

Participant Manual

Advanced Roadside Impaired Driving Enforcement



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Advanced
Roadside
Impaired Driving
Enforcement

Session 1 – Introduction
and Overview “Drugs and Highway Safety”



February 2018

Session 1

Introduction and Overview "Drugs and Highway Safety"



Learning Objectives

- Explain goals and objectives of course
- Identify elements of drug problem
- Define and describe impaired driving enforcement programs
- Understand roles and responsibilities of DRE and how course supports DEC Program
- Define term drug in context of traffic safety and impaired driving enforcement as referenced in DEC Program

Upon completion of this session, the participant will be able to:

- Explain the goals and objectives of this course
- Identify the elements of the drug problem
- Define and describe impaired driving enforcement programs
- Understand the roles and responsibilities of the Drug Recognition Expert (DRE) and how this course supports the Drug Evaluation and Classification (DEC) Program
- Define the term drug in the context of traffic safety and impaired driving enforcement as referenced in the DEC Program

CONTENT SEGMENTS

- A. Welcoming Remarks and Introductions
- B. Housekeeping
- C. Participant Introductions
- D. ARIDE Pre-Course Exam
- E. Course Goal
- F. What is a drug?
- G. Statistics and research
 - U.S. and other countries
 - General alcohol and drug use
 - Prevalence of impaired driving
- H. Impaired Driving Enforcement Programs
- I. Roles and responsibilities of the DRE

LEARNING ACTIVITIES

Instructor-Led Presentation

Overall Course Goal

This course will train law enforcement officers to observe, identify and articulate signs of impairment related to drugs, alcohol or a combination of both in order to reduce number of impaired driving incidents, serious injury, and fatal crashes.

E. Course Goal

This course will train law enforcement officers to observe, identify, and articulate the signs of impairment related to drugs, alcohol, or a combination of both in order to reduce the number of impaired driving incidents, serious injury, and fatal crashes.


This course will train other criminal justice professionals (prosecutors, toxicologists, etc.) to:

- Understand the signs of impairment related to drugs, alcohol, or a combination of both
- Effectively work with law enforcement in order to reduce the number of impaired driving incidents, serious injury, and fatal crashes

Session 1 - Introduction and Overview "Drugs and Highway Safety"

ARIDE Prerequisites

- SFSTs review and update
- Pass SFST proficiency evaluation



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In order for the participant to utilize the information presented in this course, the following is required:

1. The participant will receive a short review and update for the SFSTs as part of Session 2 of this course
2. After completing that session, the participant will be required to pass a SFST proficiency evaluation
3. Failure to successfully complete the SFST proficiency will result in dismissal from the course

Important Note

- This course is not intended to be a substitute for the DEC Program
- This course will NOT qualify or certify the participant as a DRE



Many law enforcement officers are trained in Standardized Field Sobriety Testing (SFST) and use the skills gained in the course as part of their overall enforcement of (**Driving while Impaired (DWI) Laws**).

This course is not developed to act as a substitute for the DEC Program and will not qualify or certify an individual as a DRE.

This course is intended to bridge the gap between the SFST and DRE course and to provide a level of awareness to the participants, both law enforcement and other criminal justice professionals, in the area of drug impairment in the context of traffic safety.

Session 1 - Introduction and Overview "Drugs and Highway Safety"

Background: High Visibility Enforcement Efforts

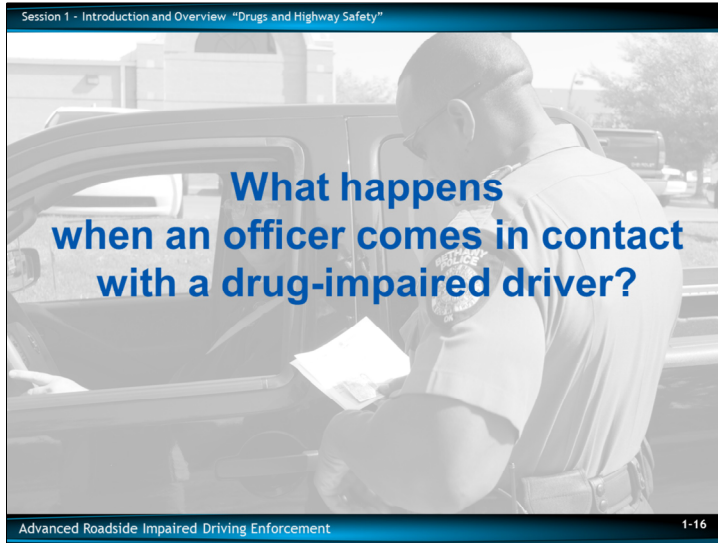
- **Left prosecutors behind**
- **Overloaded criminal court system**
- **Delivered poorly developed cases**
- **Drove criminal justice professionals to understand impaired driving detection process**

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The National Highway Traffic Safety Administration (NHTSA) has promoted high visibility enforcement efforts among law enforcement agencies. As a result of this effort, several things happened:

1. Prosecutors were left behind in technology advances and training
2. The criminal court system was overloaded
3. Delivered poorly developed cases for prosecution

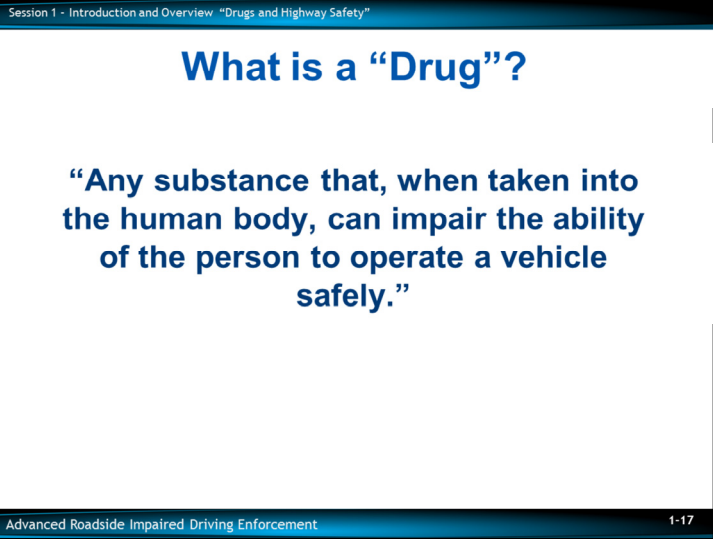
Criminal justice professionals such as prosecutors, toxicologists, and probation and parole officers must also understand the DWI detection process in order to support enforcement efforts, which will increase the probability of successful prosecution and adjudication.



Often officers come in contact with the drug-impaired driver. There are many things that could be happening.

The officer:

- Is unfamiliar with the indicators of drug impairment, therefore does nothing with the subject
- Recognizes there is something wrong with the driver, but does not know how to address the issue
- Allows subject to continue on their way
- Drives the subject home or allows the subject to ride home with another individual
- Is not familiar with the resources available to them
- Recognizes indicators of impairment and arrests driver for DWI



F. What is a Drug?

A Simple, Enforcement-Oriented Definition of Drugs

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

Working definition derived from the 1985 California Vehicle Code.

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.

2016 National Survey Drug Use and Health (NSDUH)

- Slightly more than half of Americans consider themselves drinkers
- 6.0% describe themselves as heavy drinkers
- 28.6 million people used illicit drugs in the past month

G. Statistics and Research

Alcohol and Drug Use

Social drinking is considered acceptable in many societies. It is important to understand the use of alcohol in the context of society since it is related to the enforcement and adjudication of DWI offenses.

The 2016 National Survey on Drug Use and Health (NSDUH) Survey reports:

- Slightly more than half of Americans consider themselves drinkers
- Approximately 16.3 million people describe themselves as heavy drinkers
- 28.6 million people or 10.6% of the population used illicit drugs in the past month (

Although these statistics are significant, it is reasonable to assume the problem is even larger when you consider legal or prescription drugs used in a manner other than for what they have been prescribed or produced.

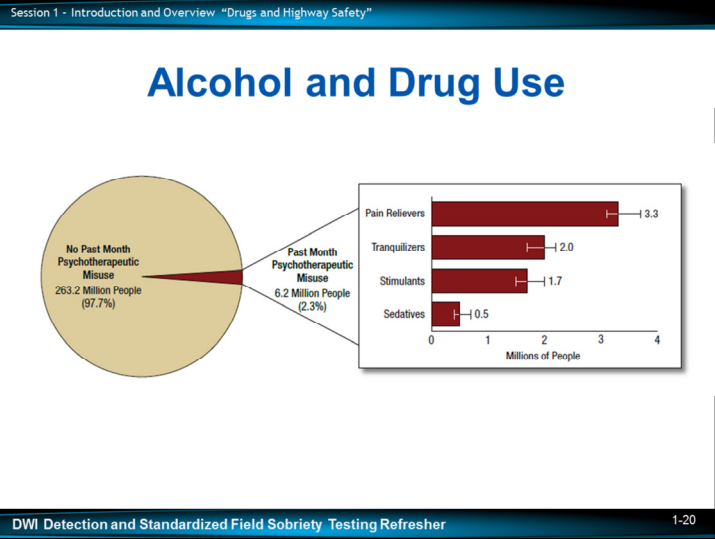
When we look at drug use specifically, it is helpful to see the trends based on specific types of drugs.

(NSDUH) Self-Reported Drug Use

- In 2016, an estimated 28.6 million Americans aged 12 or older were current (past month) illicit drug users
- Marijuana was used by approximately 84 percent of all current illicit drug users

The following summarizes the self-reported drug usage information as reported by the 2016 NSDUH Survey:

- In 2016, an estimated 28.6 million Americans aged 12 or older were current (past month) illicit drug users
- Marijuana was used by approximately 84 percent of all current illicit drug users



NSDUH provides additional details on drugs used within the past 30 days in a manner other than prescription:

Type	Number of Users
Cocaine	1.9 Million
Hallucinogens	1.4 Million
Psychotherapeutics	6.2 Million
Pain Relievers	3.3 Million
Tranquilizers	2.0 Million
Stimulants	1.7 Million
Sedatives	0.5 Million

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Driving Under the Influence

- **Males are twice as likely as females to drive under the influence of alcohol**
- **8.2% reported they had driven at least once in the last year under the influence of alcohol**
- **11.8 million people reported they drove under the influence of illicit drugs during the last year**

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Understand the magnitude of the problem of subjects driving while impaired by drugs and alcohol.

