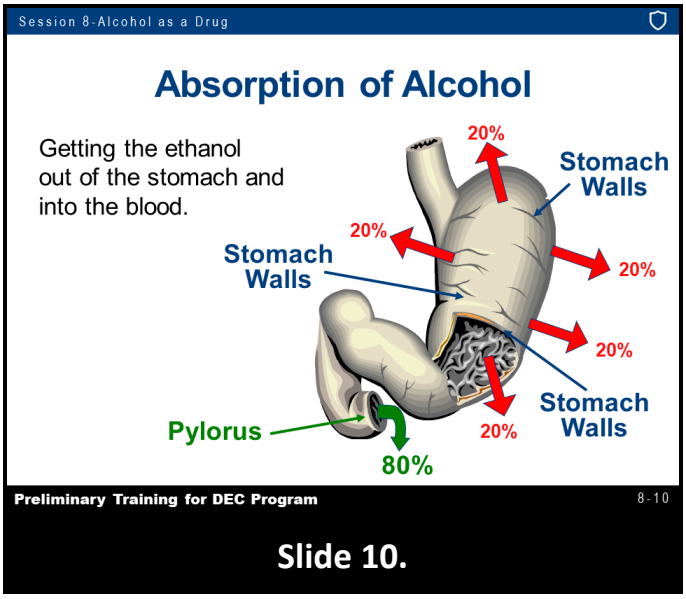


Slide 9.

Once the alcohol is in the stomach, it will take two routes to get into the blood.

One interesting thing about alcohol is it is able to pass directly through the stomach walls. Under normal conditions, about 20% of the alcohol a person drinks gets into the blood by diffusing through the walls of the stomach. But most of the alcohol usually passes through the base of the stomach into the small intestine, from which it passes quickly into the blood.

Another interesting thing about alcohol is it does not have to be digested before it can move from the stomach to the small intestine. When a person eats food, the food must remain for a time in the stomach. Acids and enzymes in the stomach must begin to break down the food to prepare it to pass to the lower portion of the gastrointestinal track. While the initial digestive process is underway, a muscle at the base of the stomach will constrict and shut off the passage to the small intestine.

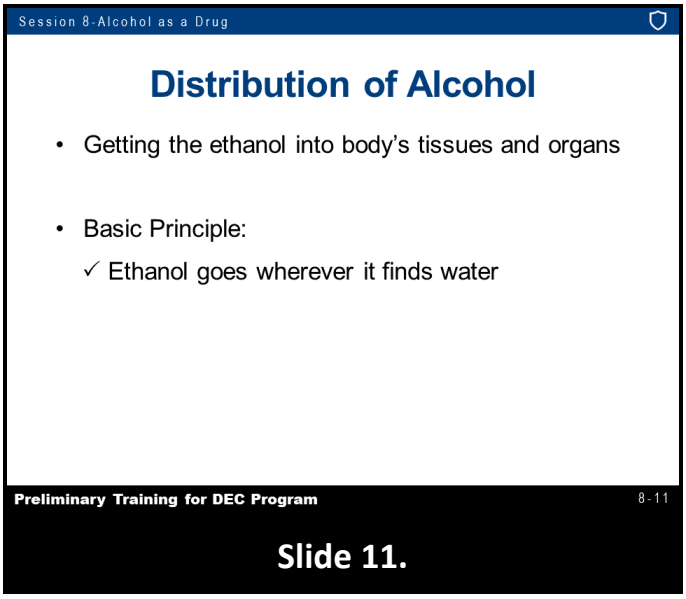


Slide 10.

Note the muscle called the pylorus, or pyloric valve. Since alcohol doesn't have to be digested, the pylorus does not constrict when alcohol enters the stomach. If we drink on an empty stomach, the pylorus stays wide open. The alcohol will pass immediately through the base of the stomach, into the small intestine and quickly move into the bloodstream.

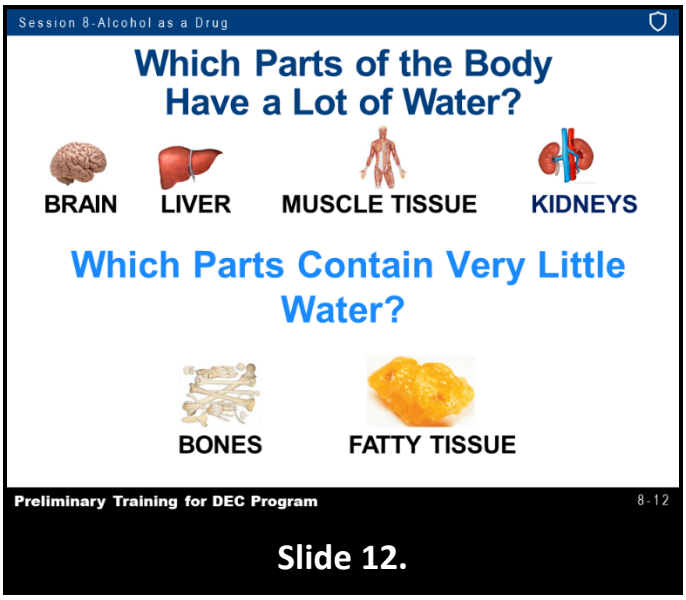
Food will cause the pylorus to constrict. While the pylorus is closed, nothing will move from the stomach to the small intestine. Any alcohol in the stomach will be “trapped” there, along with the food and the alcohol will not get into the blood as quickly. Drugs taken orally will behave similarly. Blood alcohol concentration (BAC) will not get as high as it would if the drinking had been done on an empty stomach. While the alcohol is trapped in the stomach, the acids and enzymes will start to react with it and break it down. By the time the pylorus opens, some of the alcohol will have been chemically changed so there will be less available to get into the blood.

Once the alcohol gets into the blood, the blood will carry it to the various tissues and organs of the body.



Slide 11.

