Instructor Guide

Advanced Roadside Impaired Driving Enforcement

Revised: 02/2018

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Advanced Roadside Impaired Driving Enforcement (ARIDE)

Administrator Guide

TSI
Transportation Safety Institute

NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE
POLICE
SINCE 1893

Advanced Roadside Impaired Driving Enforcement (ARIDE)

Instructor Guide
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Acknowledgements

The National Highway Traffic Safety Administration (NHTSA) and the International Association of Chiefs of Police (IACP) would like to thank the following individuals for their contributions in updating and revising the 2017 Advanced Roadside Impaired Driving Enforcement (ARIDE) curricula.

Joseph Abrusci, Morris County Park Police Department, Morristown, NJ

Jonlee Anderle, Wyoming Department of Transportation Highway Safety Office

Kyle Clark, International Association of Chiefs of Police

Don Decker, Nahant MA Police Department

Chuck Hayes, International Association of Chiefs of Police

Mike Iwai, Oregon State Police

Pam McCaskill, DOT Transportation Safety Institute, Oklahoma City, OK

Bill O'Leary, National Highway Traffic Safety Administration

California Highway Patrol

Preface

The ARIDE training curriculum prepares police officers and other qualified persons to conduct various drug-impairment detection tests at roadside for use in drugged-driving investigations. This training, developed under the auspices and direction of the NHTSA and IACP, has experienced increasing interest and success since its inception in 2009.

As in any educational training program, an instructor manual or guide is considered a "living document" that is subject to updates and changes based on advances in technology and science. Working with NHTSA, thorough review of information by the IACP Technical Advisory Panel (TAP) of the Highway Safety Committee of the IACP with contributions from many sources in health care science, toxicology, jurisprudence, and law enforcement are periodically conducted. Based on this information, any appropriate revisions and modifications in background theory, facts, examination, and decision-making methods are made to improve the quality of the instruction as well as the standardization of guidelines for the implementation of the ARIDE curriculum. The reorganized manuals are then prepared and disseminated, both domestically and internationally. Changes will take effect 90 days after approval by TAP, unless otherwise specified or when so designated.

The procedures outlined in this manual describe how the various roadside tests are to be administered under ideal conditions. We recognize that the tests used in this training will not always be administered under ideal conditions in the field because such conditions do not always exist. Even when administered under less than ideal conditions, they will generally serve as valid and useful indicators of impairment. Slight variations from the ideal, i.e., the inability to find a perfectly smooth surface at roadside, may have some effect on the evidentiary weight given to the results; however, this does not necessarily make the ARIDE roadside tests invalid.

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- 45 Degree Template (Session 2)
- ARIDE SFST Proficiency Form (Session 3)
- Blank Drug Category Matrix (Session 4 and Session 6)
- Completed Drug Category Matrix (Session 6)
- ARIDE Course Critique (Session 9)

Purpose of this Document

This Administrator Guide provides an introduction to and an overview of the two-day ARIDE instructional module.

The curriculum is designed to be delivered as a stand-alone, 16-hour course. The program of instruction is intended for delivery to as many law enforcement officers as possible. The curriculum is designed to help those officers become more proficient at detecting, apprehending, testing, and prosecuting impaired drivers. ARIDE's subject matter relates to two curriculums, the DWI Detection and Standardized Field Sobriety Testing (SFST) and the Drug Evaluation and Classification (DEC) Program Drug Recognition Expert (DRE) Training.

This course will offer additional information to law enforcement officers on detecting impairment caused by more than just alcohol. Oftentimes law enforcement officers that have not received advanced or in-service training regarding drug impairment tend to not be able to identify these characteristics; therefore, they may release an impaired driver. Once an officer completes the training, he/she will be more proficient with the three tests (Horizontal Gaze Nystagmus (HGN), Walk and Turn (WAT), and One Leg Stand (OLS)), as well as possess a broader knowledge of drug impairment indicators. The law enforcement officer will also be more familiar with the DEC Program and its functions. This will facilitate better communication and transfer of critical roadside indicators of impairment to the evaluating DRE officer for a more complete and accurate assessment of the impairment.

This Administrator Guide is intended to facilitate planning and implementation of the ARIDE Course. This course consists of eight sessions. It overviews the sequence of instruction, documents the materials and the teaching aids that make up the instructional package, describes course administrative requirements, and provides guidelines for discharging those requirements satisfactorily.

The Guide sets forth the fundamental tasks that make up the job of DWI enforcement and identifies knowledge, skills, and attitudes police officers need to perform those tasks well. The Guide also outlines the preparatory work that must be accomplished (primarily at the departmental or academy level) before the course can be conducted and outlines the follow-up work that should be undertaken, subsequent to training, to ensure the desired outcomes of the training are realized.

Instructor Qualification

Principal instructors for this course should be State certified DRE instructors with IACP credentials.

That means that they:

(1) Are currently certified as DREs

(2) Have completed the NHTSA/IACP DRE Instructor Development Course

(3) Have completed the required delivery of both classroom and certification training, under the supervision of credentialed DRE instructors

A qualified SFST instructor may only instruct sessions one through three leading to the preparation and evaluation of participants during the SFST proficiency examination. In addition to their occupational competencies, all instructors must be qualified to instruct and need to understand and be able to apply fundamental principles of instruction.

Perhaps most importantly, they need to be competent coaches. Much of the classroom training is devoted to hands-on practice. The quality of coaching will have a major impact on the success of those practice sessions. It is highly recommended every instructor be a graduate of the NHTSA/IACP DRE Instructor Development Course.

However, some agencies may wish to enlist instructors with special credentials for certain blocks of instruction. For example, a physician would be well qualified to assist/teach Session 4, and a prosecutor might be a good choice for Session 8.

For whom is the training intended?

This course is designed for law enforcement officers who meet the NHTSA/IACP SFST Program Standards, including a proficiency test, and who have successfully completed a NHTSA/IACP-approved SFST training course. The officer must be able to administer and interpret the HGN test. The participant should be fully conversant with the procedural "mechanics" of HGN with the three clues of HGN and with the interpretation of those clues for assessing alcohol impairment. A major focus of this course is on the examination of a drug-impaired subject's eyes. The procedures for those eye examinations derive largely from HGN procedures.

Participants should be persons employed and under the direct control of public criminal justice agencies or institutions involved in providing training services to law enforcement agencies and/or prosecutors responsible for the detection, arrest, and prosecution of DWI drivers. Prosecutors and toxicologists may audit the course.

Participants applying to or scheduled to attend should be familiar with the extent of the drug-impaired driving problem and must have successfully completed the basic SFST course.

This course was not intended to be offered in a basic academy to new police recruits. This is an intermediate level course designed to offer more than a basic understanding of the impairing effects of drugs (illicit and licit), alcohol, and/or the combination of both.

Curriculum Objectives

Session 1 deals specifically with Drugs, Drug-Impaired Driving, and how it relates to highway safety. The session objectives are:

- 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 DRE and how this course supports the DEC Program
- Define the term drug in the context of traffic safety and impaired driving enforcement as referenced in the DEC Program

Session 2 is a detailed review of the SFSTs including the foundational studies and the most recent validation studies. The session objectives are:

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

Session 3 involves SFST proficiency. The participant will be given two opportunities to pass the NHTSA/IACP proficiency examination. This session's objectives are:

- Demonstrate knowledge and proficiency in administering the SFSTs

Session 4 deals with physiology of the human body and how driving behavior is affected by the use of drugs. The session objectives are:

- 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 DEC Program and the basis for dividing drugs into these specific groups

Session 5 involves discussion of observation of eyes and other sobriety testing techniques used by law enforcement at roadside. The session objectives are:

- State the purposes of various eye examinations used in the ARIDE Curriculum, which includes HGN, VGN, and Lack of Convergence (LOC)
- Discuss LOC: How to administer properly and describe what the results indicate
- Describe the difference in pupil size
- Discuss Modified Romberg Balance (MRB) test: How to administer properly and describe what the results indicate.
- Discuss Finger-to-Nose (FTN) test: How to administer properly and describe what the results indicate.
- Explain the relationship between eye examinations and the seven drug categories

Session 6 involves a detailed description of the seven drug categories and how they affect the human body and what an officer may observe with these drugs at impairing levels. The session objectives are:

- Identify common drug names and terms associated with the seven drug categories
- Identify the common methods of ingestion for each category
- Describe the indicators of impairment associated with each category
- Describe conditions which may mimic the signs and symptoms associated with each drug category
- List the indicators which may emerge during the three phases of the DWI detection process (vehicle in motion, personal contact, and pre-arrest screening) which may indicate the subject is under the influence of a drug(s)

Session 7 involves the possible combinations of drugs that are most commonly seen by law enforcement and what the indicators of impairment may be. The session objectives are:

- Describe the prevalence of drug and alcohol use (individually and in combination) as well as polydrug use
- Define polydrug use
- Articulate possible effects of polydrug use related to the general indicators of alcohol and drugs

Session 8 involves Pre- and Post-Arrest procedures and how to prepare for the prosecution of the drug and alcohol impaired driver. The session objectives can include:

- Describe the three phases of the detection process: Vehicle in Motion, Personal Contact, and Pre-Arrest Screening
- Describe effective roadside interview techniques
- List the elements of Driving While Under the Influence of Drugs (DUID) offense
- Identify the indicators of impairment observed during the three phases of the detection process
- Accurately document, in the proper event sequence order, observed impairment in each of the three phases of the detection process
- Identify additional resources to support prosecution
- Articulate relevant evidence as it relates to case preparation and prosecution
- Analyze case studies for signs of drug-impairment and articulate observations that would be relevant for a DRE to assist in a drug-impaired driving investigation

Instructors may consider involving additional instructors including the State Traffic Safety Resource Prosecutor (TSRP) or other prosecutors to discuss current State-specific case law, rules of court, and other procedural matters. This legal update would be conducted in lieu of the objectives for Session 8.

Session 9 is the written examination and program conclusion. The participant must successfully complete the written final exam by scoring a minimum of 80% or better.

Subject Matter

This course encompasses information and techniques for addressing the drug and alcohol impaired driving problem. The following topics are discussed and/or delivered in detail throughout the entire curriculum:

- Update of SFSTs
- How drug-impaired driving affects our community
- SFST proficiency examination
- Drugs in the human body and the impairing effects they may have
- Seven categories of drugs identified by the DEC Program
- Additional tests that will provide an expanded knowledge of detection to law enforcement
- Provide an expanded knowledge of prosecuting drug-impaired drivers to prosecutors and courts

Curriculum Package

The ARIDE training curriculum consists of the following materials:

- Administrator Guide
- Instructor Guide
- Participant Manual
- PowerPoint presentations with embedded videos
- Pre-course knowledge assessment
- SFST Proficiency Examination
- Final Exam/Scenarios
- Instructor and course critique

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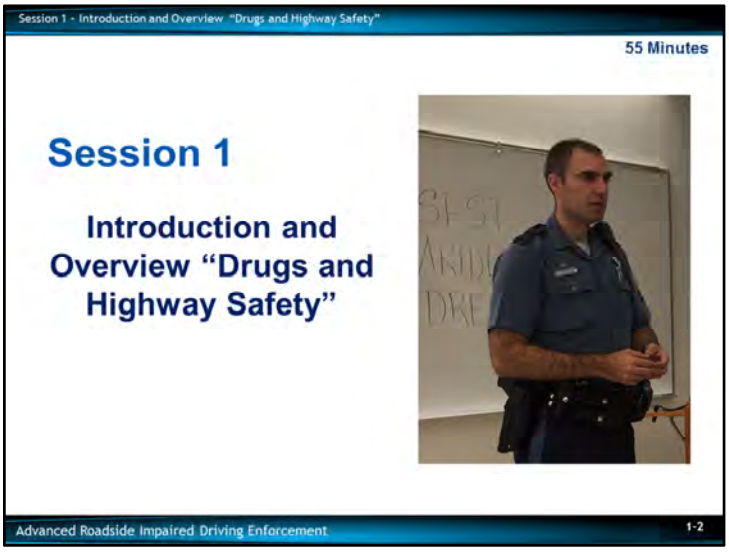
Advanced Roadside Impaired Driving Enforcement

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

February 2018


Session 1 - Introduction and Overview "Drugs and Highway Safety"
55 Minutes
Session 1
Introduction and Overview "Drugs and Highway Safety"
Advanced Roadside Impaired Driving Enforcement
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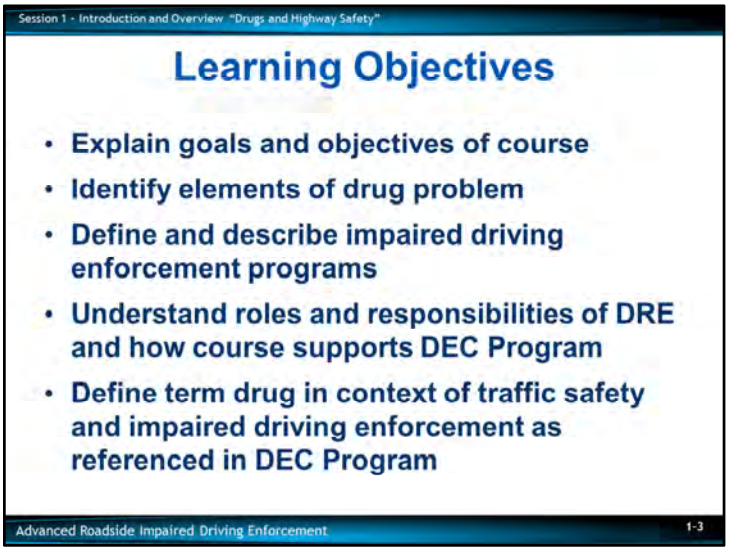

Upon completion of this session, the participant will be able to:

- 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

All text in bold, italic print is an instructor note and does not appear in the participant manual.

A. Welcoming Remarks and Introductions

Welcoming Remarks
Welcome to the ARIDE course.

Introductions - Representatives of host agencies and other dignitaries
Dignitary introductions and their welcoming remarks must be kept brief; no more than 10 minutes can be devoted to this.

Faculty Introductions
Lead off instructors introduce the instructor faculty. State names, agency affiliations, and experience. Ask each instructor to stand as they are introduced.