The surveys tell us:

- Males are twice as likely as females to drive under the influence of alcohol
- Overall, 8.2% of Americans reported they had driven at least once in the last year under the influence of alcohol
- Approximately 11.8 million people reported they drove under the influence of illicit drugs during the last year

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2013-2014 National Roadside Survey of Alcohol and Drug Use by Drivers

- Over 30,000 drivers participated - 60 locations
- About 20% of drivers tested positive for at least one drug
- 12.6% of the drivers had evidence of marijuana use in their systems
- More than 15% of drivers tested positive for at least one illegal drug

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NHTSA undertook a comprehensive study of the prevalence of potentially-impairing drug use by drivers in 2013 and 2014. *Report: The 2013-2014 National Roadside Survey of Alcohol and Drug Use by Drivers. (NHTSA)*

Approximately 30,000 drivers were asked to provide an oral fluid or blood sample. Samples were tested for illegal drugs, prescription medicines, and other-the-counter drugs.

- About 20% of drivers tested positive for at least one drug, up from 16.3% in the 2007 Roadside Study
- 12.6% of the drivers had evidence of marijuana use in their systems, up from 8.6% in the 2007 Roadside Study
- More than 15% of drivers tested positive for at least one illegal drug, up from 12% in 2007

The facts are unmistakable: Drug use is common among many Americans. So is drug-impaired driving.

NHTSA/IACP-Supported Impaired Driving Programs

- **Training:** SFST; ARIDE; DEC Program; Prosecuting the Drugged Driver
- **Enforcement:** Selective Traffic Enforcement
- **Prosecution/Judges:** Traffic Resource Prosecutors; Judicial Education

H. Impaired Driving Enforcement Programs

NHTSA/IACP supports:

- Training
- Enforcement
- Prosecution
- Adjudication

One of the most critical support activities NHTSA provides is TRAINING.

Some examples of law enforcement and justice professional training NHTSA provides and supports are:

- SFST
- ARIDE
- DEC Program
- Prosecuting the Drugged Driver
- Lethal Weapon
- Protecting Lives, Saving Futures

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SFST Course

- **Cornerstone for impaired driving training and enforcement**
- **Foundation for ARIDE and DEC Program**
- **Should be part of all alcohol and drug-impaired driving enforcement initiatives**

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The SFST practitioner course is:

- The cornerstone for impaired driving training and enforcement
- The foundation for this course as well as the DEC Program
- An integral part of all alcohol and drug-impaired driving enforcement initiatives

DWI Detection and Standardized Field Sobriety Testing

The SFSTs are a set of tests that include the following:

- Horizontal Gaze Nystagmus (HGN)
- Walk and Turn (WAT)
- One Leg Stand (OLS)

These tests are designed to be administered and evaluated in a standardized manner to obtain validated indicators of impairment based on NHTSA-supported research.

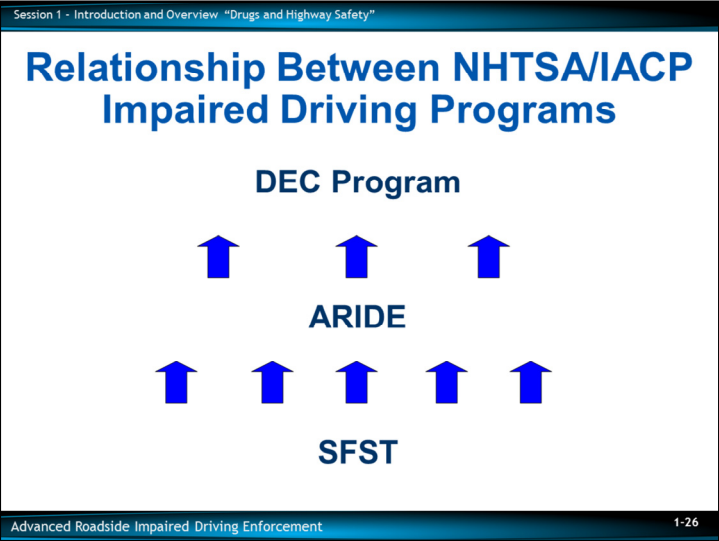
Foundations of ARIDE

- **DWI Detection Process**
 - **Phase One: Vehicle in Motion**
 - **Phase Two: Personal Contact**
 - **Phase Three: Pre-arrest Screening**
- **SFSTs**
 - **HGN**
 - **WAT**
 - **OLS**

The SFSTs are part of the overall DWI detection process which includes three phases:

- Vehicle in Motion
- Personal Contact
- Pre-arrest Screening

The SFSTs serve as the foundation for impaired driving enforcement. It is critical these tests be performed and interpreted properly.



Drug Evaluation and Classification (DEC) Program

The ultimate goal of the DEC Program is:

- To help prevent crashes and avoid deaths and injuries by improving enforcement of drug-impaired driving violations

The DRE officer is trained to:

- Conduct a detailed evaluation, consisting of twelve (12) steps and obtain other evidence that can be articulated as an opinion

A participant who successfully completes all phases of the DEC Program is known as a DRE or Drug Recognition Expert. They can reach reasonably accurate conclusions concerning the category or categories of drug(s) or medical conditions causing the impairment observed in the subject. Based on these informed conclusions, the DRE can request the collection and analysis of an appropriate biological sample (blood, urine, or saliva) to obtain corroborative, scientific evidence of the subject's drug use.

Role and Responsibilities of a DRE (Continued)

To retain DRE certification:

- **Maintain certification through continuing education**
- **Maintain log of all evaluations completed**
- **Meet other administrative requirements**

In order to retain their certification, the DRE must:

1. Participate in continuing education courses
2. Complete a recertification training course every two years
3. Maintain a log of all evaluations completed in training and as part of any enforcement activities
4. Meet other administrative requirements as established in the International Association of Chiefs of Police (IACP) International Standards governing the DEC Program

The State DEC Program Coordinators may place other standards on each DRE specific to that State.

Bridging the Gap

- **Build on SFST skills**
- **Identify drug-impaired drivers**
- **Support the DEC Program**



The ARIDE Course

The ARIDE course will allow the participant to build on the knowledge gained through their training and experience related to the SFSTs.

- Many law enforcement officers have encountered subjects who appear to be impaired by a substance other than alcohol or seem to be displaying signs and symptoms which are inconsistent with their BAC test results
- This course will provide additional information which can assist the officer in effective observation and interview techniques related to driving while impaired by alcohol, drugs, or a combination of both and make an informed decision to arrest or not arrest a subject for impaired driving

This course will deliver knowledge and information that will help them better assess impaired drivers at roadside.

This training and subsequent field experience will demonstrate the value of having a DRE on staff in an agency and may serve as motivation for the individual officers to attend a DRE course in the future.

A subsequent result of this course will facilitate better utilization of DREs in the field.

The desired outcome of the training is:

- The participant will better understand the role of the DRE and will be able to use their expertise more effectively

For those communities with no DREs or limited access to their services, this course will help officers make informed decisions related to testing, documentation, and reporting drug-impaired driving cases.

ADVANCED ROADSIDE IMPAIRED DRIVING ENFORCEMENT (ARIDE)
GLOSSARY OF TERMS

ADDICTION

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

ADDITIVE EFFECT

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

ANALGESIC

A drug that relieves or allays pain.

ANALOG (of a drug)

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

ANESTHETIC

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

ANTAGONISTIC EFFECT

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

ARTERY

The strong, elastic blood vessels that carry blood away 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.

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.

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.

BRUXISM

Grinding the teeth. This behavior is often seen in person who are under the influence of cocaine or other CNS Stimulants.

CANNABIS

This is the drug category that includes marijuana. Marijuana comes from 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.

CENTRAL NERVOUS SYSTEM DEPRESSANTS

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

CENTRAL NERVOUS SYSTEM STIMULANTS

One of the seven drug categories. CNS Stimulants include Cocaine, the Amphetamines, Ritalin, Desoxyn, and numerous other drugs.

CONJUNCTIVA

The clear membrane of the sclera (white portion of the eye) and lines the inside of the eyelids and is made of lymphoid tissue. Conjunctivae refers to both eyes. (Conjunctiva is singular.)

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".

CYCLIC BEHAVIOR

A manifestation of impairment due to certain drugs, in which the suspect 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.

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.

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."

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.

HASHISH

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

HASH OIL

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

HEROIN

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

HOMEOSTASIS

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

HORIZONTAL GAZE NYSTAGMUS (HGN)

Involuntary jerking of the eyes occurring as the eyes gaze to the side.

HORMONES

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

HYDROXY THC

A metabolite of THC (tetrahydrocannabinol).

HYPERGLYCEMIA

Excess sugar in the blood.

HYPOTENSION

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

HYPOTHERMIA

Decreased body temperature.

ICE

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

INHALANTS

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

INSUFFLATION

See "snorting".

INTEGUMENTARY SYSTEM

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

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.

METABOLISM

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

METABOLITE

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

MIOSIS

Abnormally small (constricted) pupils.

MOTOR NERVES

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

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, and oxycodone), and the synthetic narcotics (such as fentanyl and methadone).

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.

NEUROTRANSMITTER

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

NULL EFFECT

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

NYSTAGMUS

An involuntary jerking of the eyes.

"ON THE NOD"

A semi-conscious state of deep relaxation. Typically induced by impairment due to Heroin or other narcotic 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

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

PARANOIA

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

PARAPHERNALIA

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

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.

PHYSIOLOGY

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

PILOERECTION

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

POLYCATEGORY USE

Ingesting drugs from two or more drug categories.

POLYDRUG USE

Ingesting two or more different drugs.

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.

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 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).

SINSEMILLA

The unpollinated female cannabis plant, with a relatively high concentration of THC.

SNORTING

One method of ingesting 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.

STANDARDIZED FIELD SOBRIETY TESTING (SFST)

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

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.

TETRAHYDROCANNABINOL (THC)

The principal psychoactive ingredient in drugs belonging to the cannabis category.

TOLERANCE

An adjustment of the drug user's body and brain to the repeated presence of the drug. As tolerance develops, the user will experience diminishing psychoactive effects from the same dose of the drug. As a result, the user typically will steadily increase the dose he or she takes, in an effort to achieve the same psychoactive effect.

TRACKS

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

VERTICAL GAZE NYSTAGMUS (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.

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.