Alcohol is attracted to water. The blood will deposit the alcohol in all the parts of the body where water is found. Parts of the body that have a lot of water will receive a lot of alcohol. Parts of the body that have only a little water will receive little alcohol. **Basic Principle: Ethanol goes wherever it finds water.**

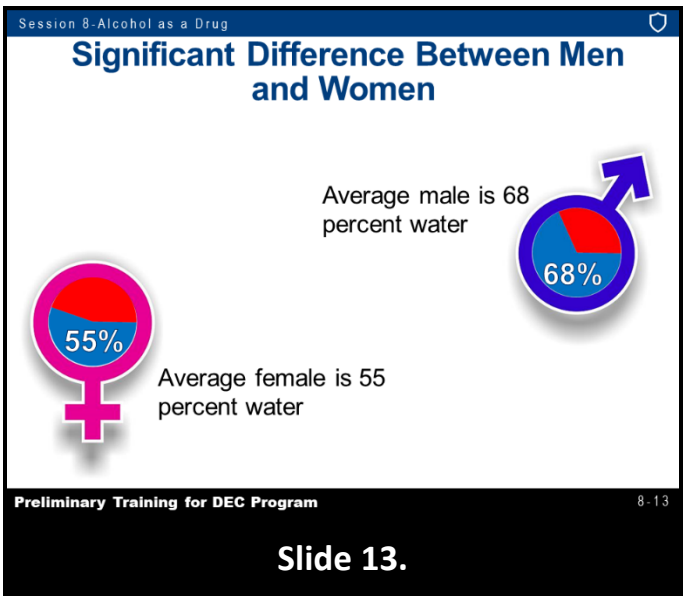


Slide 12.

- Brain
- Liver
- Muscle tissue
- Kidneys
- Bones
- Fatty tissue

The fatty tissue will receive very little of the alcohol.

The muscle tissue will receive a relatively high proportion of the alcohol a person drinks.

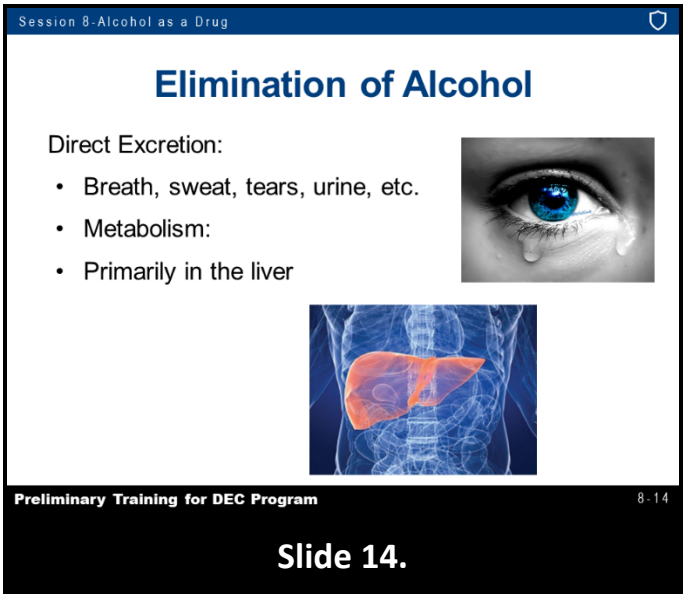


Slide 13.

Here is an interesting and significant difference between men and women: pound-for-pound, the average male has much more water in his body than the average female.

The female body has more fatty tissue than does the male body.

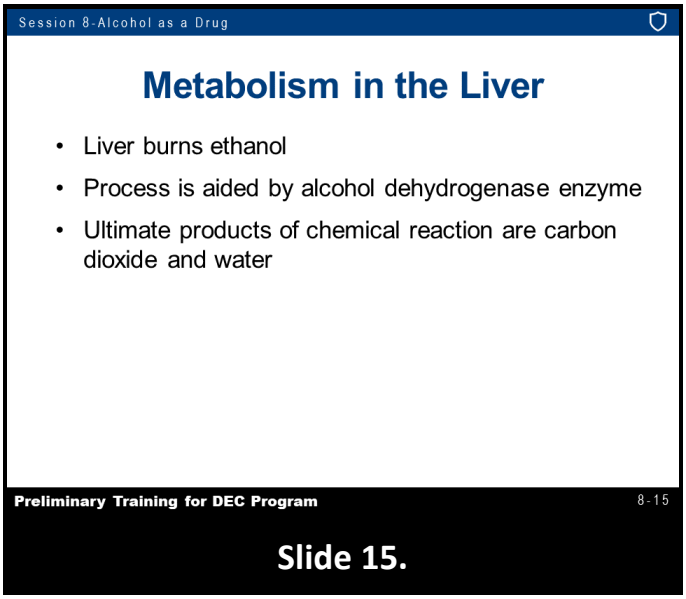
Pound-for-pound, the average female has more fat and less muscle than does the average male. Since fatty tissue has very little water, the average female, pound-for-pound, has less water than the average male. This means the average woman has fewer places in her body in which to deposit the alcohol she drinks.



Slide 14.

As soon as alcohol gets into the body, the body begins working to get rid of it. Some alcohol is simply expelled directly from the body, i.e., on the breath, in the sweat, in urine, etc. Relatively little of the alcohol we drink is directly expelled from the body. Clarification: Only about 2–10% of the alcohol we consume is directly excreted in the breath, urine, etc. The body eliminates most of the alcohol by chemically breaking it down.

The liver is primarily responsible for breaking down, or metabolizing, the alcohol. Clarification: Some metabolism of alcohol also takes place in other parts of the body, including the brain. The liver does the vast majority of the job.