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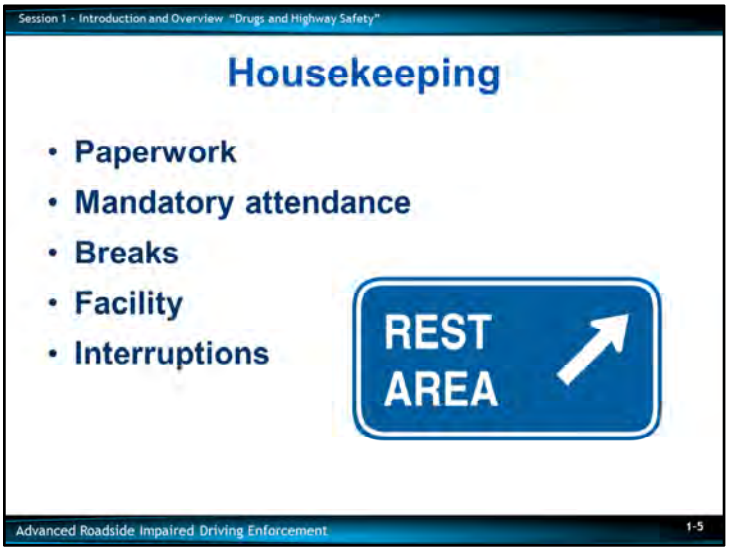


B. <u>Housekeeping</u>

Paperwork

- ***Completion of registration forms, travel vouchers, etc.***

Attendance

- ***Attendance is mandatory at all sessions of this course***

Breaks

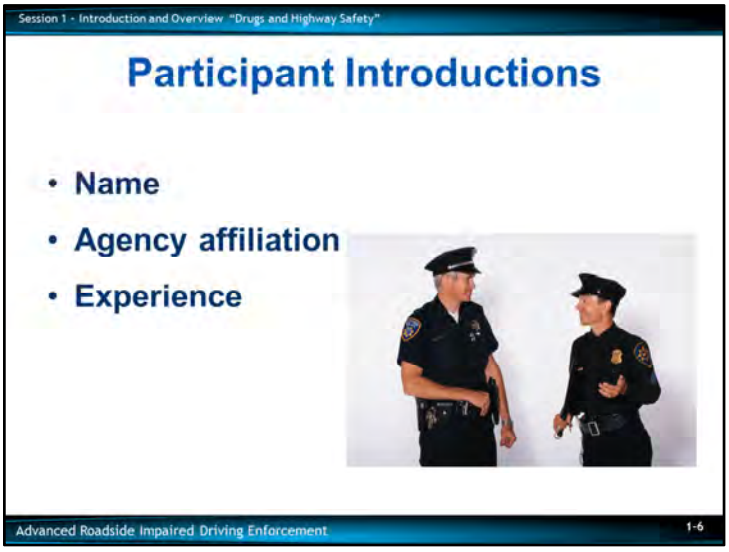
- ***Time allotted for breaks and reconvening***

Facility

- ***Locations of restrooms, lunchrooms, etc.***

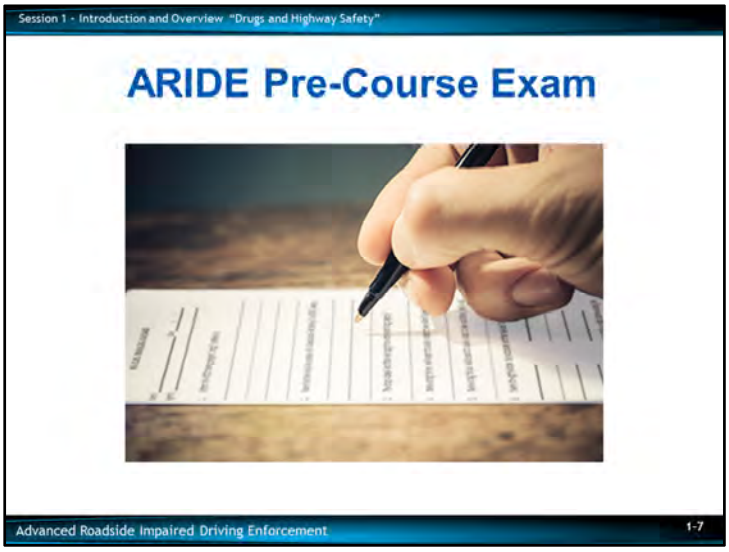
Interruptions

- ***No texting or email monitoring. Turn off all electronic devices.***

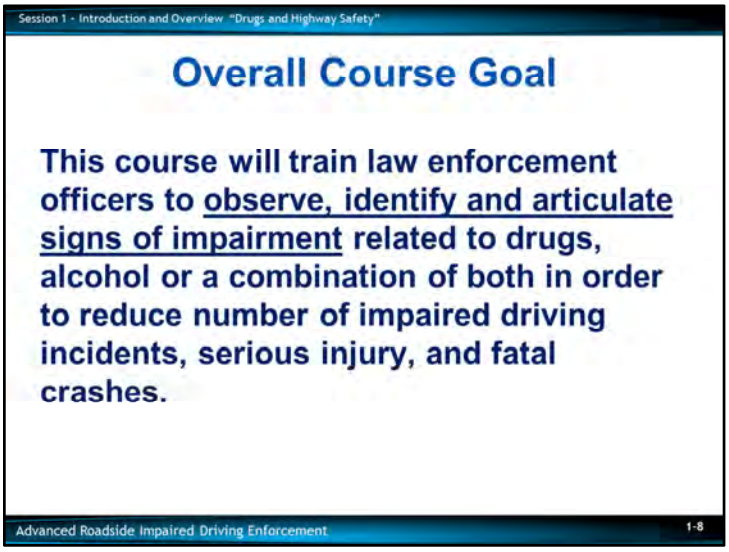


C. <u>Participant Introductions</u>

Whenever possible, consider using creative and innovative icebreaking techniques.
At a minimum, instruct each participant to stand and give their name, agency affiliation, and experience.



D. <u>ARIDE Pre-Course Exam</u>



E. Course Goal

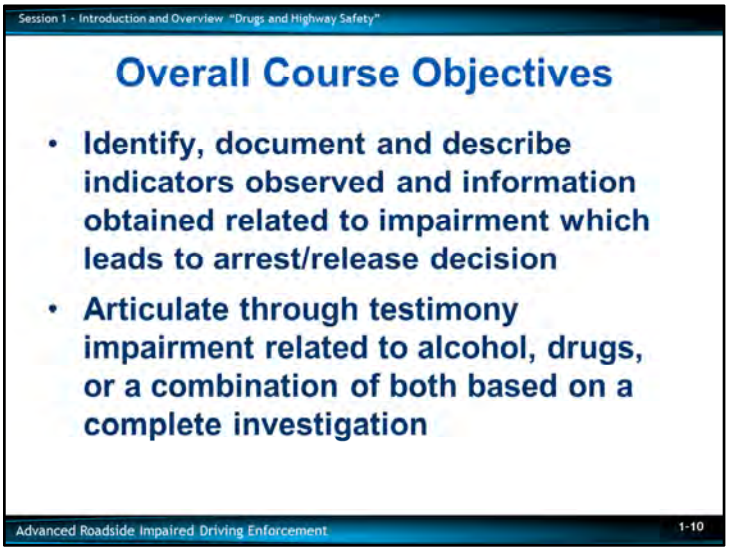
This course will train law enforcement officers to observe, identify, and articulate the signs of impairment related to drugs, alcohol, or a combination of both in order to reduce the number of impaired driving incidents, serious injury, and fatal crashes.

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

In order to meet these goals, this course will train participants to:

- Demonstrate, articulate, and properly administer the Standardized Field Sobriety Tests (SFST) proficiently
- Define and describe the relationship of drugs to impaired driving incidents
- Observe, identify, and articulate the observable signs of drug impairment with the established seven drug categories associated with the DEC Program



- Identify, document, and describe indicators observed and information obtained related to impairment which leads to the arrest/release decision

- Articulate, through testimony, impairment related to alcohol, drugs, or a combination of both based on a complete investigation

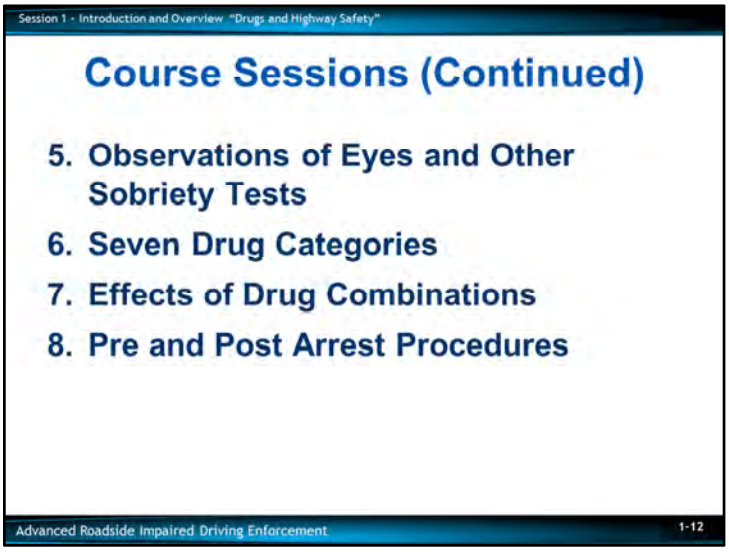
This course is divided into sessions, which are designed to provide the participant with an overview of drug-impaired driving.

1. Introduction and Overview of Drugs and Highway Safety

2. SFST Update and Review
   See SFST form in Session 3 of the participant manual.

3. SFST Proficiency Exam

4. Drugs in the Human Body



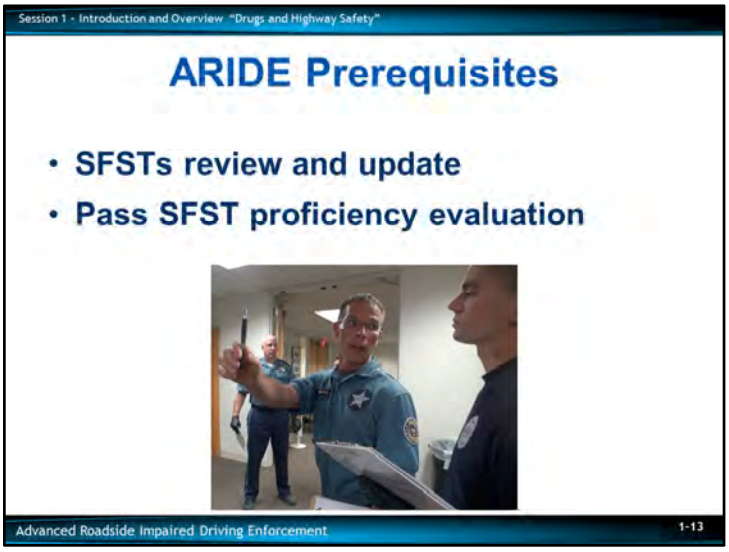
5. Observation of the Eyes and Other Sobriety Tests for Impairment

6. Seven Drug Categories

7. Effects of Drug Combinations

8. Pre and Post Arrest Procedures or a State-specific Legal Update

The course is designed to serve as a bridge between SFST and DRE.



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

The participant will be given two opportunities to successfully complete the SFST proficiency; under no circumstance will the participant be allowed to complete the training without satisfactory completion of the proficiency examination.
It is recommended a different instructor administer the second SFST proficiency examination, if necessary.

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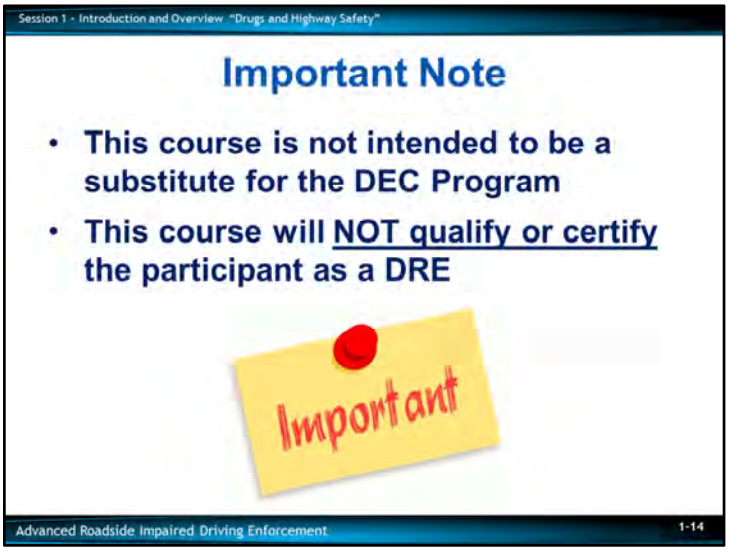

Many law enforcement officers are trained in Standardized Field Sobriety Testing (SFST) and use the skills gained in the course as part of their overall enforcement of (**Driving while Impaired (DWI) Laws**).

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.

Place extreme emphasis on this point. This program is designed to work in conjunction with the DEC Program.

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.

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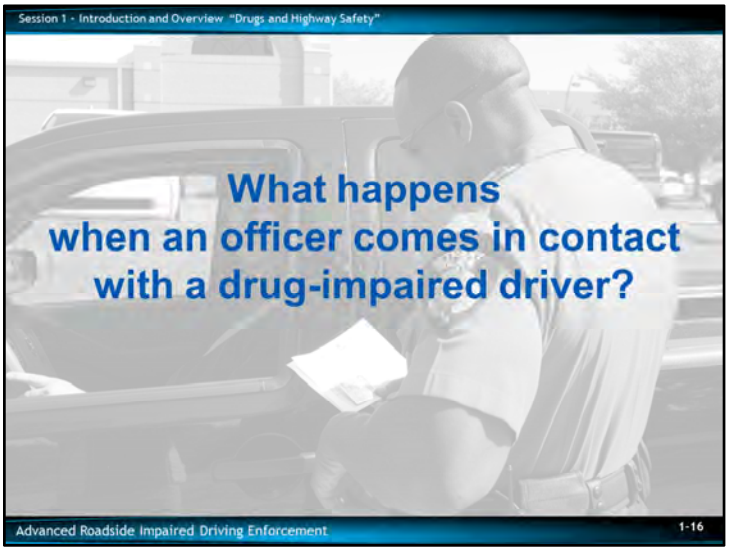
The National Highway Traffic Safety Administration (NHTSA) has promoted high visibility enforcement efforts among law enforcement agencies. As a result of this effort, several things happened:

1. Prosecutors were left behind in technology advances and training

2. The criminal court system was overloaded

3. Delivered poorly developed cases for prosecution

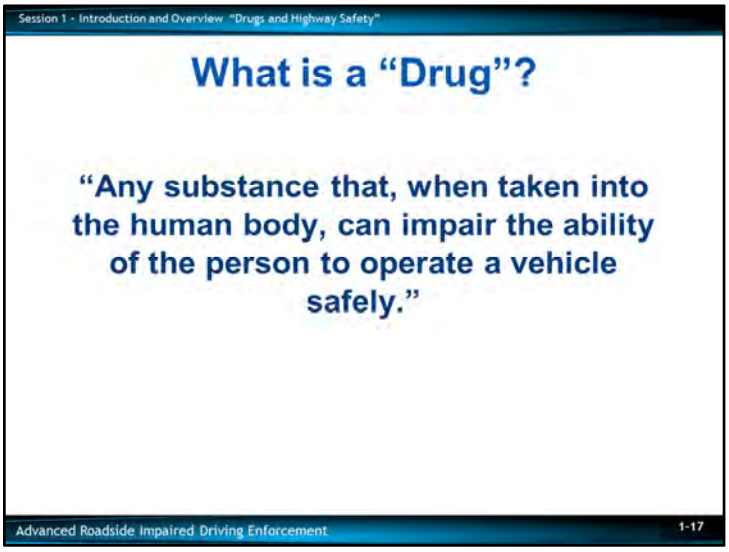
Criminal justice professionals such as prosecutors, toxicologists, and probation and parole officers must also understand the DWI detection process in order to support enforcement efforts, which will increase the probability of successful prosecution and adjudication.



Often officers come in contact with the drug-impaired driver. There are many things that could be happening.
Ask class to provide some examples before moving forward.

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. <u>What is a Drug?</u>

A Simple, Enforcement-Oriented Definition of Drugs

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

Working definition derived from the 1985 California Vehicle Code.
Point out participants will need to know the definition of a drug verbatim.
Point out this definition excludes many substances that ordinarily would be considered "drugs" by physicians, chemists, etc.
Ask participants: What are some things physicians would consider to be "drugs" that would not be covered under this definition? Examples: nicotine; Caffeine.

This definition includes some substances physicians don't usually think of as drugs.
Ask participants: What are some common chemical substances doctors don't usually consider drugs, but definitely impair driving ability? Examples: model airplane glue; paint.
Emphasize, as traffic law enforcement officers, the participant's concern has to remain focused on substances that impair driving.

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.
Mention each State may have specific criteria related to the definition of a drug. Participants should become familiar with their State's specific statutes in this area.