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Advanced
Roadside
Impaired Driving
Enforcement

Session 2 – Standardized Field Sobriety
Testing Review



February 2018

Session 2

Standardized Field Sobriety Testing (SFST) Review



Learning Objectives

- **Understand results of selected SFST validation studies**
- **Define/describe SFSTs**
- **Define nystagmus and distinguish between different types**

Upon successfully completing this session, the participant will be able to:

- Understand the results of selected SFST validation studies
- Define and describe the SFSTs
- Define nystagmus and distinguish between the different types

Learning Objectives (Continued)

- Describe/properly administer the three SFSTs
- Recognize, document, and articulate indicators and clues of the three SFSTs
- Identify limitations of the three SFSTs

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- Describe and properly administer the three SFSTs
 - Recognize, document, and articulate the indicators and clues of the three SFSTs
 - Identify the limitations of the three SFSTs

CONTENT SEGMENTS

- A. SFST Validation Studies
- B. Overview of Selected Types of Nystagmus
- C. Horizontal Gaze Nystagmus (HGN)
- D. Practice HGN
- E. Walk and Turn (WAT)
- F. Practice Walk and Turn
- G. One Leg Stand (OLS)
- H. Practice One Leg Stand

LEARNING ACTIVITIES

Instructor-Led Presentation
Instructor-Led Presentation and Demonstration
Participant Practice Session

Overview of Original SFST Validation Studies

- California 1977 (Lab)
- California 1981 (Lab and Field)
- District of Columbia, Maryland, North Carolina, Virginia 1983 (Field)

A. Overview of the SFST Validation Studies

For many years law enforcement officers have utilized field sobriety tests to determine a subject's impairment due to alcohol. The performance of the subject on those field sobriety tests was used by the officer to develop probable cause for arrest and as evidence in court.

A wide variety of field sobriety tests were being used by officers throughout the country. There was a need to develop standardized, validated tests. NHTSA sponsored several research projects conducted through a contract with the Southern California Research Institute (SCRI). SCRI published the following three reports:

- California 1977 (Lab)
- California 1981 (Lab and Field)
- District of Columbia, Maryland, North Carolina, Virginia 1983 (Field)

Primary distinction (Validated at 0.10 Blood Alcohol Content (BAC))

The following SFSTs were recommended:

- Horizontal Gaze Nystagmus (HGN)
 - Walk and Turn (WAT)
 - One Leg Stand (OLS)
-
-
-
-
-

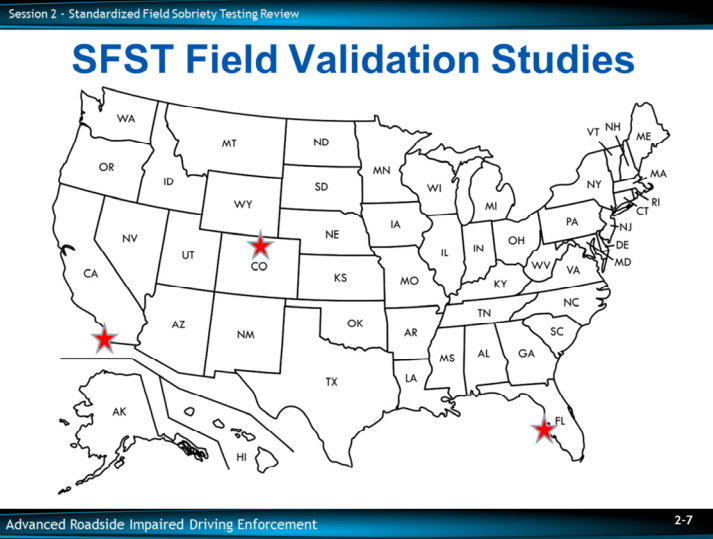
Original SCRI SFST Reliability

- HGN 77%
- WAT 68%
- OLS 65%



SCRI analyzed the laboratory test data and determined:

- HGN alone was 77% accurate
- WAT alone was 68% accurate
- OLS alone was 65% accurate



Additional research studies conducted to validate the three SFSTs at 0.08 BAC.

Three SFST field validation studies were:

- Colorado (1995)
- Florida (1997)
- San Diego (1998)

Keep in mind when these studies were conducted not all States had 0.08 BAC as their Per Se limit.

The Colorado SFST validation study was the first full field study that utilized law enforcement personnel experienced in the administration of SFSTs.

Difference in Results

- **Conducted in field with officers experienced in DWI detection and SFST**
- **Colorado – 86%**
- **Florida – 95% at 0.08% BAC**
- **San Diego – 91% at 0.08% BAC**
 - **HGN “Most Reliable” field sobriety test**

Results of each of the studies:

- In Colorado, officers made correct arrest/release decisions 86% of the time based on the three SFSTs (HGN, WAT, OLS) and when used in varying roadside and weather conditions
- In Florida, SFST Field Validation study demonstrated SFSTs were valid and reliable indicators of the presence of alcohol when used under present-day traffic and law enforcement conditions
 - Correct decisions to arrest were made 95% of the time based on the three SFSTs (HGN, WAT, OLS)
- In San Diego, the research was done to investigate how well the SFSTs discriminate at BACs below 0.10
 - Based on the revised arrest and release criteria, the officers in the study made correct decisions 91% of the time based on the three SFSTs (HGN, WAT, OLS) at the 0.08 BAC level and above

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Correct Arrest Decision

Made when an officer, after completing the third phase of detection process, decides to:

- Arrest an individual and that individual tested above per se limit
- Release an individual who is below per se limit

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In order to understand the results of the research studies discussed in this course, it is important to define what is meant by a correct arrest decision.

A correct arrest decision is made when an officer, after completing the third phase of the detection process, decides to:

- Arrest a subject and that subject tested above the per se limit
- Release a subject who is below the per se limit

“Correct” and “Incorrect” Arrest Decisions



For purposes of this study, a correct decision was when the person was above the per se limit and was arrested or the person was below the per se limit and was released.

The remaining subjects, incorrect arrest decisions, fall into two other categories. Members of the first group were not arrested but tested above the per se limit for BAC. The Colorado Study noted a number (approximately 33%) of these individuals were considered alcohol tolerant and performed well on the SFSTs even though their BACs were above the per se limit. Although these release decisions were recorded as errors based on the procedures outlined in the study, this non-arrest decision ultimately benefited the driver.

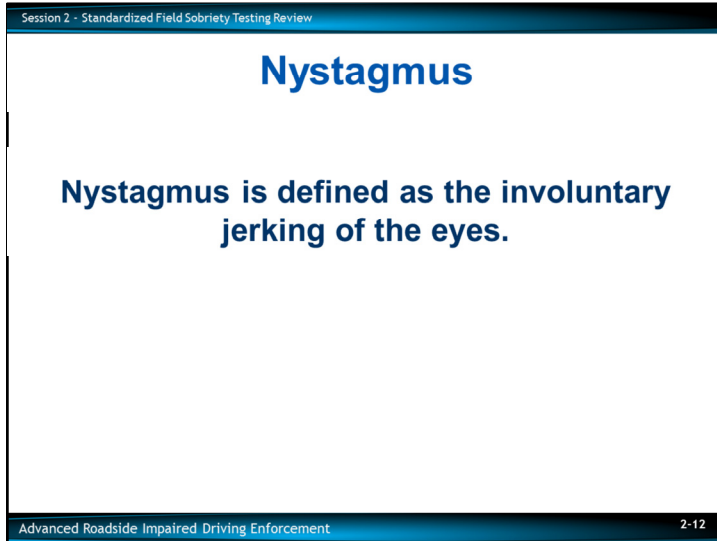
For purposes of this study, the subjects who were arrested, but their BAC was below the per se limit, were also considered incorrect arrests. Many States stipulate in their statute a driver is considered DWI if they are either above the per se limit for BAC or have lost the normal use of their mental or physical faculties. Even though these arrests are legally justifiable according to an individual State’s statute, these decisions are recorded as errors in the research based on the procedures outlined in the study.

Each of these studies have shown the SFSTs are scientifically validated and are a reliable method for distinguishing between impaired and unimpaired drivers.

It is important for the officer who is trained in SFST to prepare themselves to understand and explain these statistics in layman terms in order to effectively articulate them to a jury in a courtroom. Remember, if you do not know the answer to a defense question you can say, “I DON’T KNOW.”

Validation Study Exercise





Nystagmus is the involuntary jerking of the eyes.

Horizontal Gaze Nystagmus is defined as the involuntary jerking of the eyes, as the eyes gaze to the side.

There are over 40 different types of nystagmus, but during this course we will focus on two types of nystagmus:

- Horizontal Gaze Nystagmus (HGN)
- Vertical Gaze Nystagmus (VGN)

The ability to recognize HGN and VGN are important tools in impaired driving enforcement.

Alcohol and certain other drugs have been shown, through research, to cause HGN and VGN, which is visible without the aid of specialized instrumentation.

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Categories of Nystagmus

- **Vestibular**
- **Neural**
- **Pathological Disorders and Diseases**

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B. Overview of Selected Types of Nystagmus

Vestibular Nystagmus. Caused by movement or action to the vestibular system that can occur when a subject is spun around and the fluid in the inner ear is disturbed or there is a change in the fluid (temperature, foreign substance, etc.).

Neural Nystagmus. Caused by some disturbance to the neural system. This type of nystagmus includes optokinetic nystagmus, physiological nystagmus, and gaze-evoked nystagmus. Alcohol and/or specific types of drugs can cause three types of gaze-evoked nystagmus which may be visible to the officer during the proper administration of the HGN and VGN tests.

Pathological Nystagmus. Caused by the presence of specific pathological disorder, which include brain tumors, other brain damage, or some diseases of the inner ear.

Example: Multiple Sclerosis (MS)

In this course we will only be concerned with gaze-evoked Nystagmus.

Gaze Nystagmus

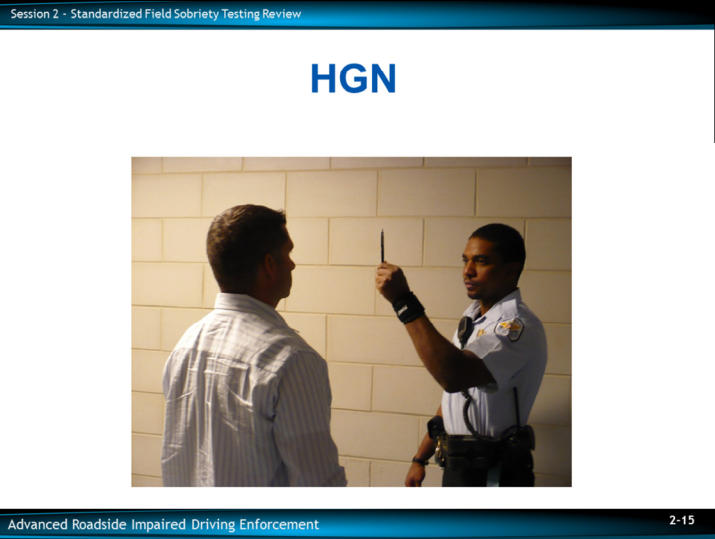
- **Resting Nystagmus – Occurs as eyes gaze straight ahead**
- **HGN**
- **VGN**

Gaze Nystagmus

Resting Nystagmus is defined as the involuntary jerking of the eyes as they gaze straight ahead. This condition is not frequently observed. Its presence usually indicates a medical condition or high doses of a Dissociative Anesthetic drug such as PCP. If detected, take precautions. As always, exercise sound officer safety techniques and consider calling for medical aid.