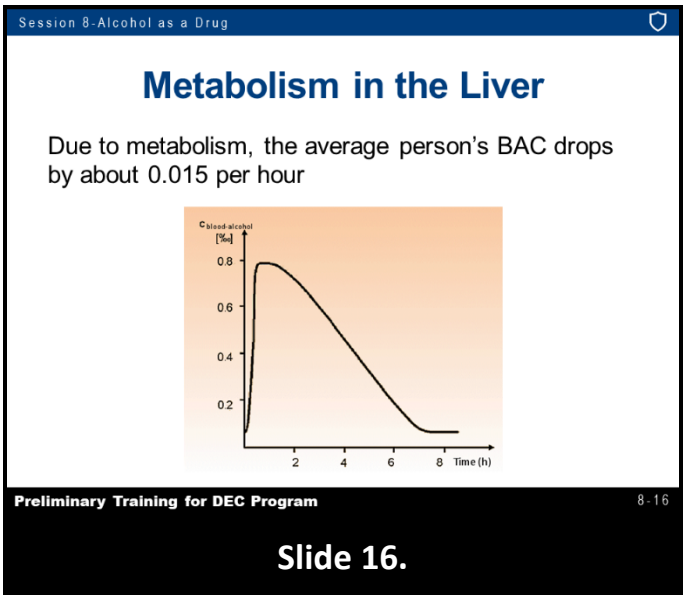


Slide 15.

Metabolism of alcohol actually consists of a slow, controlled burning of the alcohol.

In the burning process, the alcohol combines with oxygen. The liver has an enzyme called alcohol dehydrogenase, which helps to speed up the reaction of oxygen with the alcohol. Clarification: The enzyme does not react with the alcohol itself, but simply makes it easier for the oxygen to react with the alcohol. The technical term for something that helps a chemical reaction while not itself taking part in the reaction is a catalyst. Alcohol dehydrogenase is a catalyst for the metabolism of alcohol.

The reaction of alcohol with oxygen ultimately produces carbon dioxide and water, which can be directly expelled from the body.

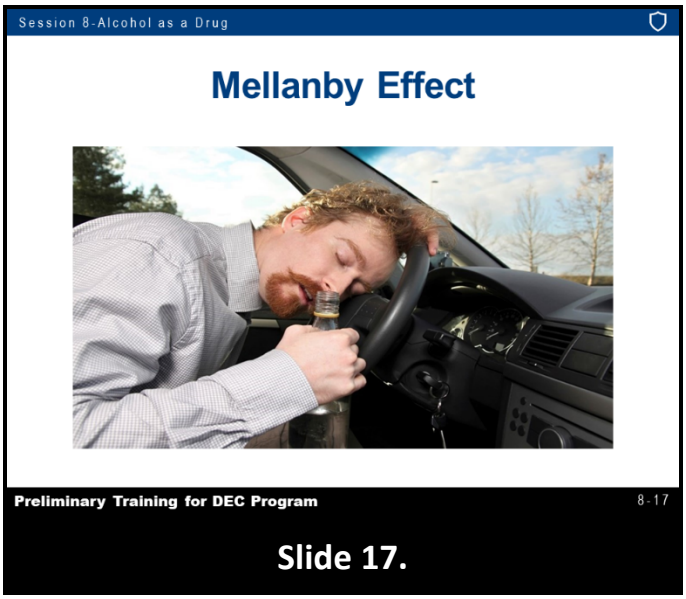


Slide 16.

The speed with which the liver burns alcohol varies from person to person and will change from time to time for any particular person.

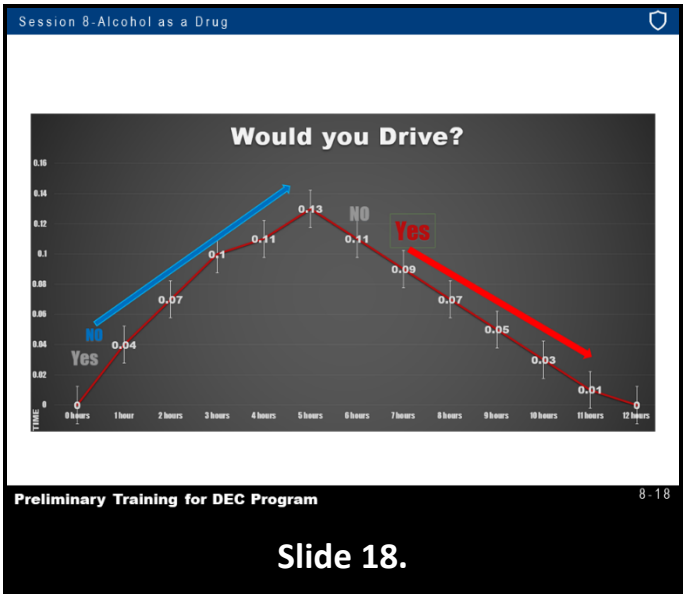
BUT ON THE AVERAGE: Due to metabolism, a person's BAC will drop by about 0.015 per hour. For the average male, a BAC of 0.015 is equal to the alcohol content of about two-thirds of a "standard drink," i.e., about two-thirds of a can of beer, or about two-thirds of a glass of wine, or two-thirds of a shot of whiskey. For the average woman, a BAC of 0.015 is equal to the alcohol content of only one-half of a "standard drink." So the average male can "burn up" about two-thirds of a drink in an hour. But the average female can only burn up about one-half of a drink in an hour. In other words: suppose a person gulps down a can of beer, or a glass of wine, or a shot of whiskey; if the person is an average man, it will take him about an hour and one-half to burn up that alcohol; if the person is a woman, it will take her about two hours.

- We can't speed it up
- Drinking coffee won't help
- A cold shower won't help
- Exercise won't help
- Our livers take their own sweet time burning the alcohol



Slide 17.

A person feels more impaired while his/her BAC is still rising, than at the same level while his/her BAC is declining. The person is not less impaired, but they "feel better;" (the "Mellanby Effect") which makes them more likely to drive while impaired. Even though a person may feel better on the declining curve, their impairment may be worse. Sample analogy: Imagine driving on a feeder road to the freeway. The speed limit on that feeder road is 45-mph. 45-mph feels like a good speed. You then merge onto the freeway and drive at speeds of 65- to 70-mph. You reach your exit, exit back onto a feeder road. You decrease your speed to 45 mph; however, now 45-mph feels painstakingly slow. This is the Mellanby Effect in a nutshell; you felt the 45-mph was faster before you went faster. You felt you were more impaired before you were more intoxicated.