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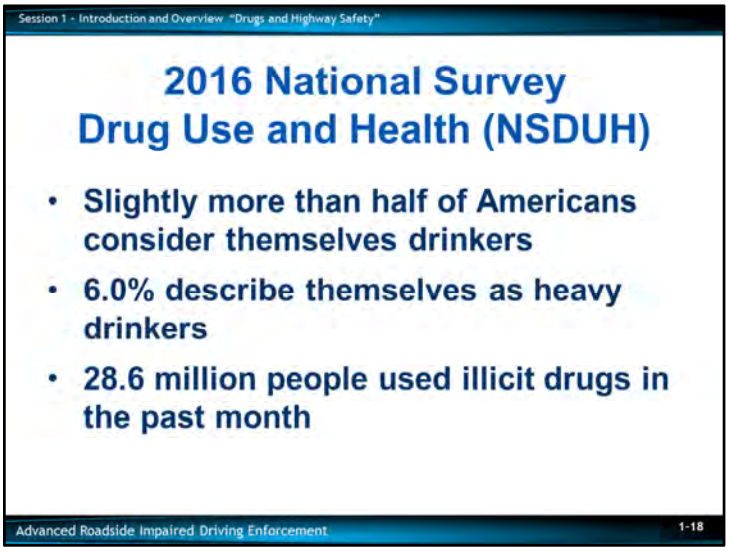

G. <u>Statistics and Research</u>

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 ***Source: National Survey on Drug Use and Health (NSDUH, September 2017)***

- 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 ***(NSDUH, September 2017)***

Emphasize this is a self-reported survey. There are some issues that need to be discussed. For example: limitations of data collected.

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.

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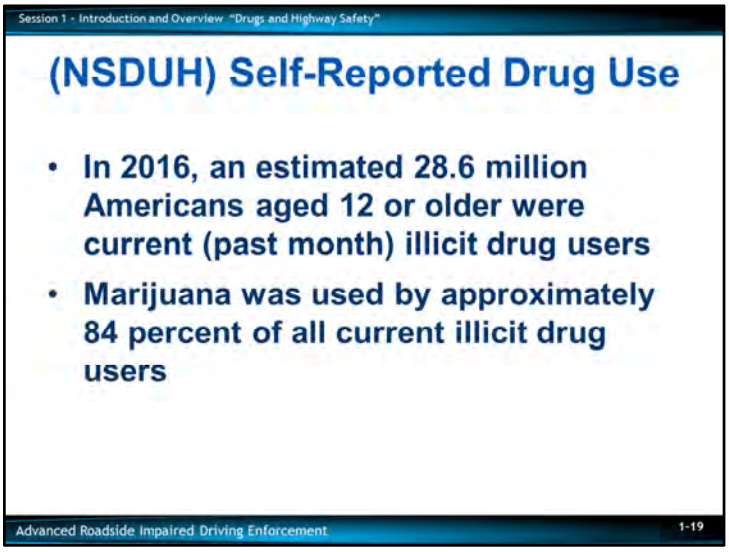
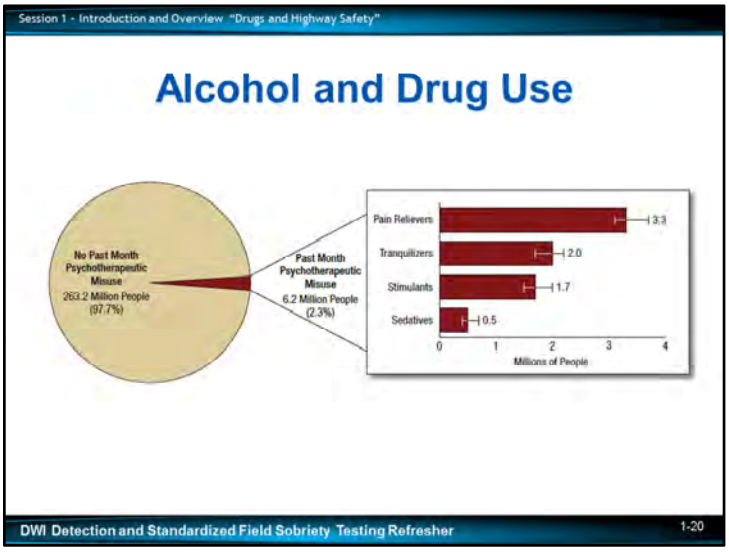


The following summarizes the self-reported drug usage information as reported by the 2016 NSDUH Survey:

- 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

Remind the participants the numbers are very conservative due to self-reporting.



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

Source: National Survey on Drug Use and Health (NSDUH, September 2017)

Understand the magnitude of the problem of subjects driving while impaired by drugs and alcohol.
Ask class for examples specific to their State/locality?

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

Source: National Survey on Drug Use and Health (NSDUH, September 2017)

- Approximately 11.8 million people reported they drove under the influence of illicit drugs during the last year

Source: National Survey on Drug Use and Health (NSDUH, September 2017).

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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

Source: Results of the 2013-2014 National Roadside Survey of Alcohol and Drug Use by Drivers, DOT HS 812 118

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

Consult national and local resources for updated data on drugs and driving.

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H. <u>Impaired Driving Enforcement Programs</u>

NHTSA/IACP supports:
- Training
- Enforcement
- Prosecution
- Adjudication

NHTSA Supports: Selective Traffic Enforcement Program (STEP) Grants, Crackdown support, Traffic Safety Resource Prosecutors (TSRP), Saturation Patrols, Sobriety Checkpoints, and Judicial Education.

For your information, "Prosecuting the Drugged Driver," "Lethal Weapon," and "Protecting Lives, Saving Futures" are courses designed for prosecutors.

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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The SFST practitioner course is:

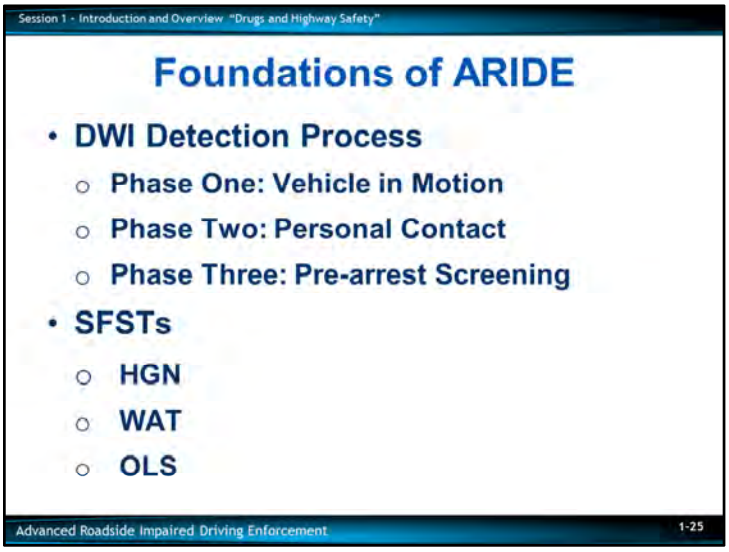
- The cornerstone for impaired driving training and enforcement
- The foundation for this course as well as the DEC Program
- An integral part of all alcohol and drug-impaired driving enforcement initiatives

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.

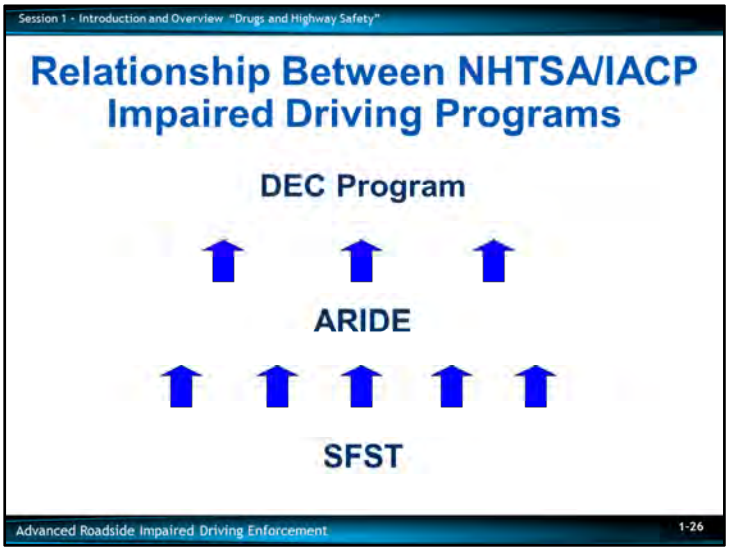


The SFSTs are part of the overall DWI detection process which includes three phases:

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

Inform the participants throughout this course we will be discussing concepts related to these three phases.

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
Ask the class if they are familiar with the DEC Program.
Ask if they have any DEC-trained officers in their agencies.
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.

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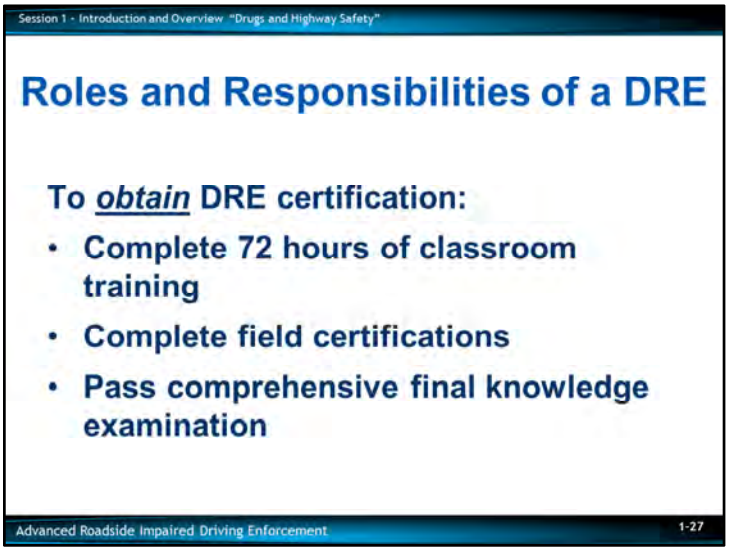

I. Roles and Responsibilities of a DRE

To obtain a DRE certification the law enforcement officer must:

1. Complete 72 hours of classroom training

2. Complete field certifications

3. Pass comprehensive final knowledge examination

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.

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 sums up the responsibilities and duties of the ARIDE-trained officer at the conclusion of this training course.

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.

QUESTIONS?

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 NERVOU 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 fentanyls 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 unpollenated 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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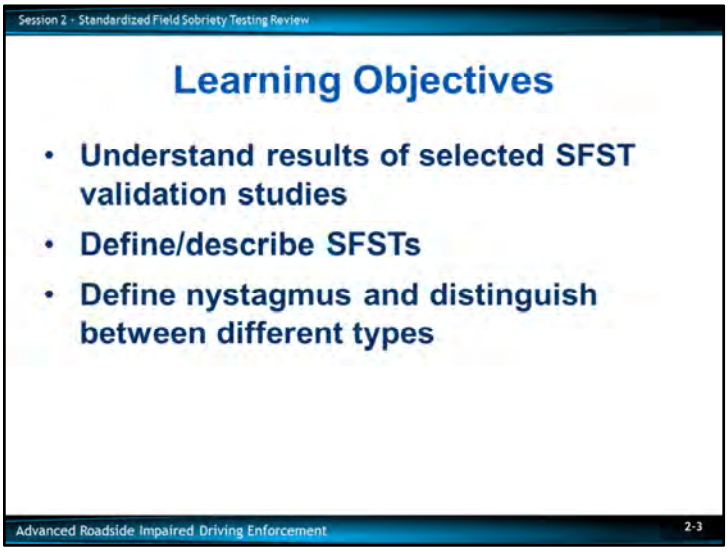
Advanced Roadside Impaired Driving Enforcement

Session 2 – Standardized Field Sobriety Testing Review

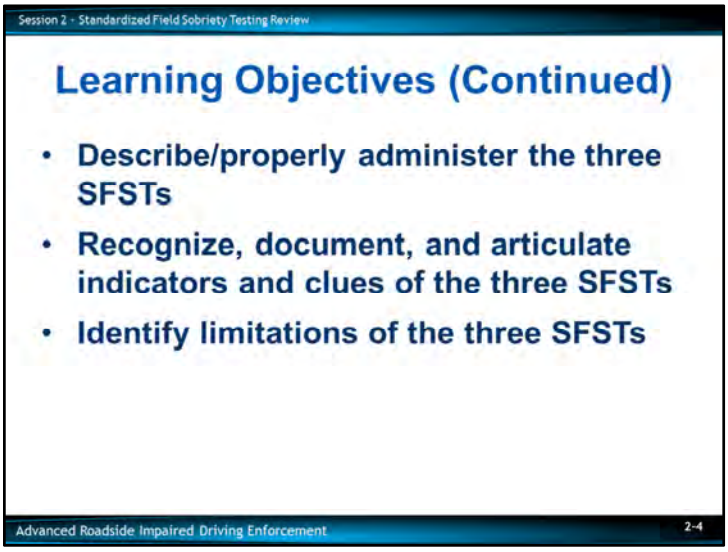
February 2018

Session 2 - Standardized Field Sobriety Testing Review
1 Hour, 30 Minutes
Session 2
Standardized Field Sobriety Testing (SFST) Review
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement



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



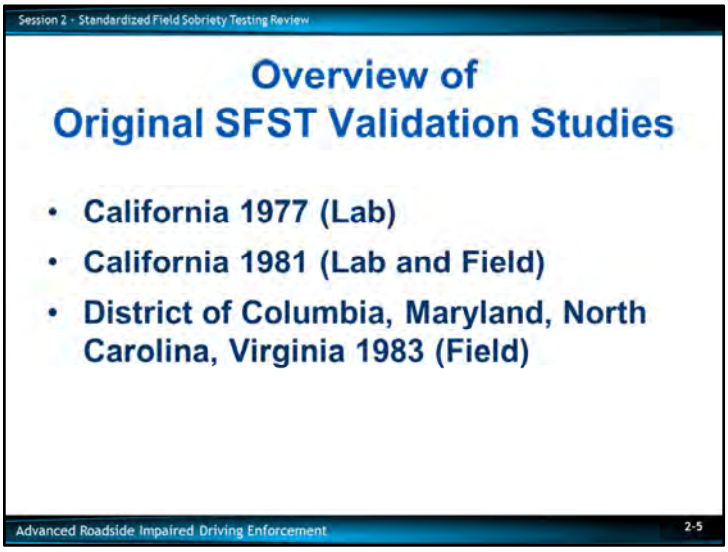
- Describe and properly administer the three SFSTs
- Recognize, document, and articulate the indicators and clues of the three SFSTs
- Identify the limitations of the three SFSTs

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



A. <u>Overview of the SFST Validation Studies</u>

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.
Remind participants this may not seem important but officers are seeing this in court as a defense strategy.