During this course we will focus on two types of nystagmus:

- **HGN**
 - Occurs as the eyes move to the side
 - Useful in determining alcohol influence as well as some drug categories
- **VGN**
 - Occurs as the eyes move upward (vertical plane) to an elevated position as far as they can go
 - Associated with a high doses of alcohol and some drug categories for that individual
 - Drug categories which cause VGN also cause HGN



C. Horizontal Gaze Nystagmus

HGN is defined as the involuntary jerking of the eyes as they gaze toward the side. (As defined in the current SFST curriculum.)

Although this type of nystagmus is useful in determining alcohol influence, its presence may also indicate use of Depressants, Inhalants, and Dissociative Anesthetics (DID) drugs.

HGN becomes observable:

- When a subject is impaired by alcohol
- As the subject's BAC increases the jerking will appear sooner
- When a subject is impaired by DID drugs

In administering the HGN test the subject must focus on a stimulus. This stimulus can be the tip of a pen or similar object that contrasts with the background and is easily seen by the subject being tested.

Remember to always follow your local policy or recommendations when selecting a stimulus.

Administrative Procedures (Continued)

Remember to ask questions about the subject's eye and general health conditions prior to administering the HGN



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, 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.

Administrative Procedures

- **Eyeglasses/Contacts**
 - ✓ Have subject remove glasses
 - ✓ It is recommended to note if contacts are worn, especially colored contacts
- **Verbal Instructions**
 - ✓ Stand with feet together
 - ✓ Hands to the sides
 - ✓ Keep head still
 - ✓ Follow with eyes only



Initiating the HGN Test. Begin the test by positioning the subject in a manner deemed safe by the officer and safe for the subject being tested. The subject should be turned away from emergency lights. Take care as to not interfere with subject's ability to fixate on the stimulus.

Ask the subject to:

- Remove glasses (Take a note if subject wears contacts, especially colored contacts because some colored contacts may affect the ability to compare and estimate pupil size.)
- Place feet together, hands at the side
- Keep head still
- Look at the stimulus
- Follow movement of the stimulus with eyes only
- Keep looking at the stimulus until told the test is over

It is suggested to give the subject the following verbal instructions:

"I am going to check your eyes."

"Keep your head still and follow the stimulus with your eyes only."

"Keep your eyes on the stimulus until I tell you to stop."

Administrative Procedures

Beginning with subject's left eye check:

- Equal Tracking, Equal Pupil Size, Resting Nystagmus
- Lack Of Smooth Pursuit
- Distinct and Sustained Nystagmus at Maximum Deviation
- Onset of Nystagmus Prior to 45 Degrees

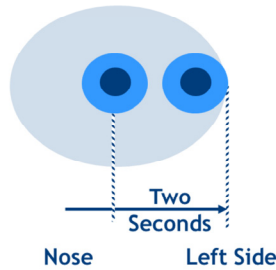
Total the clues

Position the stimulus approximately 12 to 15 inches in front of the subject's nose and slightly above eye level to commence the test.

- Check both eyes for Equal Pupil Size and Resting Nystagmus
 - Both pupils should be of equal size and there should not be any noticeable nystagmus
- Take notice if the pupils are noticeably unequal in size or there is noticeable nystagmus at rest
 - This could be indicative of a medical condition or a head injury
- Check both eyes for Equal Tracking by making a horizontal pass across both eyes
- The speed of the stimulus should be approximately the same speed as checking for Lack of Smooth Pursuit
 - This check may be done more than once.
- Both eyes should track the stimulus together
- If the eyes fail to track together, this could be the indication of a possible medical disorder, injury or blindness
 - If the eyes track together, continue with the test and document the results

Three Clues of HGN

1. Lack of Smooth Pursuit



- Move stimulus to person's left
- It should take approximately 2 seconds to bring it to the side
- Check other eye at same speed
- Repeat

Lack of Smooth Pursuit

- Lack of Smooth Pursuit occurs when the eyes jerk or bounce as they follow a smoothly moving stimulus
- Check the subject's left eye first
- Move the stimulus smoothly, at a speed that requires approximately two seconds to bring the subject's eye as far to the side as it can go
- Carefully watch the subject's left eye and determine if it is able to pursue smoothly
- Move the stimulus all the way to the left, back across the subject's face and check the right eye at the same speed
- Movement of the stimulus should take approximately two seconds to move from the center of the subject's face to the left side
- Approximately two seconds to get back to the center
- Approximately two seconds to move from the center of the subject's face to the right side
- Then approximately two seconds to return to the center of the subject's face to end the first pass
- Repeat the procedure until each eye has been checked twice

The stimulus should be moved in a smooth, continuous manner to best observe the eyes in motion.

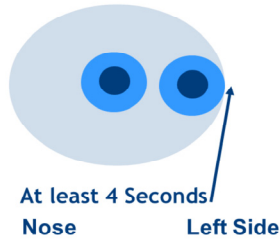
The two-second timing is provided based on how the eye should follow the stimulus if the subject is not impaired by alcohol and/or other drugs.

Clue Number 1



Three Clues of HGN

2. Distinct and Sustained Nystagmus at Maximum Deviation



- Move stimulus to person's left
- Hold stimulus at corner of eye (no white showing) for at least 4 seconds
- Check other eye and hold for same length
- Repeat

Distinct and Sustained Nystagmus at Maximum Deviation

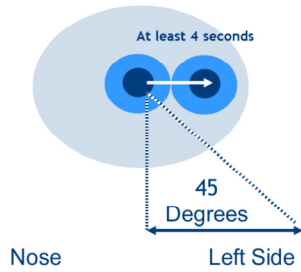
- At extreme lateral gaze, also known as the endpoint or maximum deviation, the nystagmus should be distinct and sustained when the stimulus is held for a minimum of 4 seconds
- Start again with the subject's left eye
- Move the stimulus to the subject's left side until there is no more white of the eye visible
- The eye should not be able to move any further on the horizontal plane
- 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.
- Observe the eye for distinct and sustained nystagmus while being held in this position
- Move the stimulus all the way to the left, back across the subject's face and check the right eye
- Repeat the procedure until each eye has been checked twice

Clue Number 2



Three Clues of HGN

3. Onset of Nystagmus Prior to 45 Degrees



- Slowly (at least 4 seconds) move stimulus to person's left
- If nystagmus is observed, hold stimulus to verify
- Check other eye and hold for same length
- Repeat

Onset of Nystagmus Prior to 45 degrees

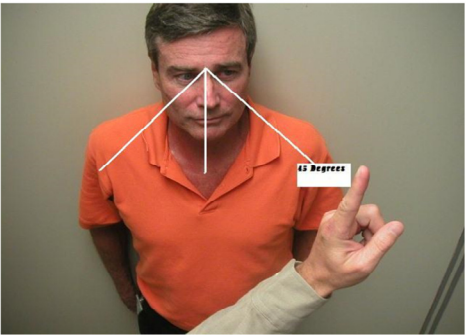
- Start again with the subject's left eye
- Move the stimulus at a speed that would take approximately four seconds to reach the 45 degree angle
- Watch the eye carefully for any sign of jerking
- If jerking is observed, hold the stimulus at that position and verify the nystagmus continues
- Move the stimulus all the way to the left, back across the subject's face and check the right eye
- Repeat the procedure until each eye has been checked twice

Clue Number 3



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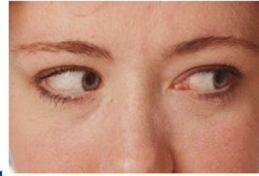
Onset of Nystagmus Prior to 45 Degrees



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Onset of Nystagmus Prior to 45 Degrees

Three Clues of HGN



- Lack of Smooth Pursuit
- Distinct and Sustained Nystagmus at Maximum Deviation
- Onset of Nystagmus Prior to 45 Degrees

Three Clues of HGN

- Lack of Smooth Pursuit
- Distinct and Sustained Nystagmus at Maximum Deviation
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HGN Indications

- Six maximum clues
- Maximum three clues per eye
- 88% accurate detecting subjects \geq 0.08 BAC

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HGN Indications:

- Six maximum clues
- Maximum three clues per eye

HGN Test Criterion: 4 or more clues indicates BAC at or above 0.08 – 88% reliable

Vertical Nystagmus

- **Move stimulus vertically**
- **Raise stimulus until individual's eyes are elevated as far as possible and hold for a minimum of four seconds**
- **Repeat**



Vertical Nystagmus

- Start with the stimulus approximately 12-15 inches in front of the subject's nose
- Instruct the subject to hold the head still and follow the object with the eyes only
- Raise the object until the subject's eyes are elevated as far as possible
- Hold for a minimum of 4 seconds
- Watch closely for evidence of the eyes jerking upward

Vertical Nystagmus



HGN Test Interpretation

Three clues in each eye:

- 1) Lack of Smooth Pursuit
- 2) Distinct and Sustained Nystagmus at Maximum Deviation
- 3) Onset of Nystagmus Prior to 45 Degrees

D. Practice HGN

Test Interpretation

There are three clues in each eye. Six total clues.

1. Lack of Smooth Pursuit
 - Present
 - None
 - If present, it accounts for up to 2 clues, one in each eye
2. Distinct and Sustained Nystagmus at Maximum Deviation
 - Present
 - None
 - If present, it accounts for up to 2 clues, one in each eye
3. Onset of Nystagmus Prior to 45 Degrees

The more impaired a person becomes, the sooner the onset of nystagmus is observed.

Remember it is important to hold the eye in this position once the jerking is observed.

This jerking must be continuous.