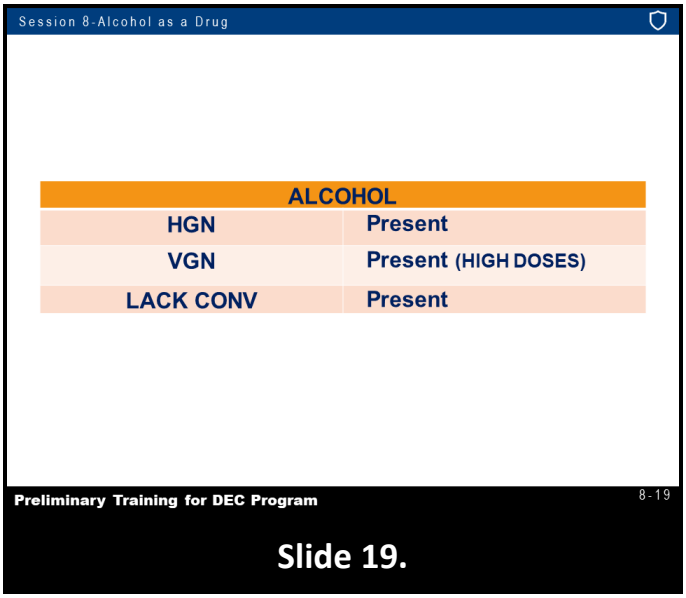


Slide 18.

The findings of the study done by Sir Edward Mellanby:

1. At a blood alcohol concentration on the way up, a person will feel more impaired than at the same blood alcohol concentration on the way back down. A person on the declining prong of the BAC curve will feel "better," but still be impaired. For example, at a BAC of 0.05 when a person's BAC is rising, will feel more impaired and refuse to drive; as compared to the person at a BAC of 0.05 when they are on the declining prong of the BAC curve.
2. The skills needed to drive safely are objectively worse on the declining prong of the BAC curve, even though the person subjectively feels better.
3. A person is more likely to drive impaired on the declining BAC prong because of loss of inhibitory control.

C. Symptomatology of Alcohol

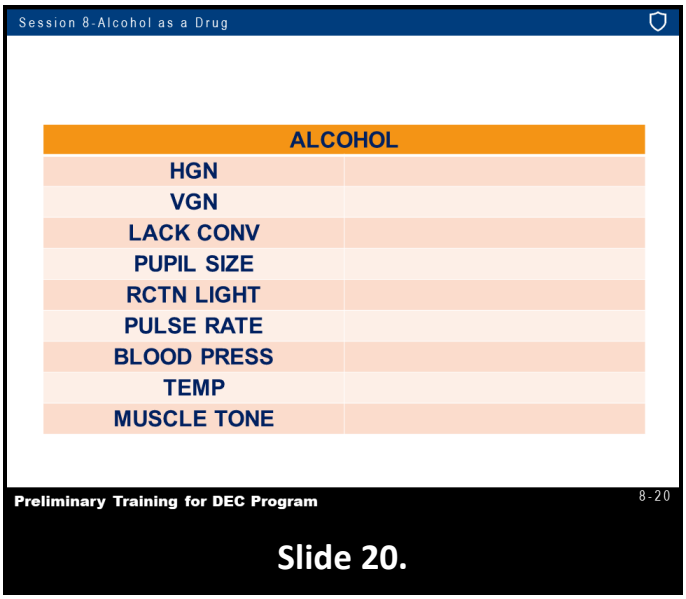


Slide 19.

Horizontal Gaze Nystagmus (HGN) will be present.

Vertical Gaze Nystagmus (VGN) may be present, especially with high doses (for that individual) of alcohol.

Under the influence of alcohol, Lack of Convergence (LOC) frequently will be present.



Slide 20.

Alcohol does not affect pupil size; therefore, alcohol usually leaves the pupils in the DRE average ranges.

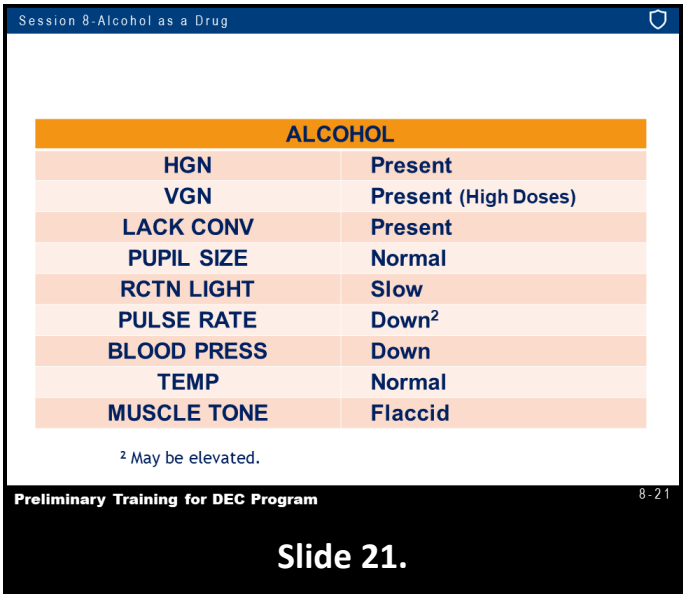
Alcohol will cause pupillary reaction to light to be slow.

Pulse rate will usually be down. However, ETOH is one of the exceptions and some subjects have been found to have elevated pulse rates at lower BACs.

Blood pressure response to alcohol will normally be down.

Alcohol usually leaves body temperature near the average range.

Alcohol usually causes flaccid muscle tone.