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)

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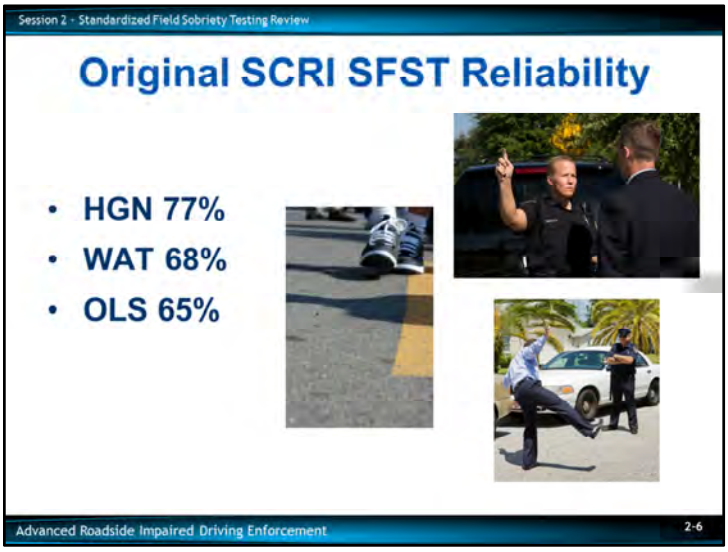
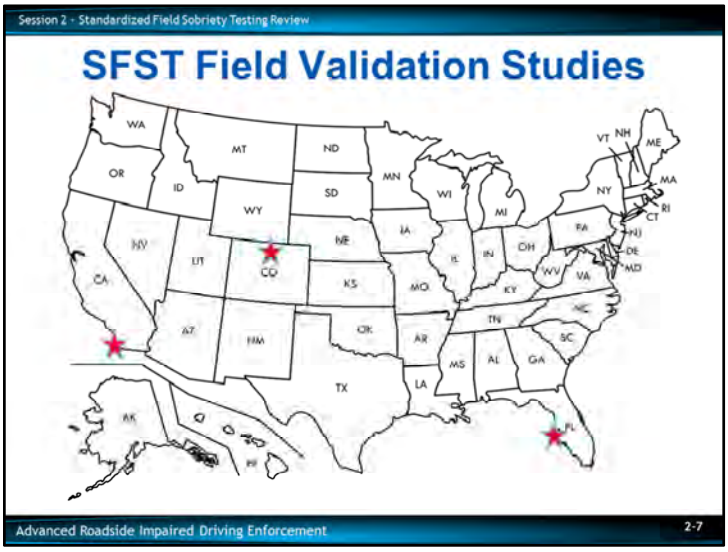


SCRI analyzed the laboratory test data and determined:

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

Point out the percentages were from the original research completed by SCRI.



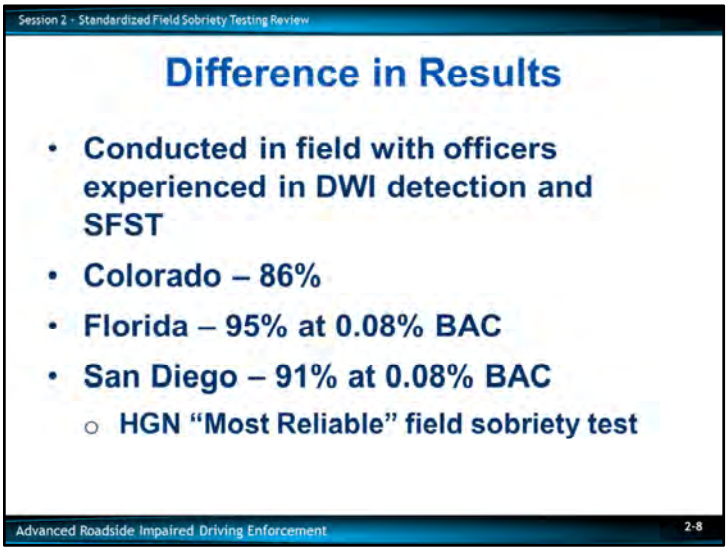
Additional research studies conducted to validate the three SFSTs at 0.08 BAC.

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.

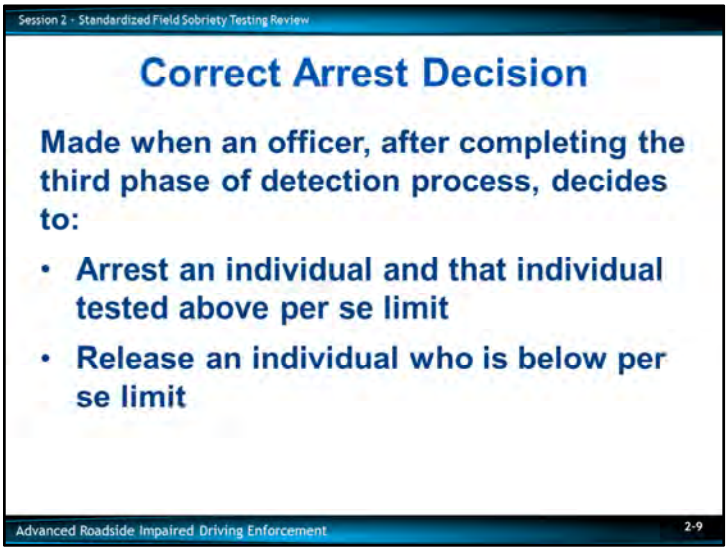


Results of each of the studies:

- 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)

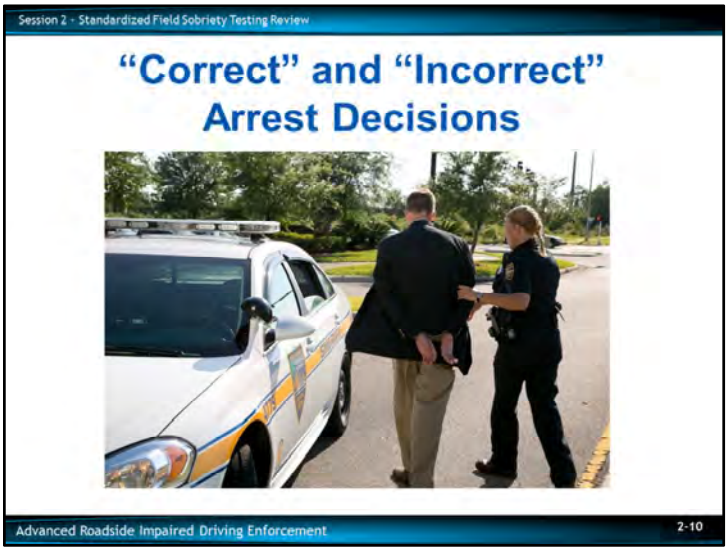
- In San Diego, the research was done to investigate how well the SFSTs discriminate at BACs below 0.10
  - Based on the revised arrest and release criteria, the officers in the study made correct decisions 91% of the time based on the three SFSTs (HGN, WAT, OLS) at the 0.08 BAC level and above



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



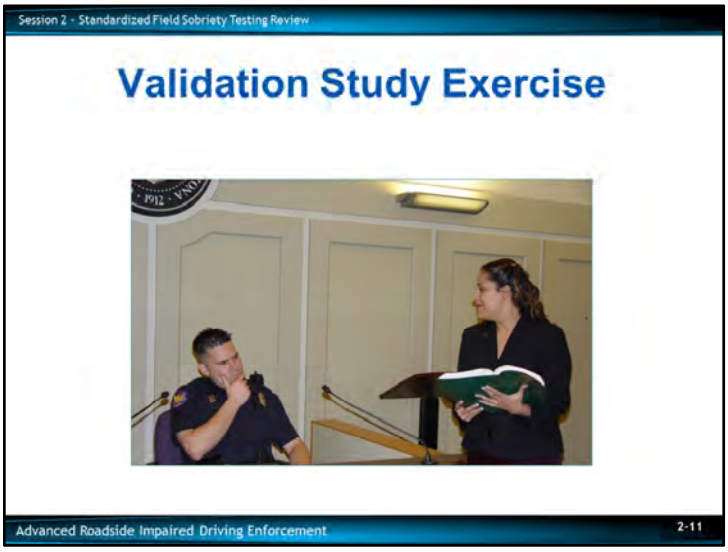
For purposes of this study, a correct decision was when the person was above the per se limit and was arrested or the person was below the per se limit and was released.

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.

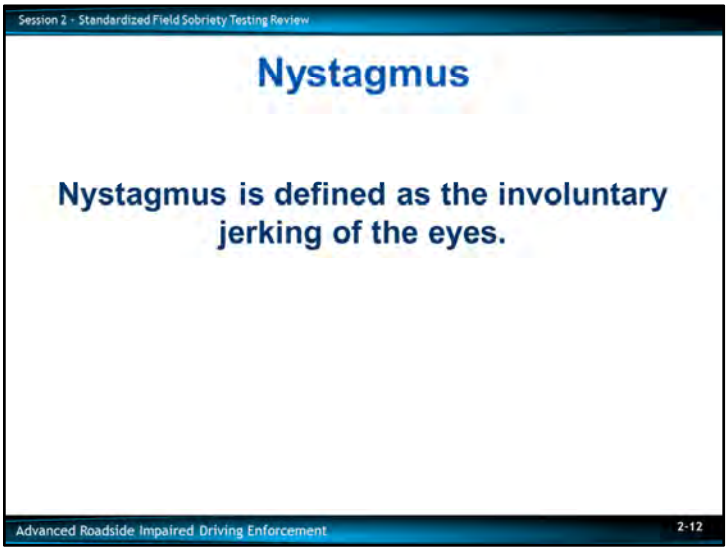
For purposes of this study, the subjects who were arrested, but their BAC was below the per se limit, were also considered incorrect arrests. Many States stipulate in their statute a driver is considered DWI if they are either above the per se limit for BAC or have lost the normal use of their mental 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.
Emphasize 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.

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."



Practical Exercise: Ask for volunteers in the class to articulate these studies.
Ask the following question: "According to the San Diego validation study, is it true 88 percent of the time HGN is accurate?"
Answer: That means 12 percent of the time the test is incorrect and you are arresting subjects that should not be arrested.
There may be a prosecutor in the classroom to assist with this exercise. This series should be asked as a defense attorney would.
The 12% in which HGN test may not provide accurate results includes both those instances in which an officer mistakenly believed the BAC is above 0.08 AND those instances in which the officer failed to detect the clues and mistakenly believed the BAC was below 0.08. Research has demonstrated officers are more likely to err on behalf of the defendant.



Nystagmus is the involuntary jerking of the eyes.

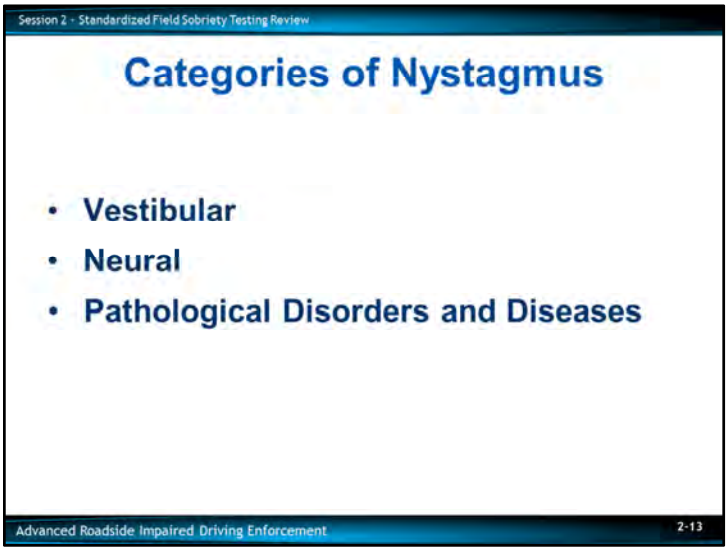
Horizontal Gaze Nystagmus is defined as the involuntary jerking of the eyes, as the eyes gaze to the side.

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.



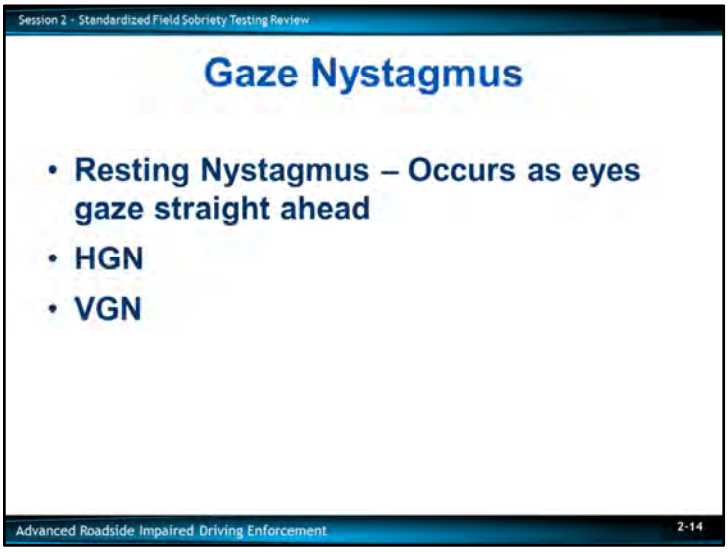
B. <u>Overview of Selected Types of Nystagmus</u>

<u>Vestibular Nystagmus</u>. 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.).

<u>Neural Nystagmus</u>. 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.

<u>Pathological Nystagmus</u>. 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 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

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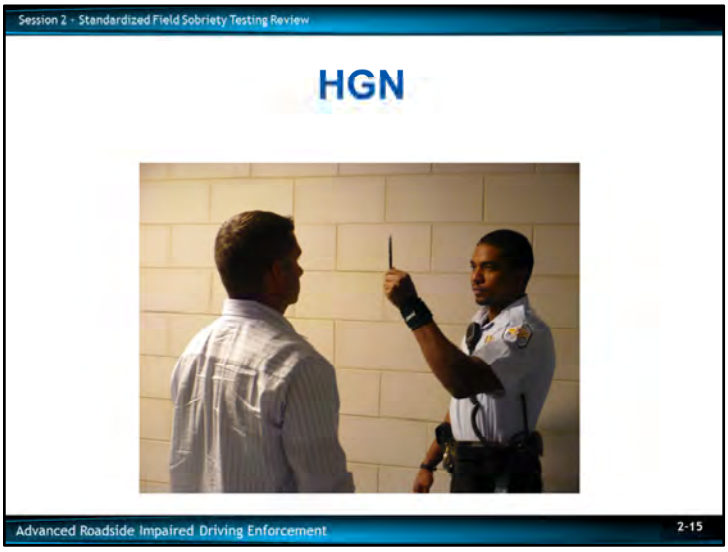

C. <u>Horizontal Gaze Nystagmus</u>

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.
Ask the class to give examples of a good stimulus.

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

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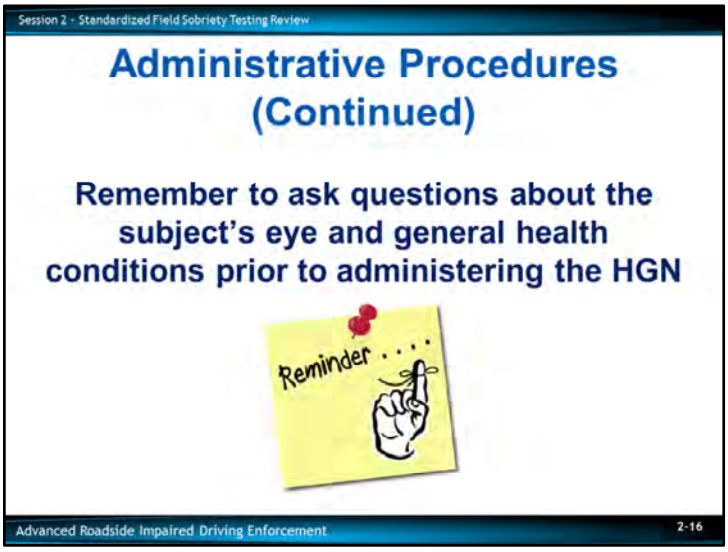

Officers are reminded to ask questions about the subject's eye and general health conditions prior to administering the HGN test. If a subject responds or volunteers information he or she is blind in one eye or has an artificial eye, the officer should make note of that and may proceed with the HGN test. 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.
Source: "Eye Tests on a Suspect with a Blind Eye" Karl Citek, OD, PhD, FAAO, Pacific University College of Optometry, Sept. 2014.
For most HGN testing, the normal eye can see the stimulus and the movement of either eye should be consistent with what is expected. When the normal eye can no longer see the stimulus, most commonly when assessing Distinct and Sustained Nystagmus at Maximum Deviation on the blind eye side, normal tracking may be disrupted and eye movements not consistent with nystagmus may be observed.