- Present
- None
- If present, it accounts for up to 2 clues, one in each eye

Documenting HGN Clues

- **When applicable always document HGN clues as you conduct test**
- **Keep officer safety in mind during documentation**
- **Use forms that follow NHTSA/IACP manuals**

Documenting the HGN Clues

The HGN test has been researched and found to be a reliable indicator of impairment with subjects at or above 0.08 BAC.

Based on the 1998 San Diego field validation study, if four or more clues are observed, it is likely the subject's BAC is at or above 0.08. If two or three clues are observed, it is likely the subject's BAC is at or above 0.04 but under 0.08.

When applicable, you should always document the HGN clues of impairment as you are conducting the roadside tests. Make sure you keep officer safety in mind when documenting these clues.

Each jurisdiction has come up with techniques and forms to record the results. As long as these forms follow the National Highway Traffic Safety Administration (NHTSA)/International Association of Chiefs of Police (IACP) curricula, they may be used. Listed in your manual is only one example that could be used.

Accurately document everything associated with the DWI arrest from the time of observation through the post arrest processing.

The HGN Test Demonstrated

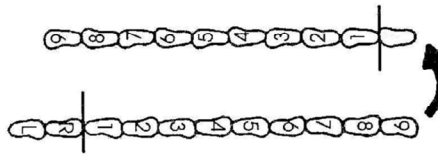


Walk and Turn



WAT

(Divided Attention Test - Mental Task and Physical Task)



1. Instruction Stage
2. Walking Stage

E. Walk and Turn (WAT) Test

The WAT test is divided into two stages:

1. Instruction Stage
2. Walking Stage

Instruction Stage

Driving capabilities assessed:

- Divided attention, listening to and remembering instructions

Walking Stage

Driving capabilities assessed:

- Balancing, walking heel-to-toe, and turning
- Small muscle control, counting out loud, short-term memory, recalling the number of steps required, turning as instructed, and counting correctly

Safety Precautions

- **Keep subject to your left when starting demonstrations**
- **Be aware of surroundings**
- **Officer should not turn his/her back to subject for safety reasons**

Officer safety precautions

- Keep subject to your left when starting demonstrations
- Be aware of surroundings
- Officer should not turn his/her back to the subject for safety reasons

WAT Test




The test is administered the same way we have used it for SFST purposes.

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

WAT Test Diagram

Walk and Turn Test															
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Cannot keep balance</td> <td style="border-bottom: 1px solid black; width: 100px;"></td> </tr> <tr> <td style="padding: 2px;">Starts too soon</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="padding: 2px;">Stops walking</td> <td style="border-bottom: 1px solid black; text-align: center;">1st Nine 2nd Nine</td> </tr> <tr> <td style="padding: 2px;">Misses heel-toe</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="padding: 2px;">Steps off line</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="padding: 2px;">Raises arms</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="padding: 2px;">Actual steps taken</td> <td style="border-bottom: 1px solid black;"></td> </tr> </table>	Cannot keep balance		Starts too soon		Stops walking	1 st Nine 2 nd Nine	Misses heel-toe		Steps off line		Raises arms		Actual steps taken	
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Actual steps taken															
Describe turn	Cannot do test (explain)														

- 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 stops or fails to 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.

WAT Test Clues

1. **Can't balance while listening to instructions**
2. **Starts too soon**
3. **Stops while walking**
4. **Doesn't touch heel-to-toe**

Look for the following clues each time the WAT test is administered.

1. Cannot keep balance while listening to the instructions
 - Record this clue if the subject does not maintain the heel-to-toe position throughout the instructions
 - Do not record this clue if the suspect sways or uses the arms for balance but maintains the heel-to-toe position
2. Starts too soon
 - Since you specifically instructed the suspect not to start walking "until I tell you to begin," record this clue if the subject starts walking before told to do so
3. Stops while walking
 - The subject stops while walking
 - Do not record this clue if the subject is merely walking slowly
4. Does not touch heel-to-toe
 - The subject leaves a space of one-half inch or more between the heel and toe on any step

WAT Test Clues

- 5. Steps off the line
- 6. Uses arms for balance
- 7. Improper turn
- 8. Wrong number of steps

Note: If subject can't complete the test, record clues that were observed and note why test was not completed.

- 5. Steps off the line
 - The subject steps so that one foot is entirely off the line
- 6. Uses arms for balance
 - The subject raises one or both arms 6 inches or more from the sides in order to maintain balance
- 7. Improper turn
 - The subject removes the front foot from the line while turning
 - Also record this clue if the subject has not followed directions as instructed, i.e., spins or pivots around or loses balance while turning
- 8. Incorrect number of steps
 - Record if the subject takes more or fewer than nine steps in either direction.

If a subject is unable to complete the test he/she will be held accountable for only the clues demonstrated.

Documenting WAT Test

Walk and Turn Test																			
	Cannot keep balance _____ Starts too soon _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%;">1st Nine</th> <th style="width: 25%;">2nd Nine</th> </tr> </thead> <tbody> <tr> <td>Stops walking</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Misses heel-toe</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Steps off line</td> <td></td> <td></td> </tr> <tr> <td>Raises arms</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Actual steps taken</td> <td style="text-align: center;">8</td> <td></td> </tr> </tbody> </table>		1 st Nine	2 nd Nine	Stops walking	✓		Misses heel-toe	✓		Steps off line			Raises arms	✓		Actual steps taken	8	
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Actual steps taken	8																		
Describe turn	Cannot do test (explain)																		

First two clues are checked only during the instruction stage.

In the boxes provided, enter a number or checks (✓) representing the number of times the clue appears during the instruction stage.

Example: If subject loses balance twice during the instruction stage, Place two check marks (✓) in the box or enter "2".

Example: If the subject does not start too soon, write "N/A" in that box or leave the box blank.

Record the next four clues separately for each nine 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.

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.

Documenting WAT Test Continued

Walk and Turn Test

Cannot keep balance	_____	
Starts too soon	_____	
Stops walking	1 st Nine	2 nd Nine
Misses heel-toe	✓	
Steps off line		
Raises arms	✓	
Actual steps taken	8	
Describe turn	Cannot do test (explain)	

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 subject uses arms for balance, give some indication of how often or how long this happened.

Example: subject raised arms from sides three times. Place a "3" or enter three check marks (✓) in the box. Record the actual number of steps taken by subject, in each direction.

For the next clue, "Improper Turn," record a description of the turn.

- Example: turned incorrectly (spun or pivot)
- Example: stumbled, to left
- Example: wrong direction
- Example: no small steps
- If the turn is correct, note: N/A or leave the box blank

If the subject is unable to safely complete the test, you may stop the test early. Document the reasons the test was stopped.

At end of the test, examine each factor and determine the total number of clues observed.

In the section labeled "other," record any facts, circumstances, conditions, or observations that may be relevant to this test.

Considerations for WAT Test

- **Straight line**
- **Dry, hard, level, non-slippery surface**
- **Room for nine heel-to-toe steps**

Considerations

WAT test requires a real or imaginary straight line and should be conducted on a reasonably dry, hard, level, non-slippery surface. There should be sufficient room for subjects to complete nine heel-to-toe steps.

However, recent field validation studies have indicated that varying environmental conditions have not affected a subject’s ability to perform this test.

Standardizing this test for every type of road condition is unrealistic. The original research study recommended this test be performed on a dry, hard, level, non slippery surface and relatively safe conditions. If not, the research recommends:

- 1) subject be asked to perform the test elsewhere, or
- 2) only HGN be administered

The original SCRI studies suggested subjects over 65 years of age or people with back, leg, or inner ear problems had difficulty performing this test. Less than 1.5% of the test subjects in the original studies were over 65 years of age. Subjects wearing heels more than 2 inches high or any other form of unusual footwear (i.e., flip flops, platform shoes, etc.) should be given the opportunity to remove their shoes. Officers should consider all factors when conducting SFSTs.

PRACTICAL EXERCISE

F. Practice Walk and Turn

WAT Test Criterion

**2 or more clues indicates BAC
at or above 0.08 (79% accurate)**



Based on recent research, if the subject exhibits two or more clues on this test or fails to complete it, classify the subject's BAC as at or above 0.08. Using this criterion, you will be able to accurately classify 79% of your subjects.

One Leg Stand

1. Instruction Stage
2. Balance and Counting Stage



G. One Leg Stand (OLS)

The OLS test is divided into two stages:

1. Instruction stage
2. Balance and counting

Instruction Stage:

1. Balancing
2. Listening to instructions

The Balance and Counting Stage:

1. Balancing
2. Short-term memory

Administrative Procedures

Instruction Stage:

- Stand straight, feet together
- Keep arms at sides
- Maintain position until told otherwise
- DO YOU UNDERSTAND?



Administrative Procedures

1. Initial positioning and verbal instructions
2. Stand with your feet together and your arms down at your sides.
3. Remain in this position and do not begin until I tell you to do so.
4. Do you understand the instructions so far?

Make sure subject verbally acknowledges understanding.

Administrative Procedures

Balance and Counting Stage:

- **Raise one leg, either leg**
- **Keep raised foot approximately six inches off the ground, parallel to the ground**
- **Keep both legs straight**
- **Keep eyes on raised foot**
- **Count out loud in the following manner: “one thousand one, one thousand two, one thousand three” and so on, until told to stop**

Instructions for the Balance and Counting Stage

- 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 to raise either leg with raised foot approximately 6 inches off the ground and parallel to the ground
- The examiner must demonstrate the one leg stance
- The subject must be told to keep both legs straight and they must look at the raised foot during the test
- The subject must be told 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

Note: Officer should always time the test. The test should be discontinued after 30 seconds

- Observe the subject from a safe distance

OLS Test Clues

1. Sways while balancing
2. Uses arms for balance
3. Hopping
4. Puts foot down

Note: If suspect can't complete the test, record clues that were observed and note why test was not completed.

Test Clues

Look for the following clues each time the OLS test is administered:

1. Sways while balancing
 - This refers to side to side or back and forth motion of the body, or a swaying motion of the foot, while in the one leg stand position.
2. Uses arms for balance
 - Subject moves arm 6 or more inches from side of the body in order to keep balance
3. Hopping
 - Subject is able to keep one foot off the ground, but resorts to hopping in order to maintain balance
4. Puts foot down
 - The subject is not able to maintain the one leg stand position
 - Putting the foot down one or more times during the 30 second count

OLS Test Documentation and Considerations

- **Note clues with a check mark on assessment form**
- **Consider subjects may have injuries**
- **Give subject opportunity to remove shoes with heels over two inches**

Documentation

Each clue is noted by placing a check mark (✓) or a number in the appropriate box on the DUI form. For example, if the subject used their arms twice and swayed three times, they would be considered to have demonstrated “two” clues. It is a good practice to use a DWI form that documents the test results.