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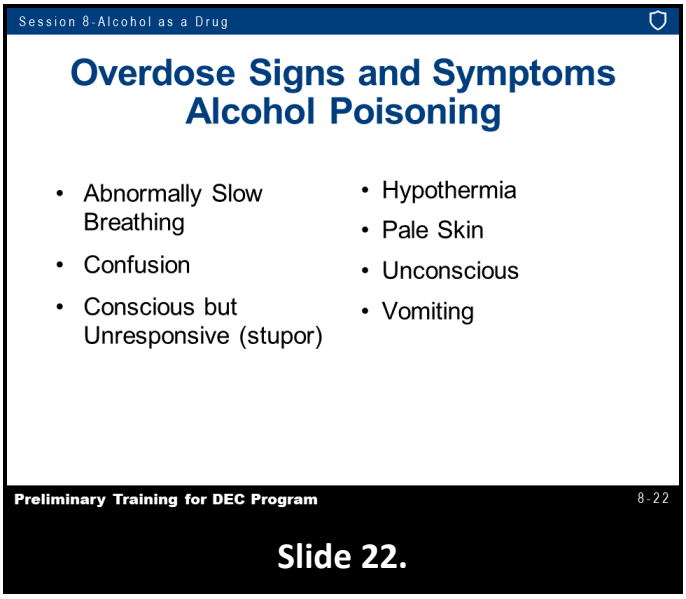
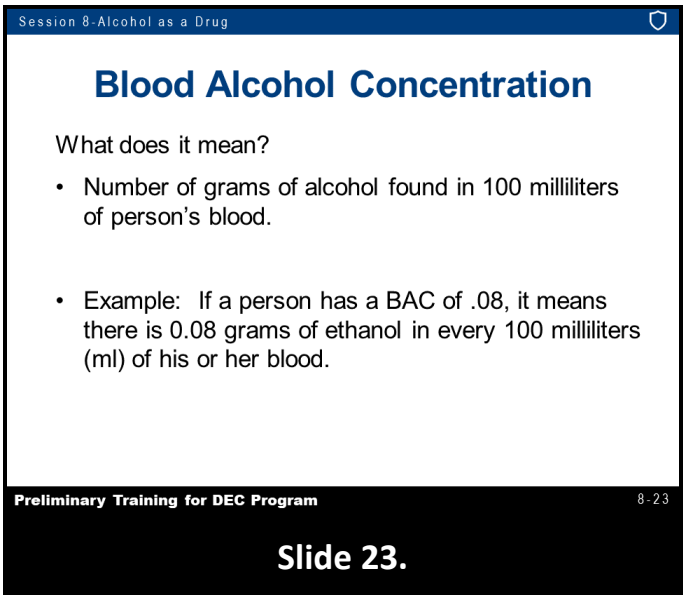


Slide 22.

There are conditions associated with alcohol consumption which need medical consideration. In addition to possible injuries associated with poor coordination, balance, and dizziness as a side effect of consuming alcohol, we also need to be aware and on the lookout for **alcohol poisoning**.

Alcohol poisoning is a serious – and sometimes deadly – consequence of drinking large amounts of alcohol in a short period of time. Drinking too much too quickly can affect your breathing, heart rate, body temperature, gag reflex, and potentially lead to coma and death. Alcohol poisoning can occur with both binge drinkers and heavy drinkers.

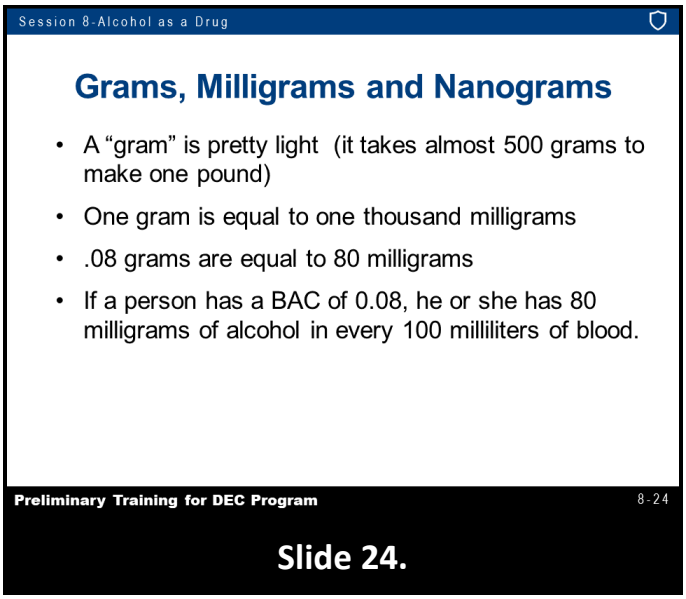
D. Dose-Response Relationships



Slide 23.

What does "Blood Alcohol Concentration (BAC)" mean?

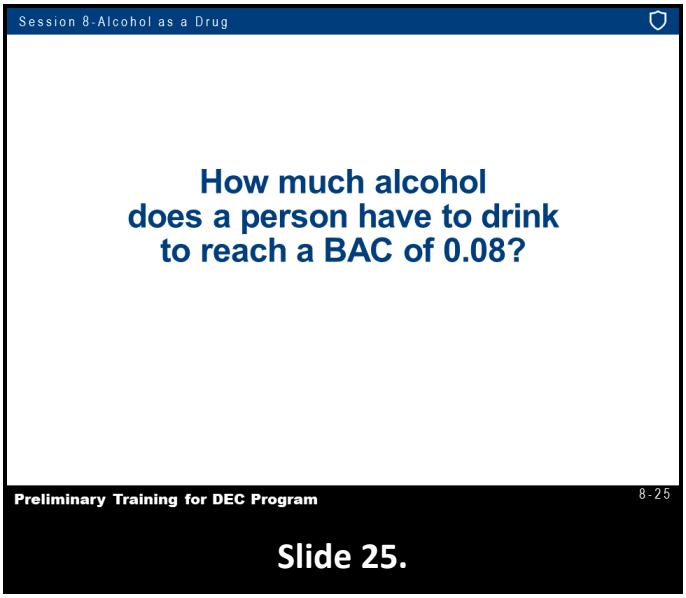
BAC is the number of grams of alcohol found in 100 milliliters of the person's blood. Example: If a person has a BAC of .08, it means there is 0.08 grams of ethanol in every 100 milliliters (ml) of his or her blood.