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.
Give examples of why this situation would occur. The ultimate reason for repositioning the subject is for officer safety, second is to obtain the best possible position to observe the HGN clues.

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."

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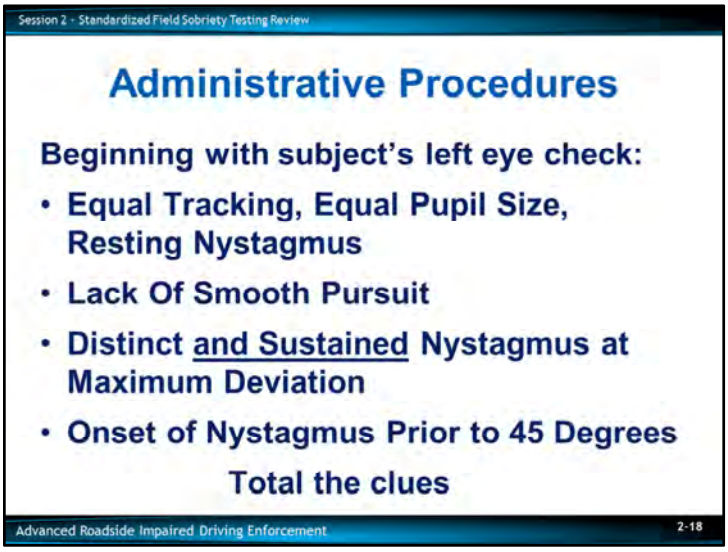

Position the stimulus approximately 12 to 15 inches in front of the subject's nose and slightly above eye level to commence the test.

- 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.

Point out there should be a clear distinguishable break between the check for Equal Tracking and Lack of Smooth Pursuit.

- 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

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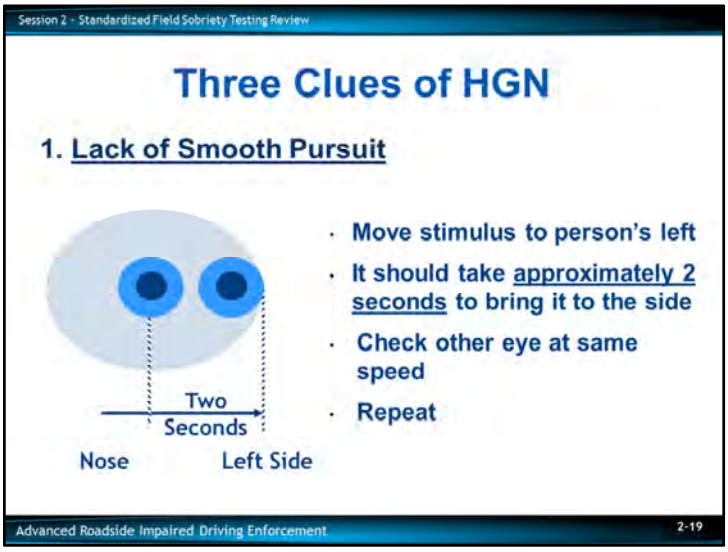


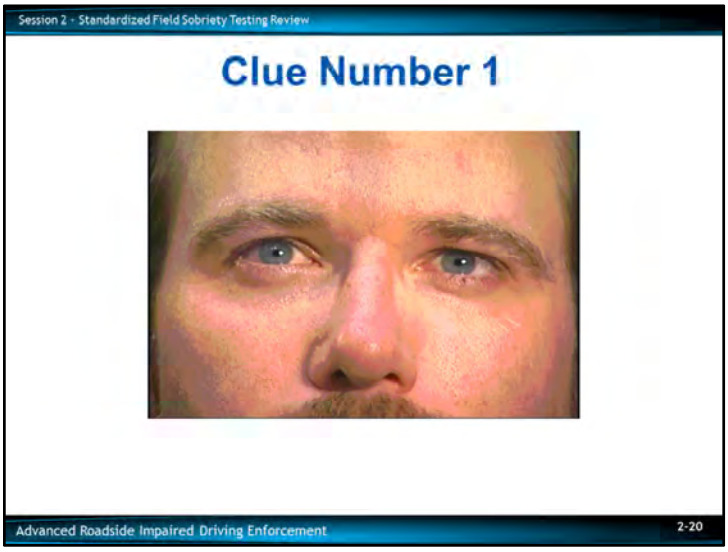
Lack of Smooth Pursuit

Reference PowerPoint graphic illustration

- 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. ***Point out: the stimulus must be moved in a smooth, continuous manner without stopping at either side or the center while checking for this clue.***

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.



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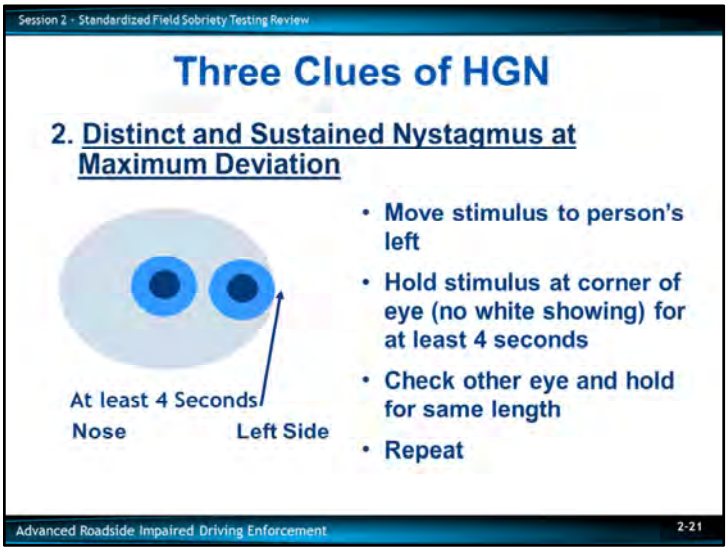


Distinct and Sustained Nystagmus at Maximum Deviation

- 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

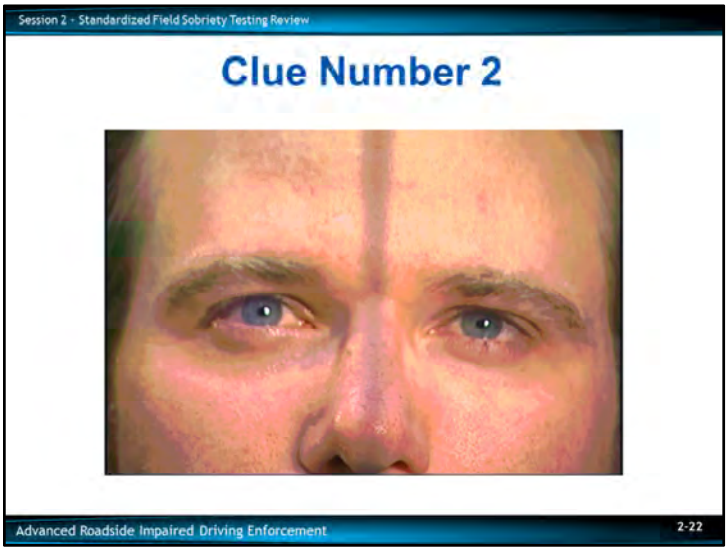
- The eye should not be able to move any further on the horizontal plane

- 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



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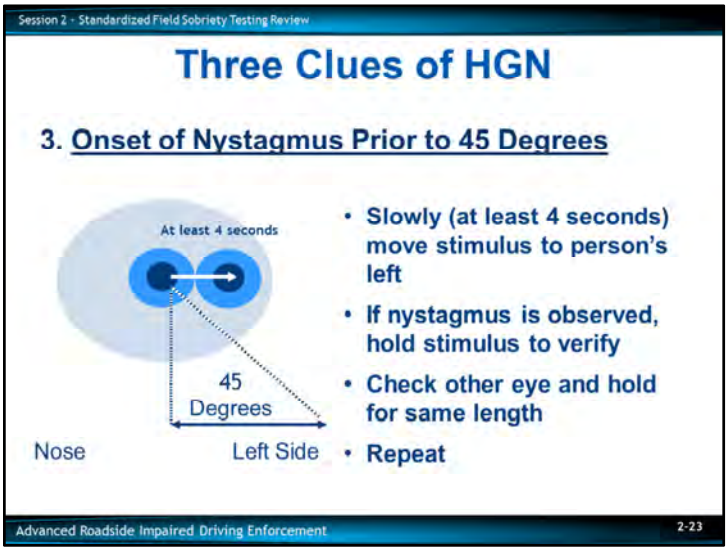
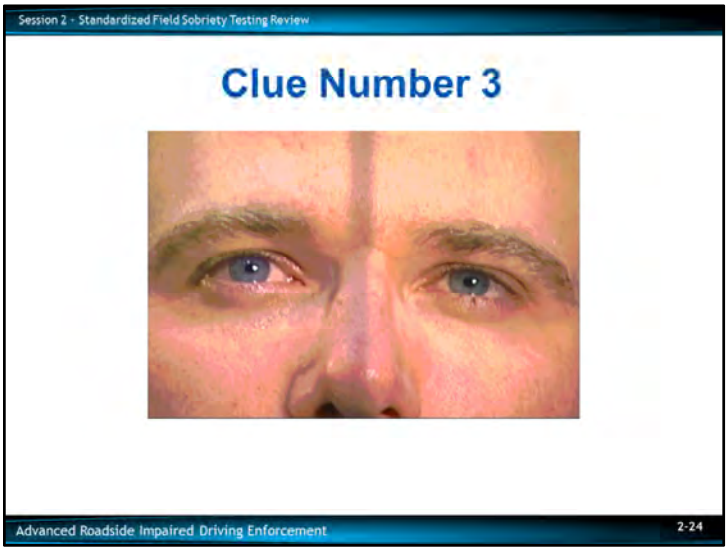


Onset of Nystagmus Prior to 45 degrees

- 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



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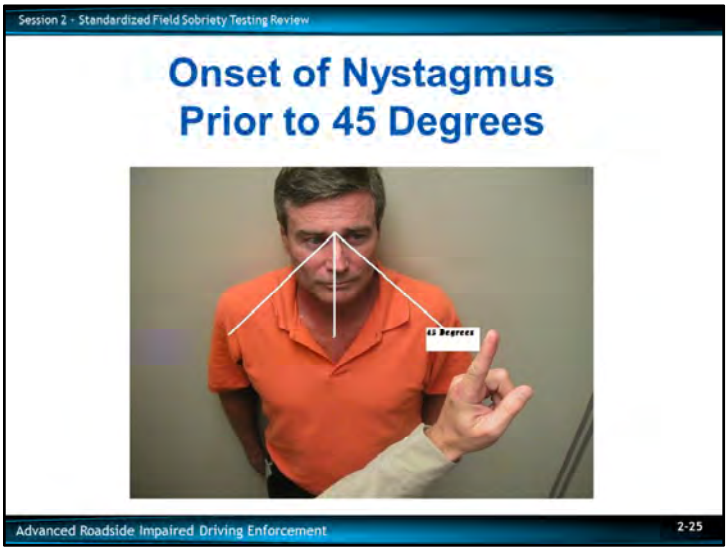
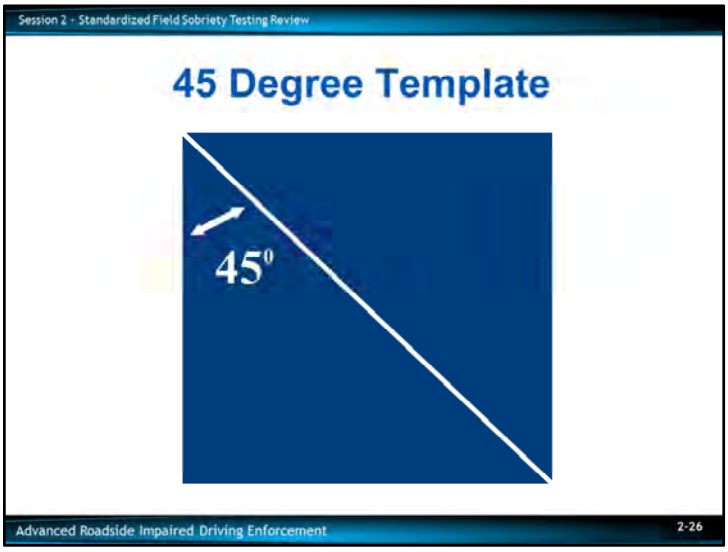
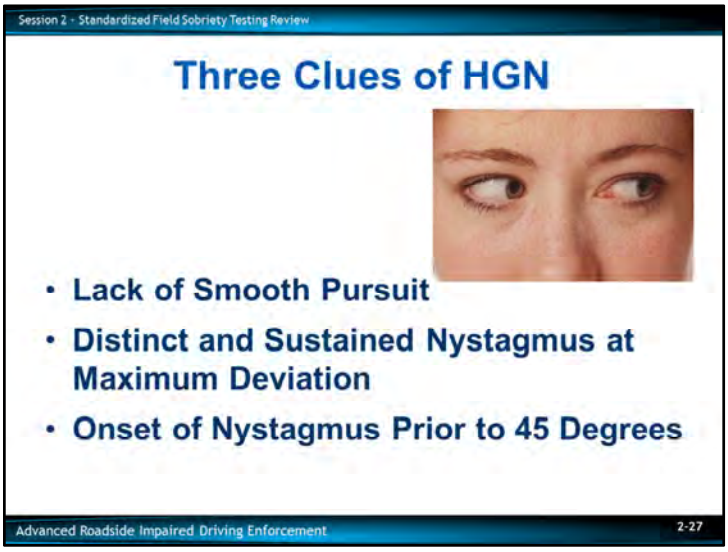