Considerations

The original SCRI studies suggested subjects over 65 years of age, have back, leg, or inner ear problems, or 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 subjects wearing heels more than 2 inches high should be given the opportunity to remove their shoes.

Session 2 - Standardized Field Sobriety Testing Review

OLS Test Criterion

**2 or more clues indicates BAC
at or above 0.08 (83% accurate)**



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One Leg-Stand Test Criterion

Based on recent research, if a subject shows two or more clues or fails to complete the OLS, there is a good chance the BAC is at or above 0.08. Using that criterion, you will accurately classify 83% of the people you test as to whether their BAC's are at or above 0.08.

H. Practice One Leg Stand

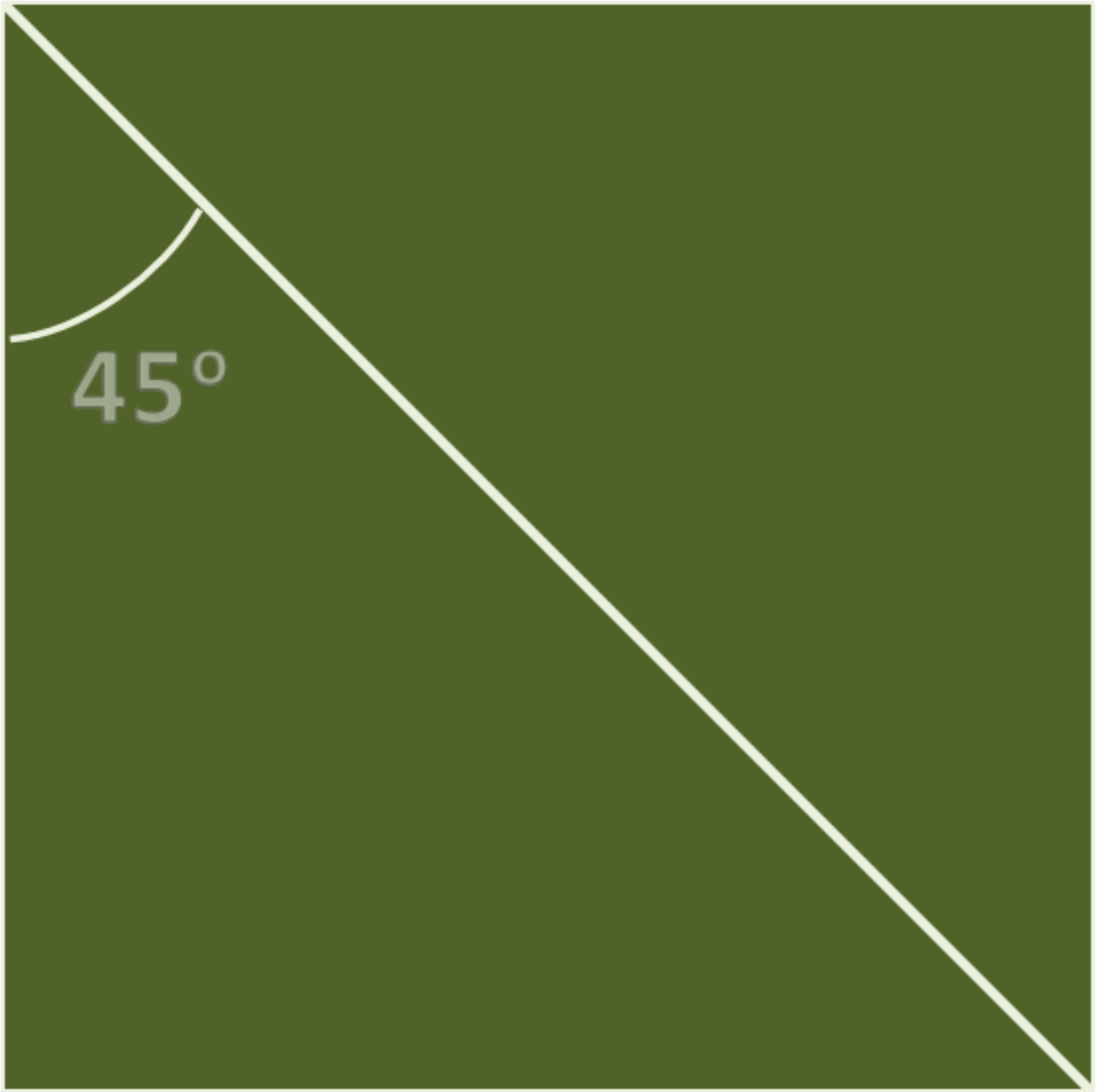
The OLS Demonstrated



Session 2 - Standardized Field Sobriety Testing Review

QUESTIONS?

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Advanced
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Session 3 – Standardized Field Sobriety
Testing Proficiency Examination



February 2018

Session 3

Standardized Field Sobriety Testing (SFST) Proficiency Examination



Learning Objectives

- **Demonstrate knowledge and proficiency in administering SFSTs**

Upon successful completion of this session, the participant will be better able to:

- Demonstrate knowledge and proficiency in administering the SFSTs

Session 3 - Standardized Field Sobriety Testing Proficiency Examination

SFST Proficiency

- **Two chances to successfully complete the proficiency examination**
- **Failure of proficiency on second attempt requires dismissal from ARIDE training**

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Explanation for Proficiency

SFST is the foundation of every impaired driving training program developed, researched, and supported for over two decades. This makes it very important to be proficient in administrating these tests.


The National Highway Traffic Safety Administration (NHTSA), International Association of Chiefs of Police (IACP), and the courts have recognized the importance of proficiency as it relates to the detection, arrest, and prosecution of impaired drivers. By recognizing this, NHTSA and IACP committed to bridging the information gaps between the governing bodies and the agencies applying these techniques in the field.

There are several factors that can affect a law enforcement officer’s SFST proficiency. They include the following:

- Adult learning limitations
- Officer assignment
- Time to practice proficiency
- Opportunity to use in the field
- Limitations of instructors
- Gaps in communication
- Program administration

Session 3 - Standardized Field Sobriety Testing Proficiency Examination

SFST Proficiency



- **Only two opportunities to do SFSTs correctly**
- **SFSTs must be performed as described in SFST training – no exceptions**

Advanced Roadside Impaired Driving Enforcement 3-5

SFST Proficiency Examination

- The participant will be given only two opportunities to do the SFSTs
- If the participant fails /her first attempt, he/she will be given the opportunity to practice on his/her own or with another participant within a reasonable amount of time not to exceed the end of the first day
- The instructor will not assist or coach the participant in any manner during the proficiency examination
- The instructor will correct the participant after the completion of all three tests but will not correct the participant during the tests
- The SFSTs must be performed as described in the NHTSA/IACP SFST training – no exceptions
- A **“check”** will be placed in the space provided for each step completed according to the SFST manual
- An **“X”** will be placed in the space if the participant does not perform the step according to the SFST manual

SFST Proficiency

- **Instructors are here to assist you with proficiency**
- **If you are having trouble with process you will be given ample time to practice**

Remember the instructors are here to assist you with the proficiency.

QUESTIONS?

PARTICIPANT PROFICIENCY EXAMINATION
STANDARDIZED FIELD SOBRIETY TESTS

Name _____ Date _____/_____/_____

Agency _____

I. HORIZONTAL GAZE NYSTAGMUS

1. ___ Have subject remove glasses if worn.
2. ___ Stimulus held in proper position (approximately 12"-15" from nose, just slightly above eye level).
3. ___ Check for equal pupil size and resting nystagmus.
4. ___ Check for equal tracking.
5. ___ 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)
6. ___ Eye held at maximum deviation for a minimum of 4 seconds (no white showing). Check left eye, then right eye. (Repeat)
7. ___ Eye moved slowly (approximately 4 seconds) from center to 45 angle. Check left eye, then right eye. (Repeat)
8. ___ 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 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 asked 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. ___ Checks actual time subject holds leg up. (Time for 30 seconds.)

Instructor: _____

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

First Attempt: Pass Fail

Second Attempt: Pass Fail

Course Location: _____

Instructor's Name: _____ Agency: _____

Instructor's Signature: _____ Date: _____

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Session 4 – Drugs in the Human Body



October 2017

Session 4

Drugs in the Human Body



Learning Objectives

- Describe major systems in human body
- Identify methods of ingestion and general effects of drugs
- Identify medical conditions that may mimic drug impairment
- Identify the seven drug categories

Upon successfully completing this session, the participant will be able to:

- Describe, in general terms, the basic purpose and functions of selected major systems in the human body as they relate to observable signs
- Identify methods of ingestion and general effects of drugs
- Identify medical conditions that may mimic alcohol and drug impairment
- Identify the seven drug categories as referenced in the Drug Evaluation and Classification (DEC) Program and the basis for dividing drugs into these specific groups

CONTENT SEGMENTS

- A. Drugs in the Human Body
- B. Overview of Selected Major Systems of the Human Body:
 - Basic purpose and function
 - Muscular, Urinary, Respiratory, Digestive, Nervous, Circulatory Systems
- C. Homeostasis
- D. Identify Methods of Ingestion and General Effects of Drugs
- E. Medical Conditions That May Mimic Alcohol and Drug Impairment
- F. Seven Drug Categories and the Basis For Dividing Drugs Into These Specific Groups
- G. Blank Drug Indicator Matrix

LEARNING ACTIVITIES

Instructor-Led Presentation

Drugs in the Human Body

This process is dependent, in part, on:

- Changes in behavior
- Observable signs and symptoms

A. Drugs in the Human Body

This process is dependent, in part, on:

- Recognizing changes in behavior
- Recognizing observable signs and symptoms related to an impaired subject
 - 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")

In order to gain a better understanding of how alcohol and/or drugs affect bodily functions, it is helpful to be familiar with some of the processes of the human body.

Pharmacokinetics

How a chemical substance is transported through the body in terms of absorption, distribution, metabolism, and elimination.



Pharmacokinetics

Pharmacokinetics accounts for how a chemical substance is transported through the body in terms of absorption, distribution, metabolism, and elimination.

A number of different body systems can have impact on, or be affected by, the introduction of drugs.