Slide 24.

BAC means the number of grams of pure ethanol found in every 100 milliliters of a person's blood. A gram is a measure of weight; it takes almost 500 grams to make a pound.

The so-called "illegal limit" of BAC is 0.08 in most States. If a person has a BAC of 0.08, it means there is 0.08 grams (g) of ethanol in every 100 milliliters (ml) of his/her blood.



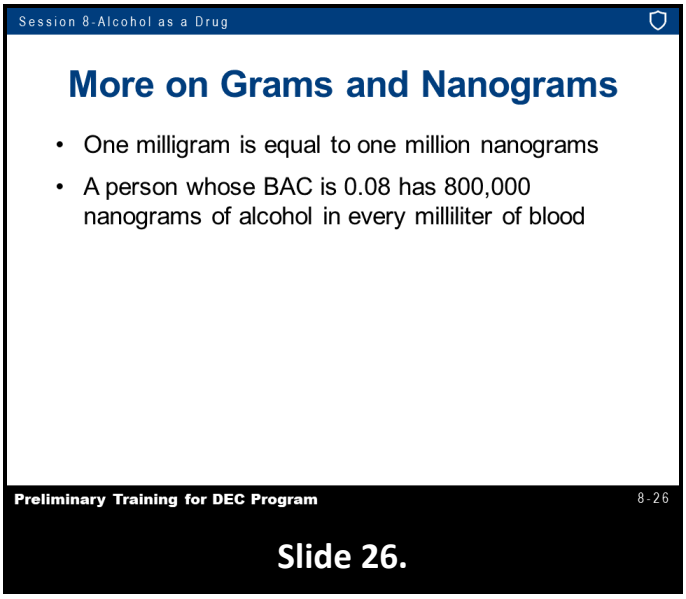
Slide 25.

Take an average male weighing 175 pounds and in reasonably good physical shape. Assume he does his drinking on an empty stomach. He would have to gulp down about 4 to 5 cans of beer, or 4 to 5 glasses of wine, or five shots of whiskey in a fairly short period of time to reach 0.08 BAC. In terms of pure ethanol, that would amount to just about two and one-half fluid ounces or about two shot glasses.

If two shot glasses were filled with pure ethanol, we would have just enough of the drug to bring an average man to a BAC of approximately 0.10.

In one respect, it certainly doesn't take much ethanol to impair; just two full shot glasses will more than do the trick for a full-sized man.

BUT COMPARED TO OTHER DRUGS, it takes an enormous quantity of ethanol to cause impairment. In order to compare ethanol to other drugs, we have to review some more units of weight.

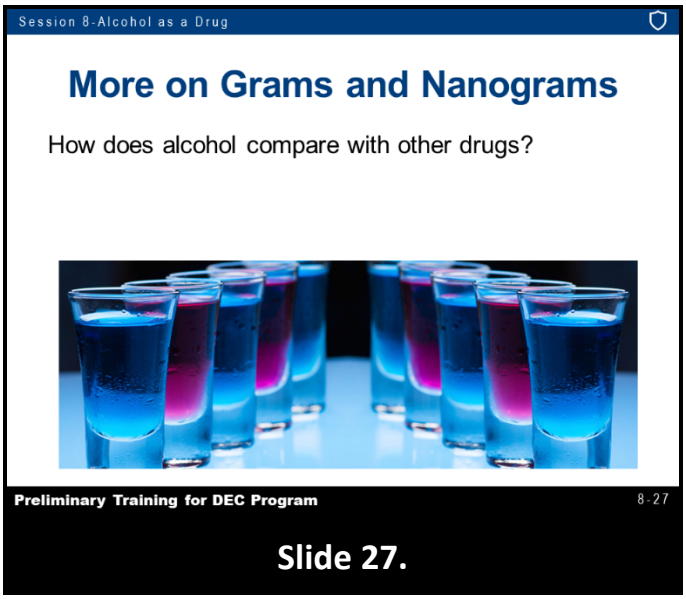


Slide 26.

We're already familiar with the gram. It weighs only about one five-hundredth of a pound. The milligram is much lighter still and it takes about one thousand milligrams to make a gram.

If one gram is equal to one thousand milligrams, then one tenth of a gram is equal to one hundred milligrams.

Clarification: 100 is one-tenth of 1,000. So a person with a BAC of 0.08 has 80 milligrams of ethanol in every 100 milliliters of his or her blood. That is exactly the same as saying there is 800,000 nanograms of ethanol in every one milliliter of blood.



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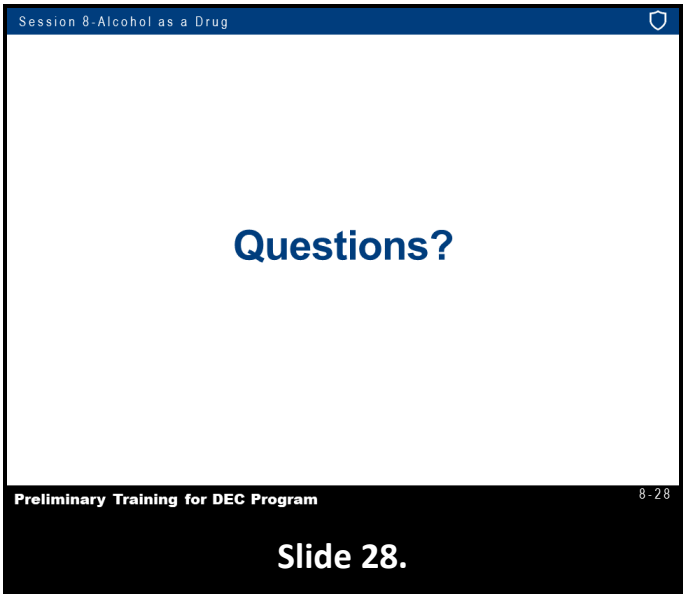