Onset of Nystagmus Prior to 45 Degrees

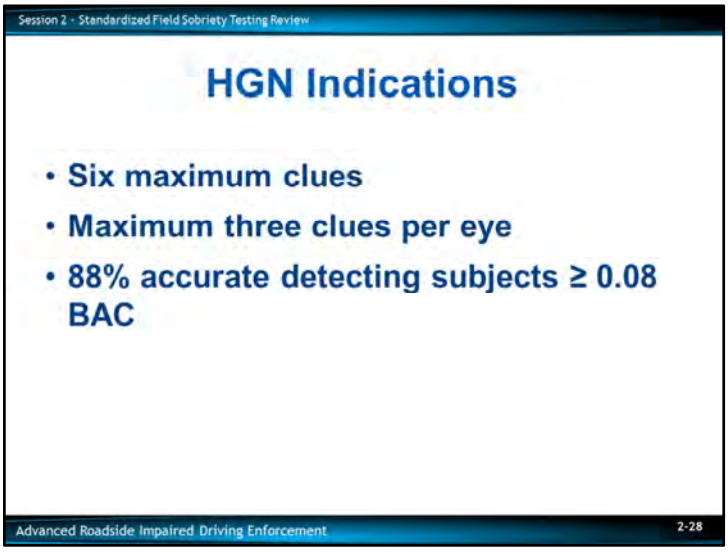


45 Degree Template



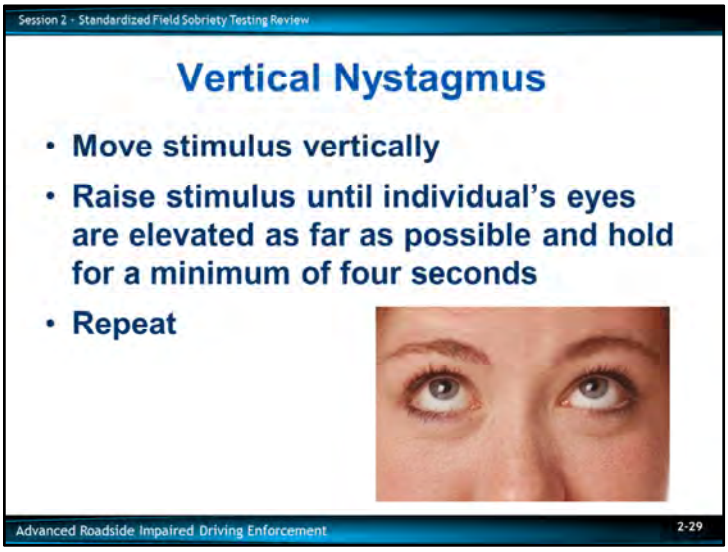
Three Clues of HGN

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



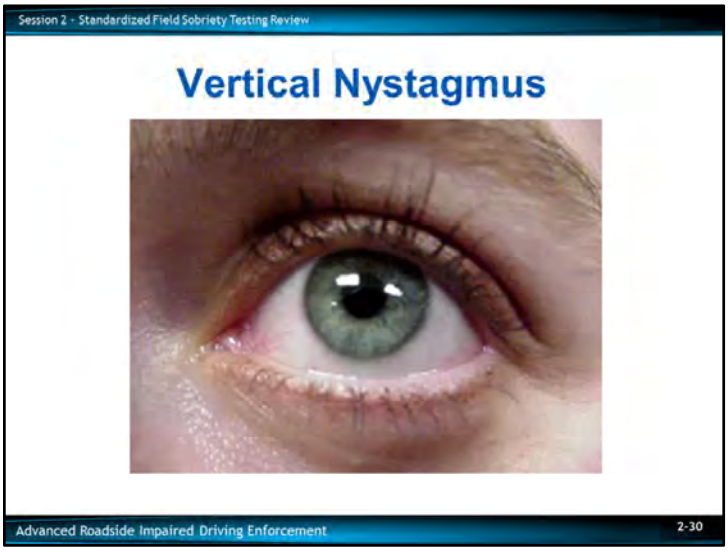
HGN Indications:
- Six maximum clues
- Maximum three clues per eye

HGN Test Criterion: 4 or more clues indicates BAC at or above 0.08 – 88% reliable
(1998 San Diego study sponsored by NHTSA)



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



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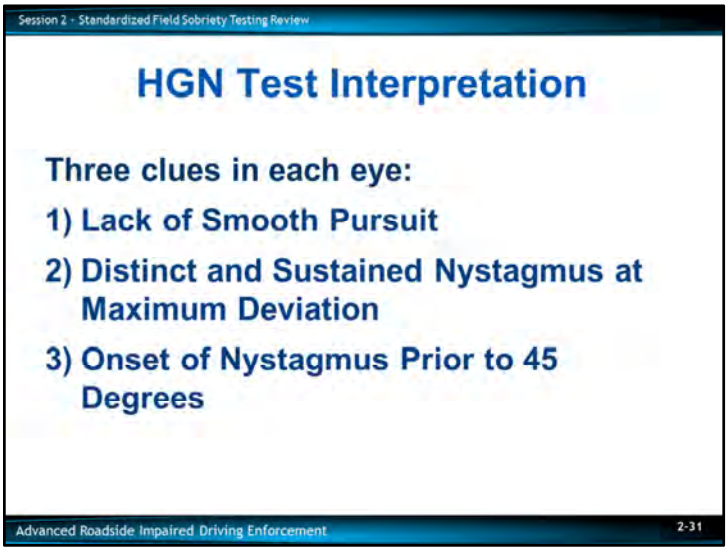

D. <u>Practice HGN</u>

Have participants to practice the administration of the HGN test. Allow 5-10 minutes for this activity.

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

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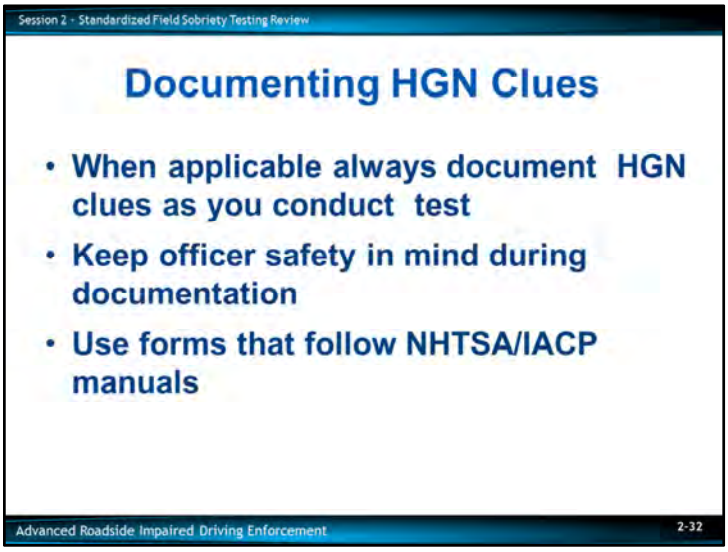

Documenting the HGN Clues
The HGN test has been researched and found to be a reliable indicator of impairment with subjects at or above 0.08 BAC.

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.

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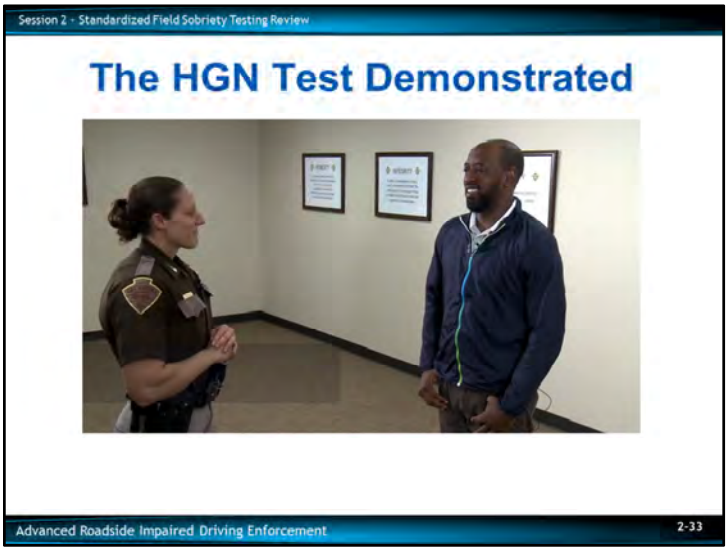
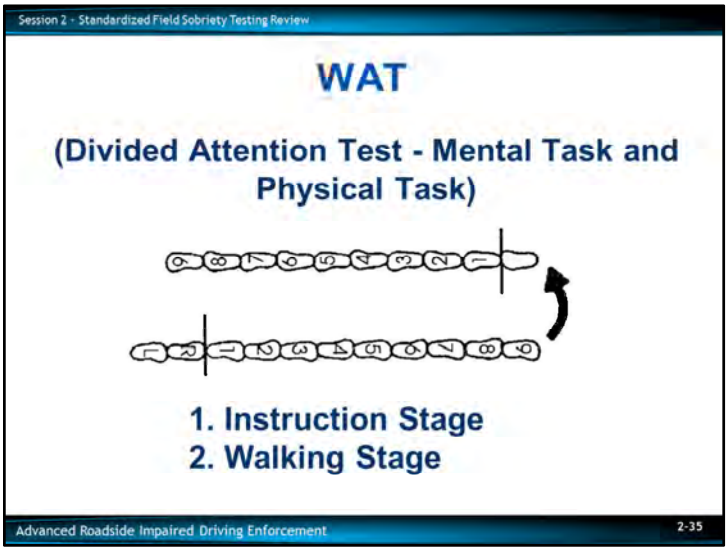

Session 2 - Standardized Field Sobriety Testing Review
The HGN Test Demonstrated
Advanced Roadside Impaired Driving Enforcement
2-33

Session 2 - Standardized Field Sobriety Testing Review
Walk and Turn
Advanced Roadside Impaired Driving Enforcement
2-34

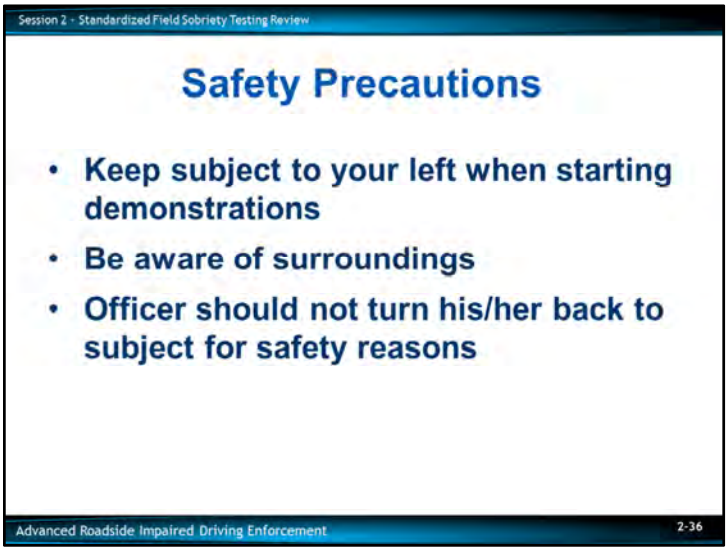


E. <u>Walk and Turn (WAT) Test</u>

The WAT test is divided into two stages:
1. Instruction Stage
2. Walking Stage

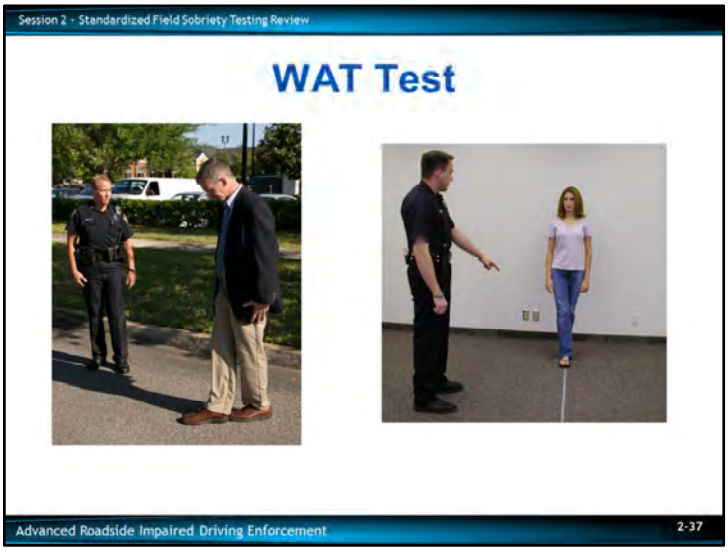
Instruction Stage
<u>Driving capabilities assessed:</u>
- Divided attention, listening to and remembering instructions

Walking Stage
<u>Driving capabilities assessed:</u>
- 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



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



Write "Walk and Turn" on the dry erase board or easel/easel board.
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

Remind participants prior to administering this test to check if the subject has any physical problems or disabilities.

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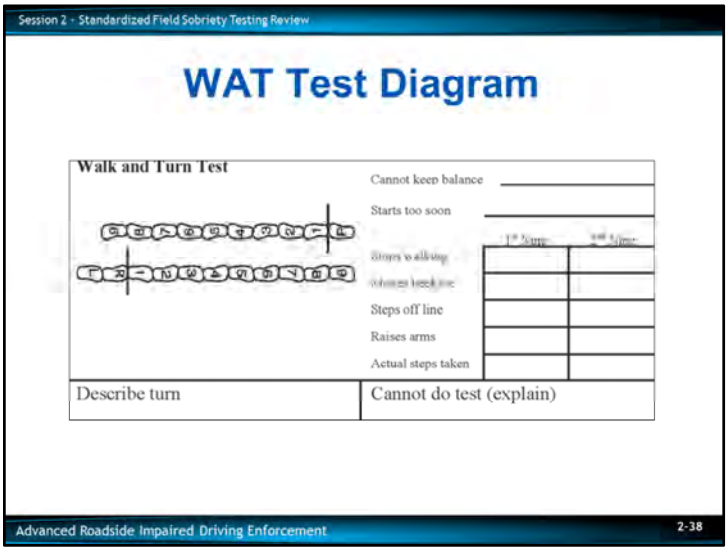

Demonstrate how the steps are taken, counting out loud, and demonstrating the turn. Emphasize the officer should not turn his/her back to the subject for safety reasons.
You must demonstrate several heel-to-toe steps and you must demonstrate the turn.

- 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.

Advise participants there may be instances when the subject may have to be reminded the first step from the heel-to-toe position is step one.

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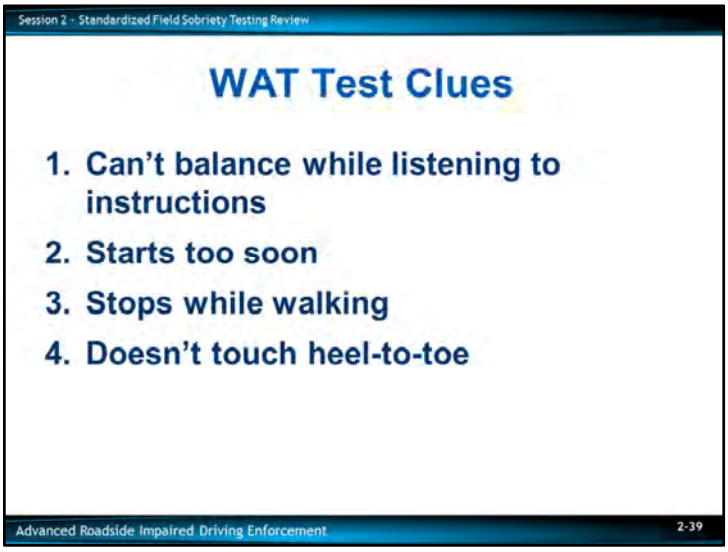

Look for the following clues each time the WAT test is administered.

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

Also emphasize a stop should be clear and deliberate and it could be attributed to a number of things, i.e., trying to regain balance, problems with divided attention, or problems remembering the instructions. For this clue, officers may need to articulate the suspected reason for the stop in their report.

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

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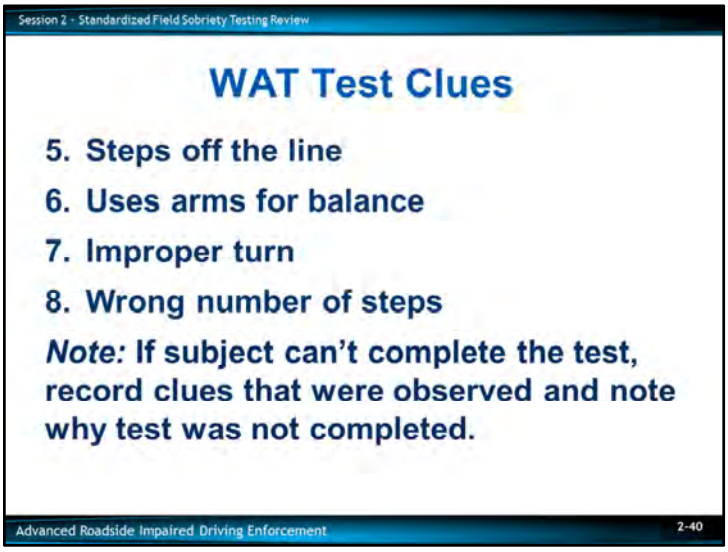

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5. Steps off the line
   - The subject steps so that one foot is entirely off the line

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

Emphasize there may be times when the subject takes a wrong number of steps or begins the heel-to-toe walk with the wrong foot resulting in a turn on the right foot instead of the left. If this occurs, the subject would normally be assessed a clue for an incorrect number of steps and not assessed a clue for an improper turn if the turn was made using a series of small steps as instructed and the subject did not lose his/her balance while attempting the turn.
This scoring is consistent with the original research and training conducted by the SCRI and with the administration and scoring of the WAT test in the San Diego Field Study.