Psychoactive Drugs

A chemical that alters brain/body function resulting in temporary changes in:

- Perception
- Mood
- Consciousness
- Behavior



Psychoactive Drugs

A psychoactive drug or substance is a chemical that alters brain/body function resulting in temporary changes in perception, mood, consciousness, or behavior.

Such drugs are often used for:

- Recreational purposes
- Spiritual purposes
- Medical purposes, especially for treating neurological problems
- Psychological illnesses and deficiencies

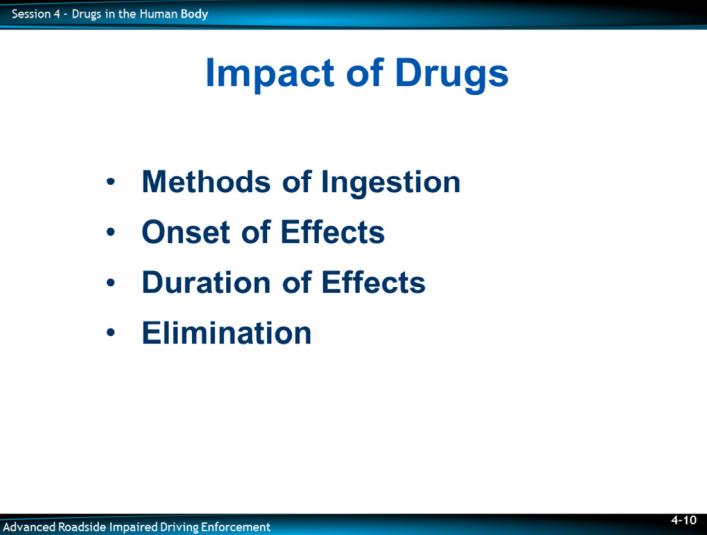
Major Systems of the Human Body

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine
- Reproductive
- Skeletal
- Integumentary (skin)
- Nervous
- Circulatory

B. Introduction of Selected Systems of the Human Body

There are ten major systems in the human body:

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine
- Reproductive
- Skeletal
- Integumentary (skin)
- Nervous
- Circulatory



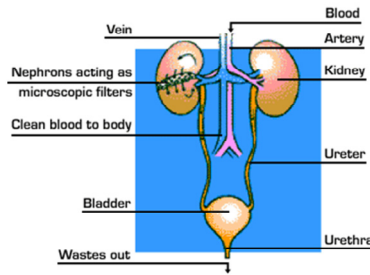
In order to illustrate the impact of drugs, alcohol, or a combination of substances, it is helpful to think of it in terms of:

- Methods of ingestion
- Onset of effects
- Duration of effects
- Elimination

The systems we previously discussed provide the most predominant observable signs and symptoms related to influence of alcohol and/or other drugs on the human body.

Urinary System

- Two Kidneys
- Bladder
- Urethra



Urinary System

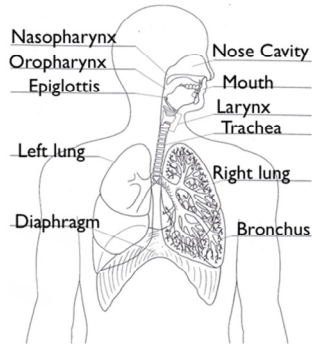
The urinary system is responsible for the elimination of waste from the body. It consists of:

- Two kidneys connected by long tubes (ureters) to the bladder, which stores urine
- A third tube, the urethra, carries the urine from the bladder out of the body
- Kidneys - filters waste products out of the system as blood passes through them

Since drugs are removed from the blood in the kidneys and passed out of the body in the urine, the urinary system plays an important role in producing evidence of drug use.

Respiratory System

- **Diaphragm**
- **Lungs**



Respiratory System

The primary organs of the respiratory system are:

- Diaphragm
- Lungs

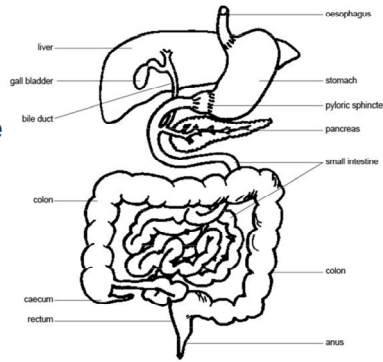
The diaphragm is a muscular sheet that separates the thoracic (upper) cavity from the abdominal (lower) cavity and draws fresh air into the lungs and forces used air out.

The transfer of oxygen from the air to the blood and carbon dioxide from the blood to the atmosphere occurs in the lungs.

Oxygen must be supplied to all the body cells and carbon dioxide must be removed from them in order for life to exist.

Digestive System

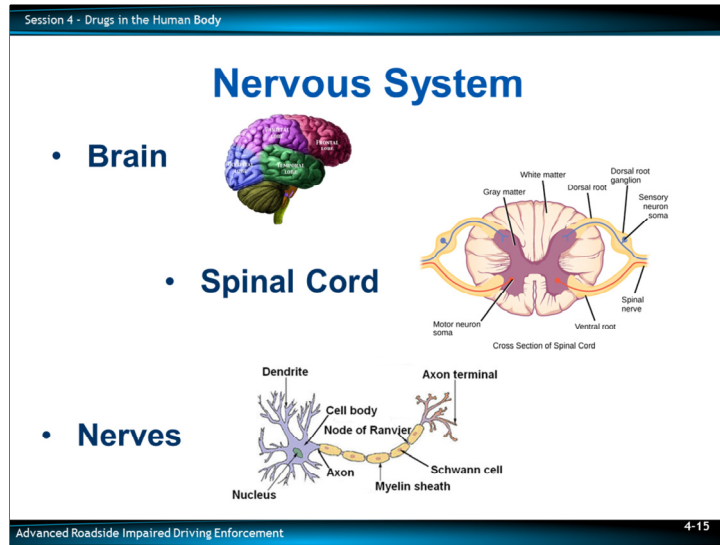
- Stomach
- Pyloric Valve
- Intestines (Large and Small)
- Liver/Pancreas



Digestive System

- Stomach
- Pyloric Valve
- Intestines (Large and Small)
- Liver/Pancreas

This system breaks down food and/or chemicals, metabolizes, and eliminates waste products.



Nervous System

The nervous system serves as the control center for the human body. It consists of:

- Brain
- Spinal cord
- Nerves

Each of these components is made up of nerve cells (neurons) and supporting tissues.

The nervous system keeps the body apprised of changes in the environment by enabling

- Sight
- Hearing
- Smell
- Taste
- Touch

It also keeps the body apprised through sensations of temperature, pressure, pleasure, and pain. The nervous system also enables reasoning, memory, and emotions.

The Central Nervous System (CNS) sends impulses that cause muscles to contract and glands to secrete and it works with all body systems to integrate all physiological processes so normal functions can be maintained.

Much of the activity of the nervous system is involuntary and therefore it is carried out below the level of consciousness.

The CNS is one of the body’s major control systems and the brain is the center of that system.

Brain

- **Neurons**
- **Neurotransmitters**



The brain is made up of billions of nerve cells, also known as neurons. Nerve cells communicate by transferring chemical substances between each other.

When a message is sent from one neuron (transmitter), it triggers the release of neurotransmitters and sends the message to another nerve cell which is called the receptor. This is the way nerve cells share information.

There are many different types of neurotransmitters and each one has a specific role to play in how the brain and the CNS functions.

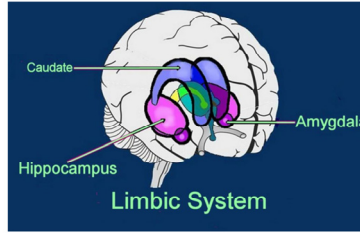
Some drugs affect the brain because their chemical make up is similar to the neurotransmitters which occur in the body naturally.

In the appropriate dose amount, drugs have a positive influence on how the neurons function.

However in some cases, drugs can cause the release of large amounts of a similar neurotransmitter while others can block the receptors.

Limbic System of the Brain

- **Our feelings**
- **Emotions**
- **Motivations**
- **Supports memory and learning**



All drugs of abuse, such as nicotine, cocaine, and marijuana impact the limbic system of the brain. The limbic system generates:

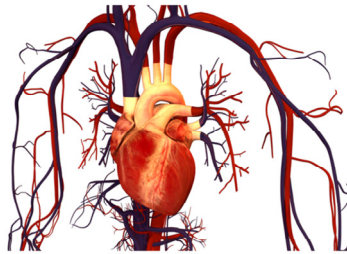
- Our feelings
- Emotions
- Motivations
- Supports memory and learning

It responds to pleasurable experiences by releasing the neurotransmitter dopamine.

The effect which a subject experiences when dopamine is 'dumped' in the CNS creates a euphoric sensation which makes some drugs of abuse so appealing to the user.

The actions associated with the communication between neurons affects the other systems of the human body.

Circulatory System



- Heart
- Blood Vessels
- Blood

Circulatory System

The circulatory system consists of:

- Heart
- Blood vessels
- Blood

The heart pumps blood throughout the body transporting:

- Food
- Water
- Hormones
- Antibodies
- Oxygen
- Carbon dioxide
- Other substances to and from the body cells as required

Body temperature regulation is a partial responsibility of the circulatory system since warm blood is constantly moved throughout the body.

The circulatory system plays a key role in transporting drugs to the brain where most of the drugs' effects are exerted.

The circulatory system also transports the drugs to the liver and other organs where the drugs are metabolized.

Session 4 - Drugs in the Human Body

Homeostasis

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

The body's systems are said to be in "dynamic equilibrium"

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C. Homeostasis

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

As we have discussed earlier in this session, the human body is made up of systems. They are in a dynamic equilibrium. Under normal circumstances, systems seek a balance in which internal change continuously compensates for external change in a feedback control process to keep conditions relatively level.

Examples of Homeostasis



Examples of Homeostasis:

- Temperature Regulation
- Maintaining supplies of bodily fluids
- Bringing in Oxygen and eliminating Carbon Dioxide
- Eliminating waste
- Integrating functions of various body systems

Every organ system plays some role in the maintenance of homeostasis.