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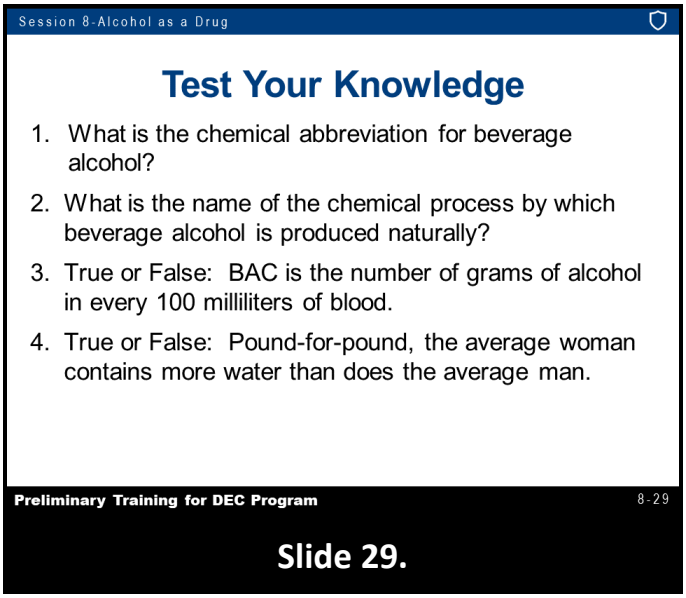
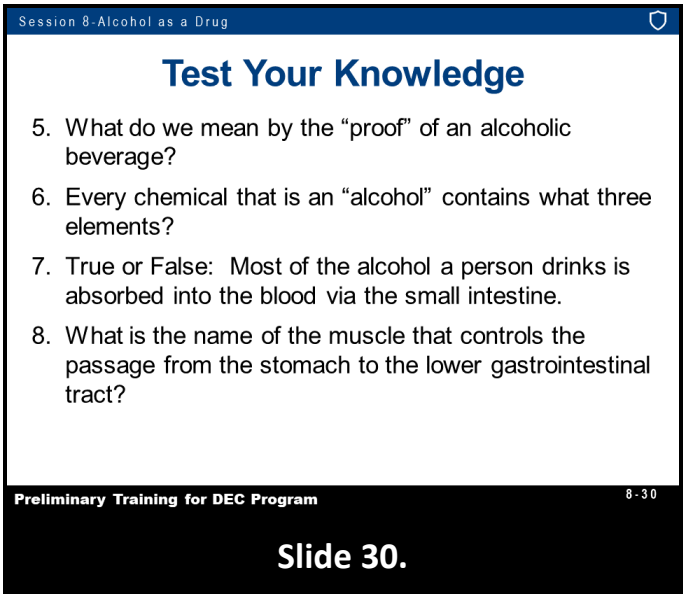


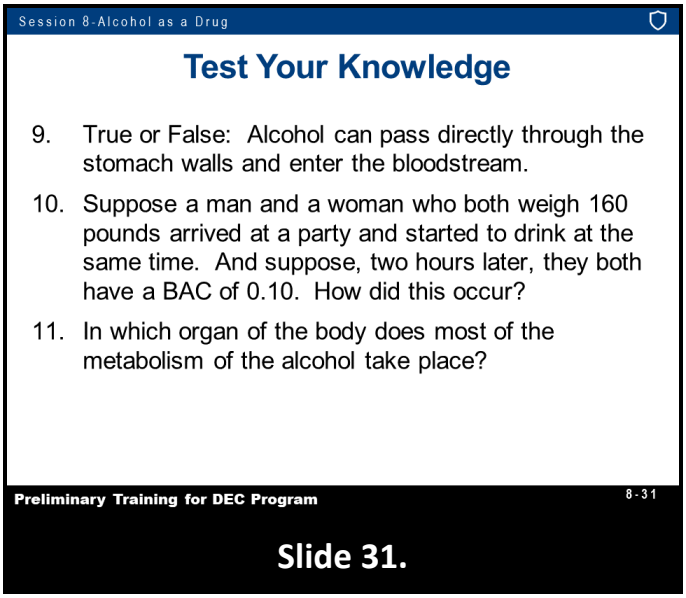
Slide 29.

Test Your Knowledge

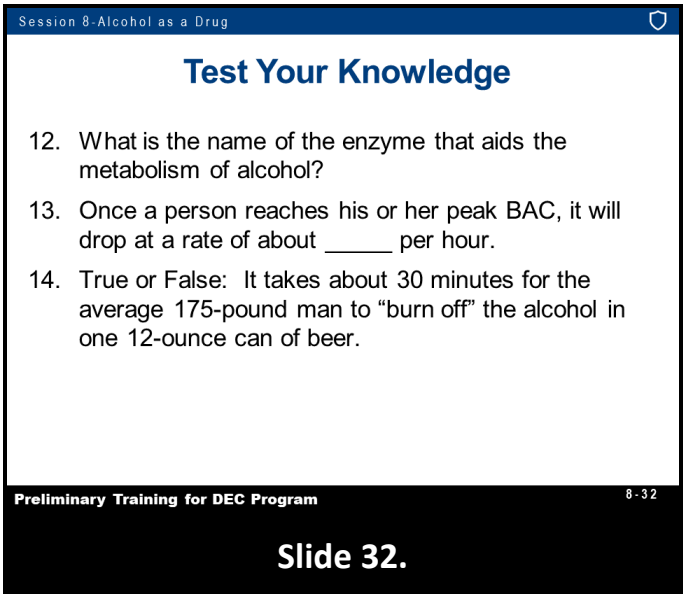
1. What is the chemical abbreviation for beverage alcohol?
2. What is the name of the chemical process by which beverage alcohol is produced naturally?
3. True or False: BAC is the number of grams of alcohol in every 100 milliliters of blood.
4. True or False: Pound-for-pound, the average woman contains more water than does the average man.