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.

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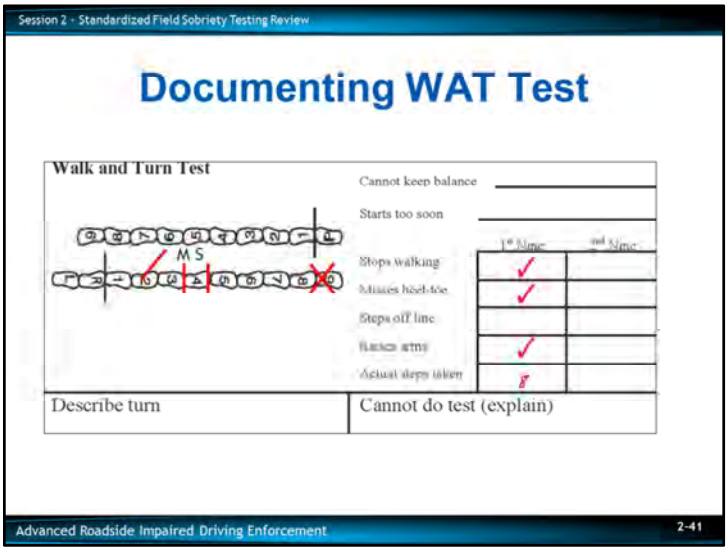


***This slide will be left on display throughout the discussion of WAT scoring*.**
First two clues are checked only during the instruction stage.

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".
Remind participants the clue "loses balance during instructions" is recorded only if the subject's feet "break apart."

Example: If the subject does not start too soon, write "N/A" in that box or leave the box blank.
Emphasize if the clue is not observed, they should indicate that by writing "N/A," "None," or leave it blank.

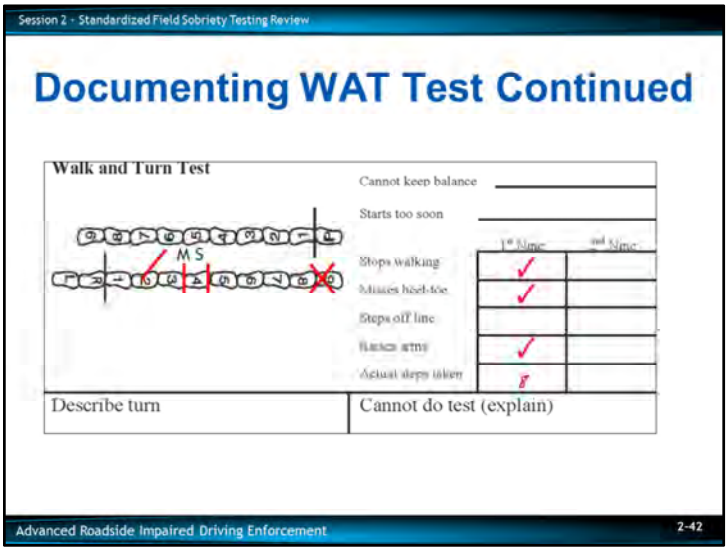
Record the next four clues separately for each nine steps.

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.
Instruct participants to place a letter "S" at bottom of vertical line to indicate "stops walking."

How many times during first nine steps?

How many times during second nine steps?
Remind participants if subject stops walking even once, that will count as one clue; but in order to prepare a clear, descriptive arrest report, it is best to document how many times subject stopped while walking.

If subject fails to touch heel-to-toe, record how many times this happens.
Instruct participants to place a letter "M" at bottom of vertical line to indicate missed heel-to-toe.



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.
Record the actual number of steps taken. "Incorrect number of steps" is the validated clue.

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.
Remind participants even if a clue is observed more than once, each clue is counted only once.

In the section labeled "other," record any facts, circumstances, conditions, or observations that may be relevant to this test.
Discuss some examples of additional evidence of impairment that may emerge during WAT test.

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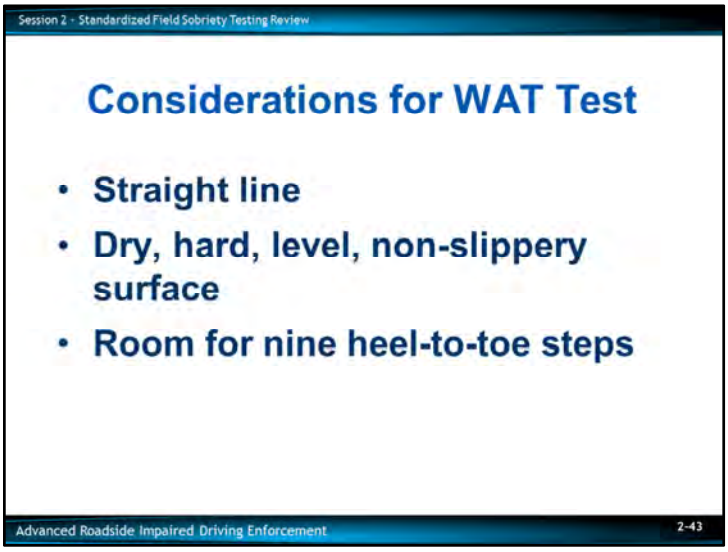

Considerations
WAT test requires a real or imaginary straight line and should be conducted on a reasonably dry, hard, level, non-slippery surface. There should be sufficient room for subjects to complete nine heel-to-toe steps.

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
Have participants practice the administration of the WAT. Allow 5 minutes for this activity.

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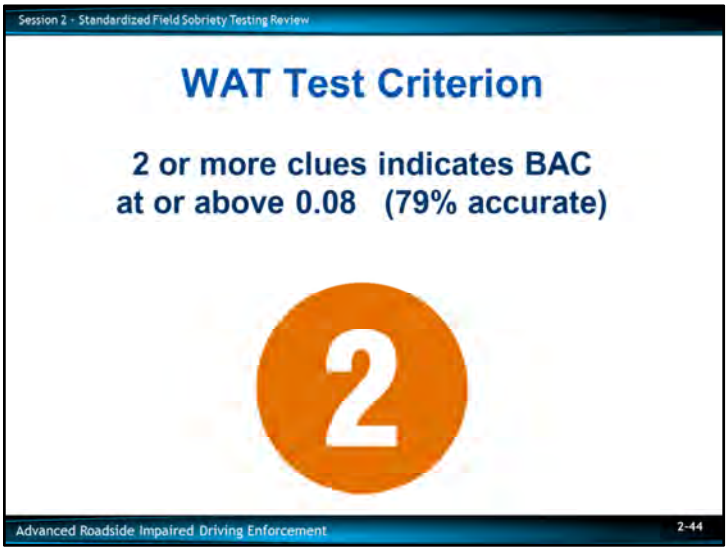
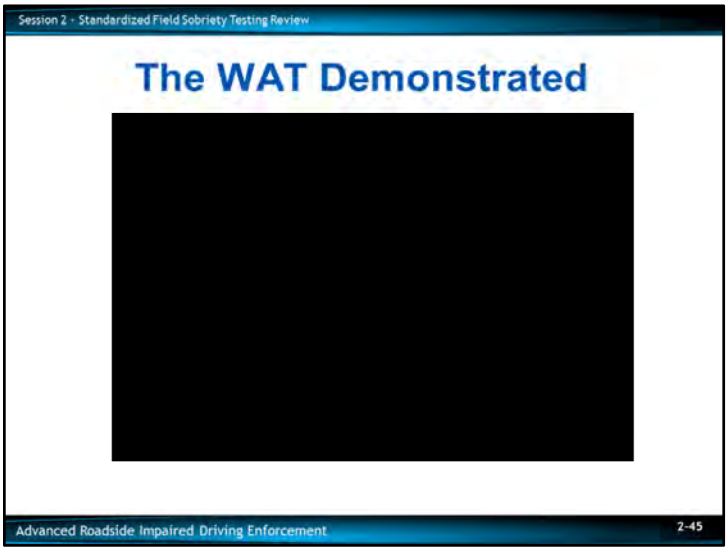
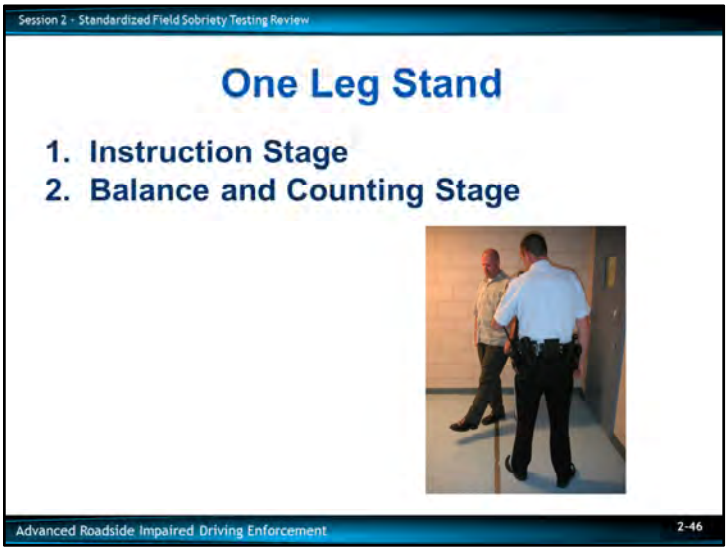


Based on recent research, if the subject exhibits two or more clues on this test or fails to complete it, classify the subject's BAC as at or above 0.08. Using this criterion, you will be able to accurately classify 79% of your subjects.

This accuracy level was determined through the San Diego Study ("Validation of the Standardized Field Sobriety Test Battery at BACs Below 0.10 Percent").



Show WAT video.
Solicit questions regarding the WAT test.



G. <u>One Leg Stand (OLS)</u>

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

Remind participants prior to administering this test to check if the subject has any physical problems or disabilities.

1. Initial positioning and verbal instructions

Point out it is recommended to give the following 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.

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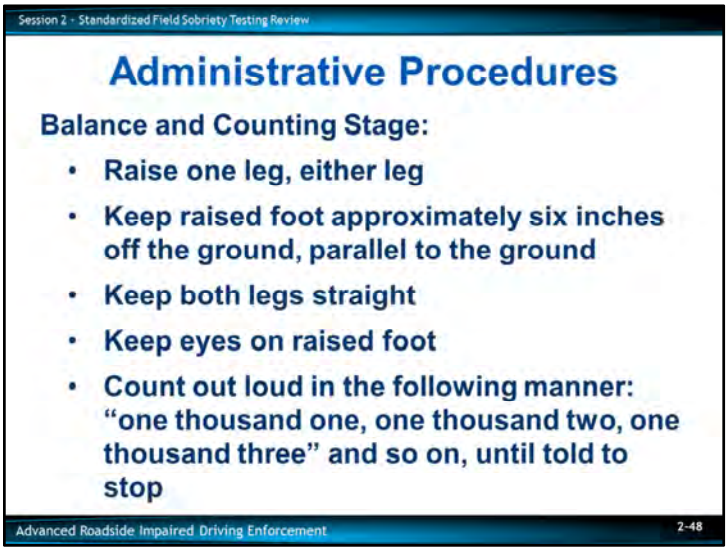


Instructions for the Balance and Counting Stage

Two instructors should be used for this demonstration, one as the "subject" and the other as the examiner.

- 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

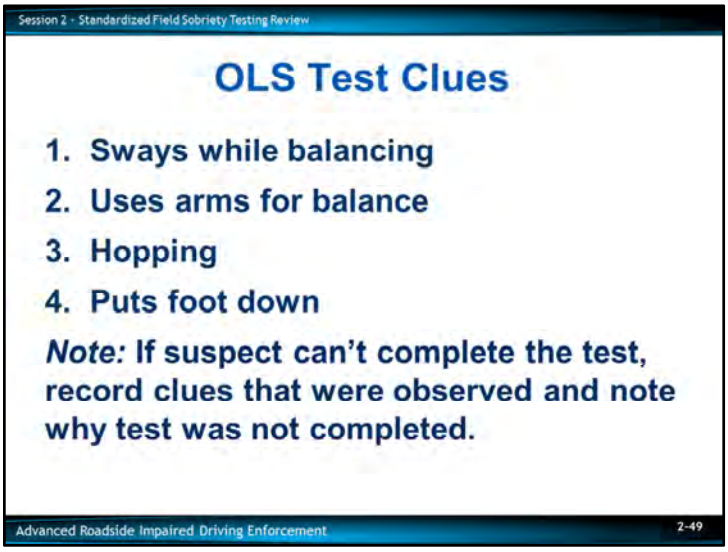
Emphasize the examiner should not look at his or her own foot while giving the instructions. For safety reasons, the examiner must keep the eyes on the subject at all times.

- The subject must be told 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

Although not part of the administrative procedures, if the subject lowers his/her foot, he/she should be instructed to raise it and continue the test.



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.

Mention this could be a side-to-side, back-to-front, or circular motion.

2. Uses arms for balance
   - Subject moves arm 6 or more inches from side of the body in order to keep balance

Mention this is six inches or more from their side.