- The circulatory system keeps the body sufficiently supplied with fluids
- The respiratory system constantly brings in oxygen and eliminates carbon dioxide
- The digestive and urinary systems take in food and water and eliminates waste
- The nervous system integrates the functioning of the other body systems, and so on

Session 4 - Drugs in the Human Body

Resulting Interactions of Drugs and Alcohol

- Speeds Things Up
- Slows Things Down
- Or some combination

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When drugs interact in the body they tend to:

- Speed things up
- Slow things down
- Or some combination

Drug Effects

Intensity and level of impairment depend upon:

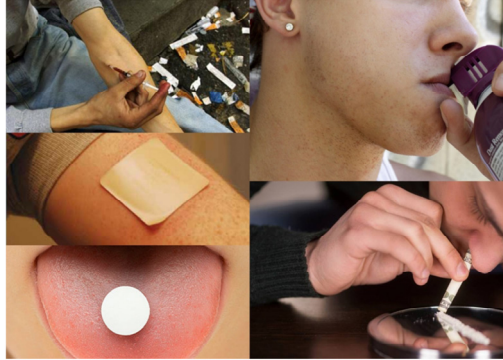
- Drug and dosage amounts
- Age
- Weight
- Tolerance level
- Other variables

Drug Effects

The intensity and level of impairment depend upon:

- Drug and dosage amounts
- Age
- Weight
- Tolerance level
- Other variables may dictate the duration of actual impairment

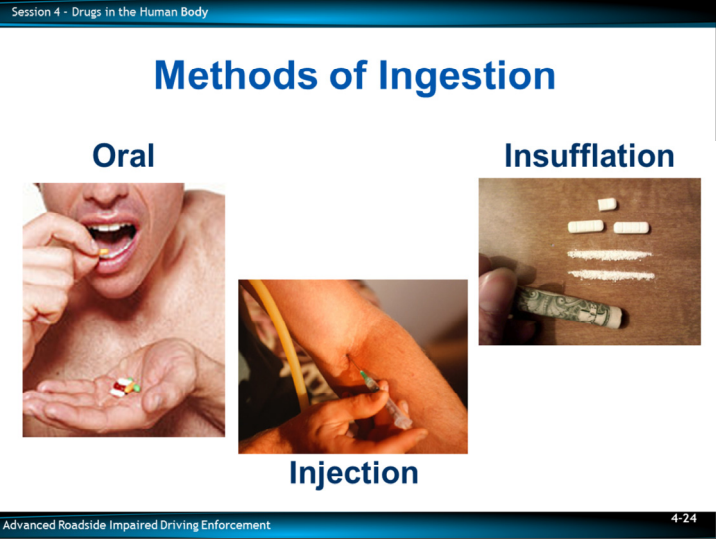
Ingestion



D. Methods of Ingestion

In general terms, ingestion is the administration of a drug into the human body.

For the purpose of this course we will use the term ingestion to describe any manner by which a drug or alcohol enters the human body whether it be orally or otherwise administered.



Oral

Oral ingestion is administered through the mouth.

Injection

Injection is a common method of administering drugs, such as stimulants, dissociative anesthetics, and narcotic analgesics into the body. Heroin and methamphetamine are commonly injected. CNS depressants can also be injected but this is uncommon due to the size of the needle required to deliver the substance.

In addition to injecting drugs into the veins in the arms, since needles typically leave marks which can be difficult to conceal, users will find more creative and less conspicuous areas on the body to administer a substance.

Insufflation

The act of introducing a substance by inhaling through the nose for the purpose of intranasal absorption through the mucous membrane. For a substance to be effective when insufflated it must be readily absorbed through the mucous membranes. This method is commonly referred to as "snorting".

Inhalation

- **Very rapid method**
- **Huffing, sniffing, smoking, vaping**



Inhalation

The act of introducing a substance directly into the respiratory system through the nose and mouth for the purpose of absorbing the substance through the alveoli in the lungs. This is a very rapid method of absorption and is often referred to as huffing, sniffing, smoking, or vaping.

Drug categories which are commonly introduced into the body through inhalation are:

- Stimulants – Smoking
- Hallucinogens – Smoking
- Dissociative Anesthetics – Smoking
- Narcotic Analgesics – Smoking, Vaping
- Inhalants – Inhaling
- Cannabis – Smoking, Vaping

Medical Conditions That May Mimic Drug Impairment

- Head Trauma
- Stroke
- Diabetes
- Conjunctivitis
- Shock
- Multiple Sclerosis
- Other Conditions

E. Medical Conditions That May Mimic Drug Impairment

There are various medical conditions and injuries that may cause subjects to appear to be impaired by alcohol and/or other drugs.

Some of the more common medical conditions that may mimic drug impairment include:

- Head Trauma
- Stroke
- Diabetes
- Conjunctivitis
- Shock
- Multiple Sclerosis
- Other Conditions

Head Trauma

- **Disorientation**
- **Confusion**
- **Lack of coordination**
- **Slowed responses**
- **Speech impairment**
- **Unequal pupils**
- **Unequal tracking**



Head Trauma

A severe blow or bump to the head may injure the brain and create:

- Disorientation
- Confusion
- Lack of coordination
- Slowed responses
- Speech impairment
- Unequal pupil size
- Eyes do not track equally

Because the injury usually affects one side of the brain more than the other, disparities usually will be evident in the subject's eyes. Sometimes the pupils will be noticeably different in size or one eyelid may droop while the other appears normal. Additionally, the eyes may not be able to track equally while following a stimulus.

Stroke

- Unequal pupils
- Weakness on one side of the body
- Slurred speech, facial droop
- Confused, frightened



Stroke

A stroke will usually produce many of the same effects and indicators associated with head trauma. Stroke victims often will have:

- Pupils noticeably different in size
 - One pupil may remain fixed and exhibit no visible reaction to light, while the other reacts normally
- Paralysis, physical weakness, and other observable signs are often more predominant on one side of the body than the other
- Additionally, subjects suffering from a stroke will often have a dazed appearance and be confused and/or frightened

Diabetes

- Confused or non-responsive
- Sweat profusely
- Cold, clammy skin
- Rapid, weak pulse
- May require immediate medical attention



Diabetes

A diabetic is most likely to be mistaken for a person impaired by alcohol and/or drugs when they have too much insulin, causing the blood sugar level to become dangerously low. This condition is referred to as insulin shock. A diabetic in insulin shock may:

- Appear very confused
- Be non-responsive
- Sweat profusely
- Exhibit elevated pulse rate
- Elevated blood pressure

Shock

- Occurs when the body is not getting enough blood flow
- Requires immediate medical attention
 - ✓ Dazed
 - ✓ Uncoordinated
 - ✓ Non-responsive

Shock

Shock is a life-threatening condition that occurs when the body is not getting enough blood flow. This can damage multiple organs and lead to death.

Shock requires IMMEDIATE medical treatment and can get worse very rapidly. Subjects in shock often will appear dazed, uncoordinated, and non-responsive.

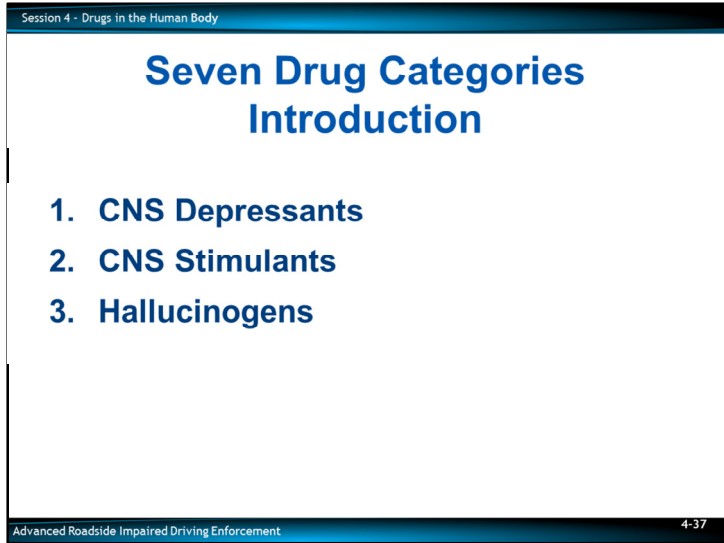
Other Medical Conditions

- **Carbon Monoxide Poisoning**
- **Seizures**
- **Endocrine disorders**
- **Neurological disorders**
- **Psychiatric disorders**
- **Infections**

Other Medical Conditions

Some other medical conditions that may cause signs and symptoms similar to drug impairment include:

- Carbon monoxide poisoning
- Seizures
- Endocrine disorders
- Neurological conditions
- Psychiatric conditions
- Infections



F. Introduction to the Seven Drug Categories

As a review, the definition of a drug, adopted by the DEC Program and for this course is:
Any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

Based on this definition of “drug,” the DEC Program divided drugs into seven categories. These drug categories are based on the observable signs and symptoms they produce. Signs are an observable or detectable indicator of drug influence (i.e., dilated pupils, high blood pressure). A symptom is a subjective indicator of drug influence reported by the drug-impaired subject (i.e., “I feel nauseous.”). The following is a brief description of each category:

- 1. CNS Depressants – Includes a large number of different drugs. The most commonly abused drug in this category is alcohol. CNS depressants slow down the operation of the brain and other parts of the central nervous system.
- 2. CNS Stimulants – Influence the human body by speeding up or over stimulating the brain. Cocaine is an example of a CNS stimulant.
- 3. Hallucinogens – Includes some natural substances as well as some synthetic chemicals. All hallucinogens impair the subject’s ability to perceive reality. LSD is an example of a hallucinogen.

Seven Drug Categories - Introduction

- 4. Dissociative Anesthetics
- 5. Narcotic Analgesics
- 6. Inhalants
- 7. Cannabis

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- 4. Dissociative Anesthetics – Consists of the drug Dextromethorphan (DXM), PCP, and its various analogs. DA's are powerful drugs that act like a depressant in some ways but also causes the body to respond similar to a stimulant as well as a hallucinogen.
 - 5. Narcotic Analgesics – Relieves pain, produces addiction, and withdrawal symptoms. Heroin is an example of a narcotic analgesic.
 - 6. Inhalants – Breathable chemicals, which are contained in familiar household items that can be easily purchased. Gold spray paint is an example of an inhalant.
 - 7. Cannabis – The most widely used and abused illegal drug and is most commonly referred to as marijuana. Includes many other forms of THC.

QUESTIONS?

Drug Category Matrix

	CNS Depressant	CNS Stimulant	Hallucinogen	Dissociative Anesthetic	Narcotic Analgesic	Inhalant	Cannabis
HGN							
VGN							
LOC							
Pupil Size							

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Advanced
Roadside
Impaired Driving
Enforcement

Session 5 – Observation of the Eyes and
Additional Tests for Drug Impairment



February 2018

Session 5

Observation of the Eyes and Additional Tests for Drug Impairment