5. What do we mean by the "proof" of an alcoholic beverage?
6. Every chemical that is an "alcohol" contains what three elements?
7. True or False: Most of the alcohol a person drinks is absorbed into the blood via the small intestine.
8. What is the name of the muscle that controls the passage from the stomach to the lower gastrointestinal tract?



9. True or False: Alcohol can pass directly through the stomach walls and enter the bloodstream.
10. Suppose a man and a woman who both weigh 160 pounds arrived at a party and started to drink at the same time. And suppose, two hours later, they both have a BAC of 0.10. How did this occur?
11. In which organ of the body does most of the metabolism of the alcohol take place?



Slide 32.

12. What is the name of the enzyme that aids the metabolism of alcohol?
13. Once a person reaches his or her peak BAC, it will drop at a rate of about _____ per hour.
14. True or False: It takes about thirty minutes for the average 175-pound man to "burn off" the alcohol in one 12-ounce can of beer.

9 PRELIMINARY TRAINING FOR DEC PROGRAM

PREPARING FOR THE DRE SCHOOL

LEARNING OBJECTIVES

- The participant will be informed of the logistics and other arrangements necessary for their participation in the 7-Day DRE School

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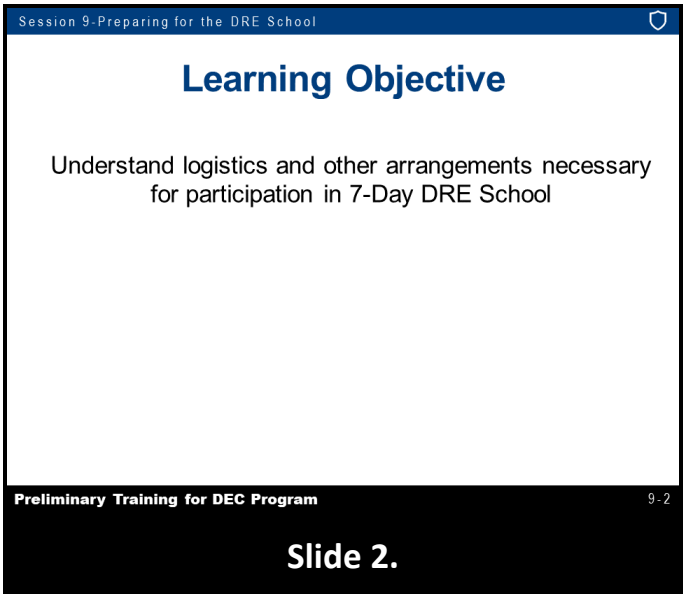
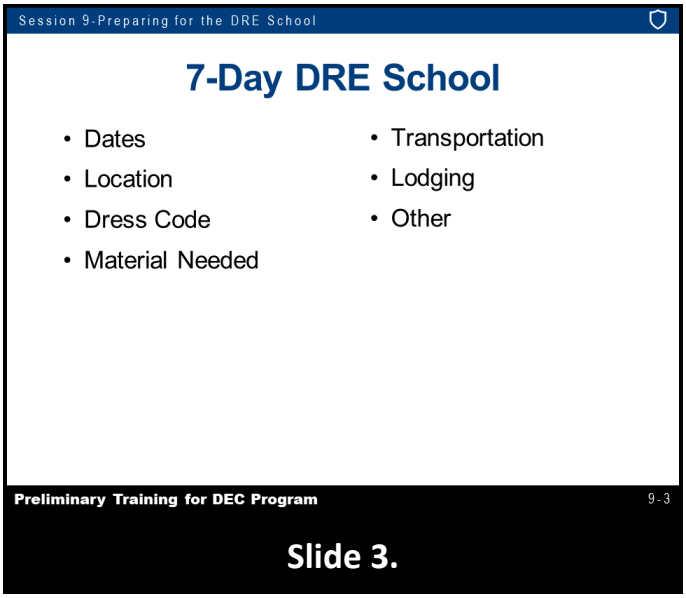
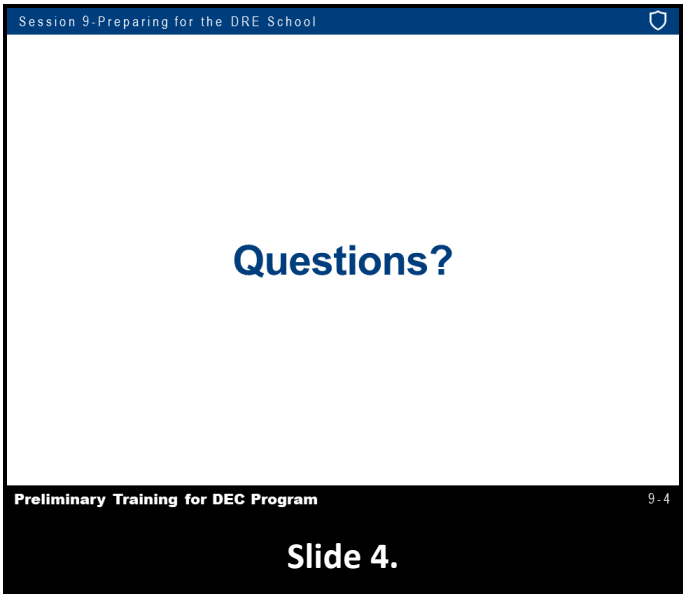


A. 7-Day DRE School



- Dates of the 7-Day school
- Location of the school
- Dress code
- Materials that the participants should bring to the school
- Transportation arrangement (if applicable)
- Lodging arrangements (if applicable)
- Recreational facilities and opportunities (if appropriate)


Session 9-Preparing for the DRE School
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Preliminary Training for DEC Program
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Slide 4.

DRE Curriculum Vitae Worksheet

Formal Education

High School

College

Specialized College / Vocational Courses

Formal Professional Training

Academy

Specialized Police Training

Other Specialized / Professional Training

Relevant Experience

Job Experience (Law Enforcement)

Other Job-Related Experiences

Drug Enforcement/Evaluation Experience

Court Qualifications

Outside Readings - (relative to the DEC Program)

Resources

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