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

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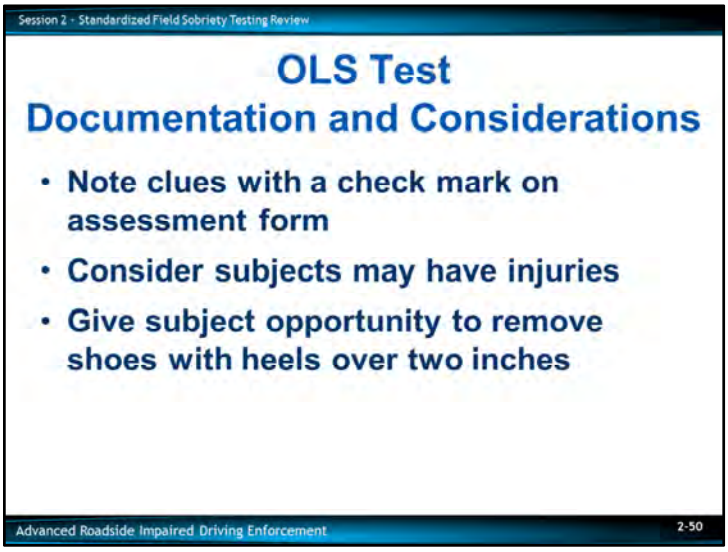
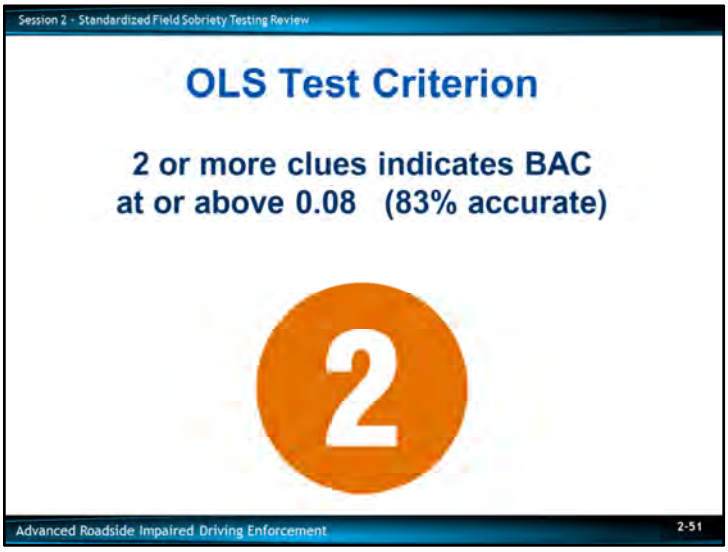


Documentation
Each clue is noted by placing a check mark (✓) or a number in the appropriate box on the DUI form. For example, if the subject used their arms twice and swayed three times, they would be considered to have demonstrated "two" clues. It is a good practice to use a DWI form that documents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

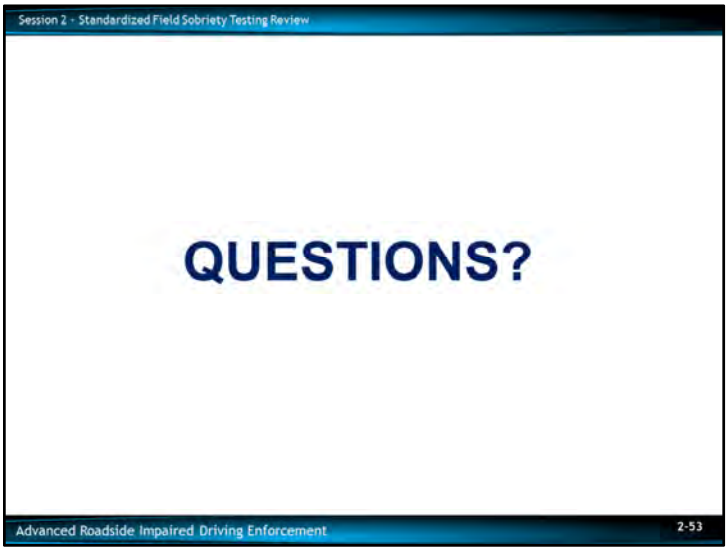
Considerations
The original SCRI studies suggested subjects over 65 years of age, have back, leg, or inner ear problems, or who are overweight by 50 or more pounds may have difficulty performing this test. Less than 1.5% of the test subjects in the original studies were over 65 years of age. There was 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.

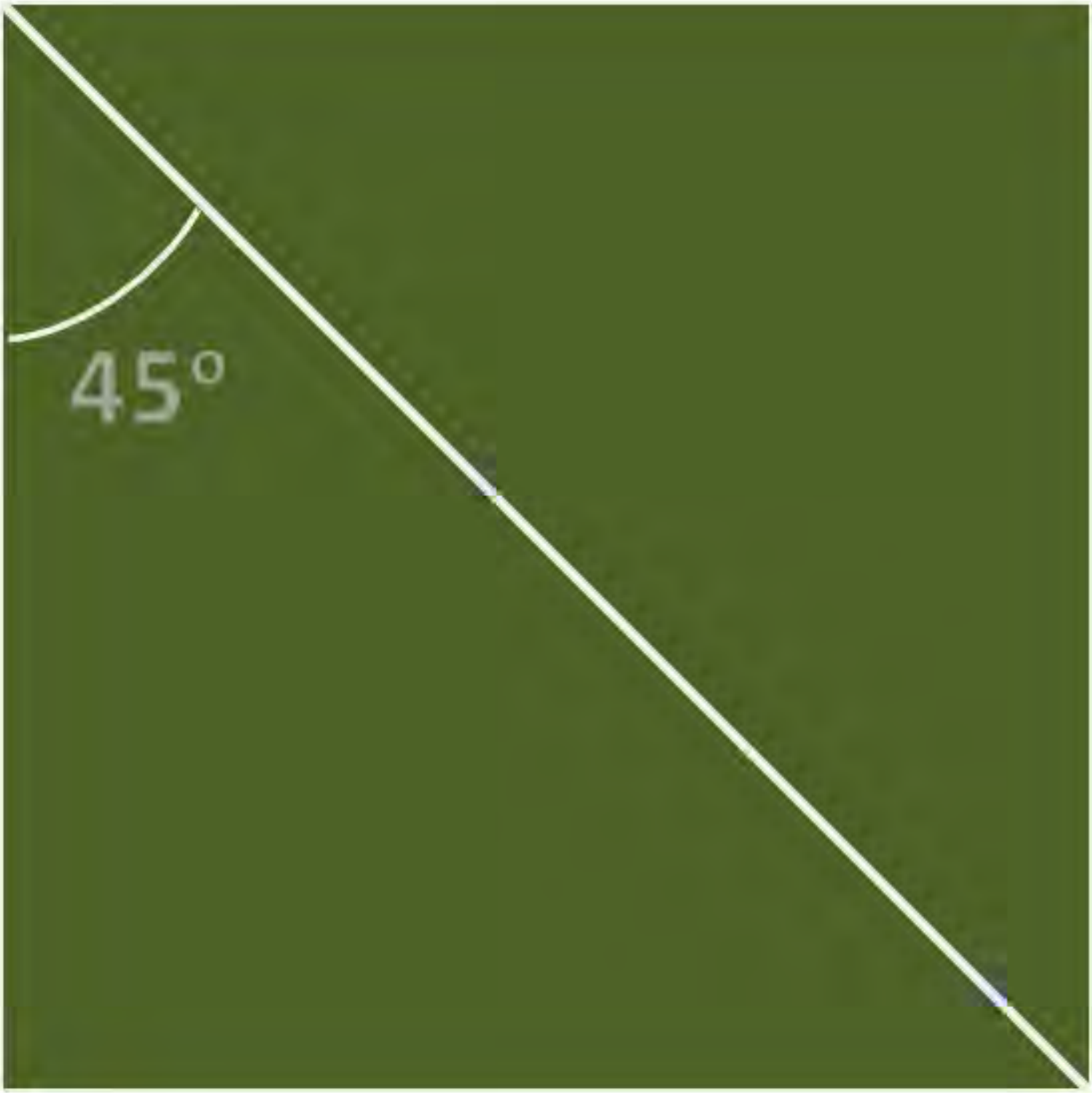


One Leg-Stand Test Criterion
Based on recent research, if a subject shows two or more clues or fails to complete the OLS, there is a good chance the BAC is at or above 0.08. Using that criterion, you will accurately classify 83% of the people you test as to whether their BAC's are at or above 0.08.
This accuracy level was determined through the San Diego Study ("Validation of the Standardized Field Sobriety Test Battery at BACs Below 0.10 Percent").

H. <u>Practice One Leg Stand</u>
Have participants practice administration of the OLS test. Allow 5 minutes for this activity.

Show OLS video.
Solicit questions regarding the OLS test.


Session 2 - Standardized Field Sobriety Testing Review
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
2-53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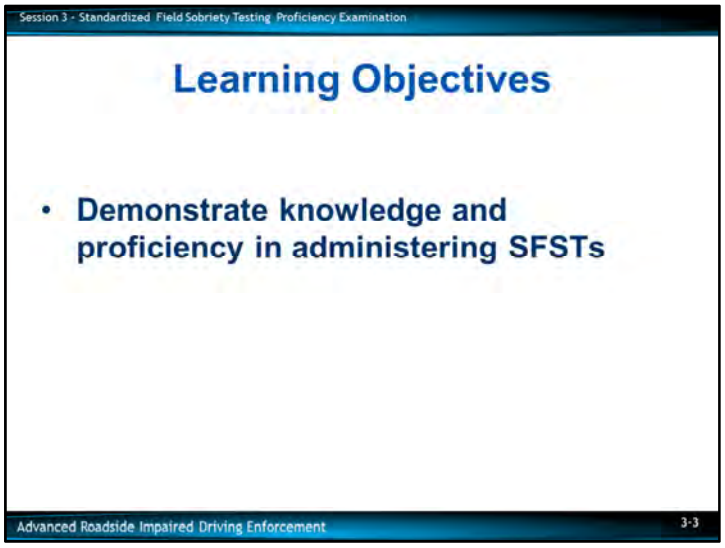
Advanced Roadside Impaired Driving Enforcement

Session 3 – Standardized Field Sobriety Testing Proficiency Examination

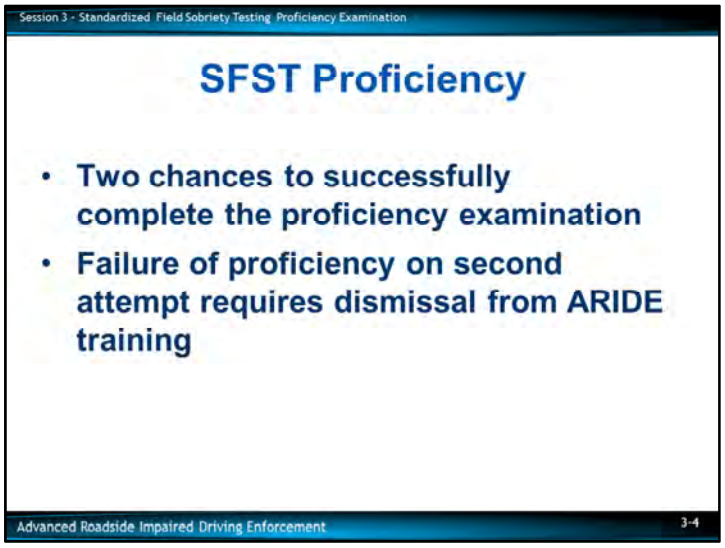
February 2018

Session 3 - Standardized Field Sobriety Testing Proficiency Examination
2 Hours
Session 3
Standardized Field Sobriety Testing (SFST)
Proficiency Examination
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement



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

- Demonstrate knowledge and proficiency in administering the SFSTs



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

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SFST Proficiency Examination

***DO NOT* offer this aid, however keep in mind many law enforcement officers carry pocket instructions on duty. They will be allowed to use them during the 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

Utilize proficiency examination form located at the end of this session or the Administrator Guide.

- 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

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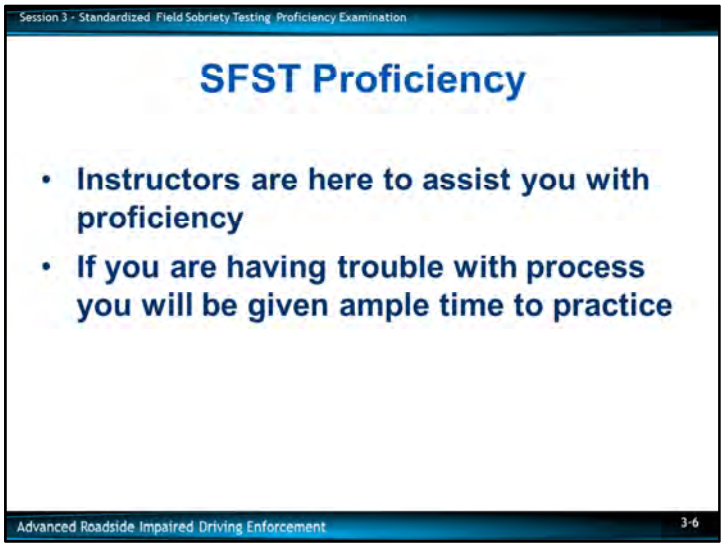
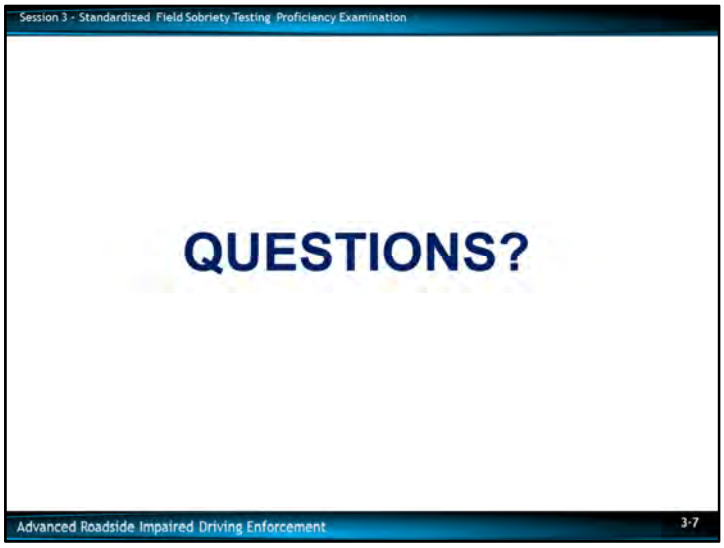


Remember the instructors are here to assist you with the proficiency.
If the participant is having trouble passing the proficiency examination, the participant shall be responsible for seeking out instructors to assist them.
<u>If the participant does not pass the second proficiency examination they will not be allowed to continue in the training.</u>


Session 3 - Standardized Field Sobriety Testing Proficiency Examination
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
3-7

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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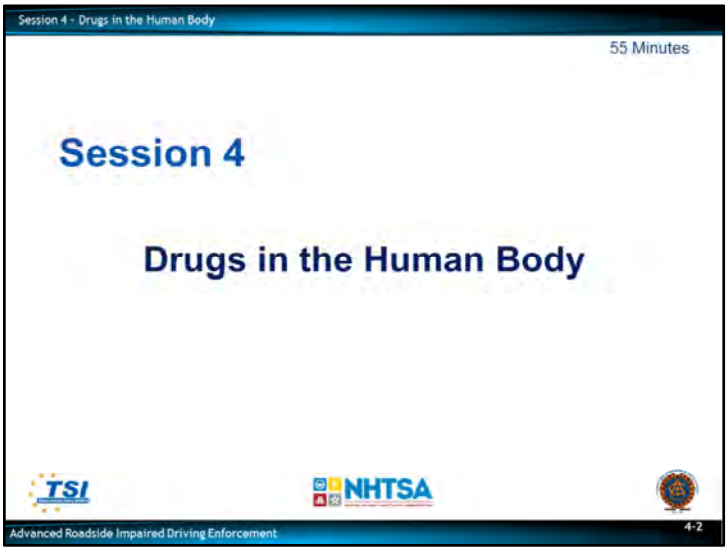
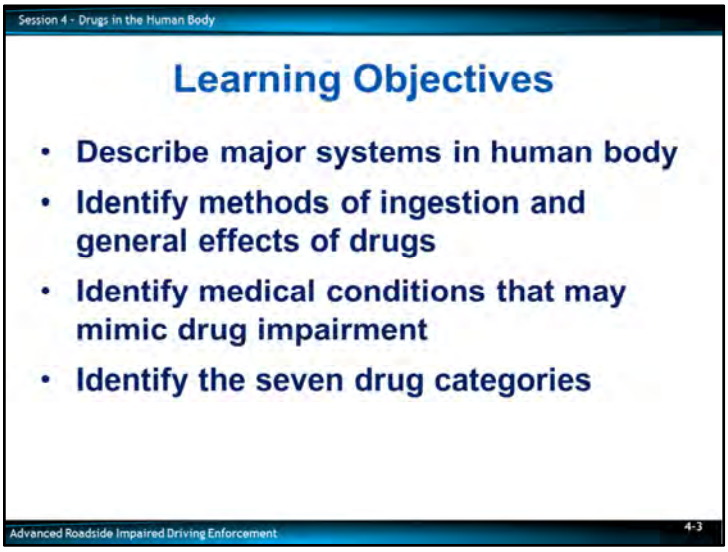
Advanced Roadside Impaired Driving Enforcement

Session 4 – Drugs in the Human Body

October 2017


Session 4 - Drugs in the Human Body
55 Minutes
Session 4
Drugs in the Human Body
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement
4-2



Briefly review the objectives, content, and activities of this session.

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

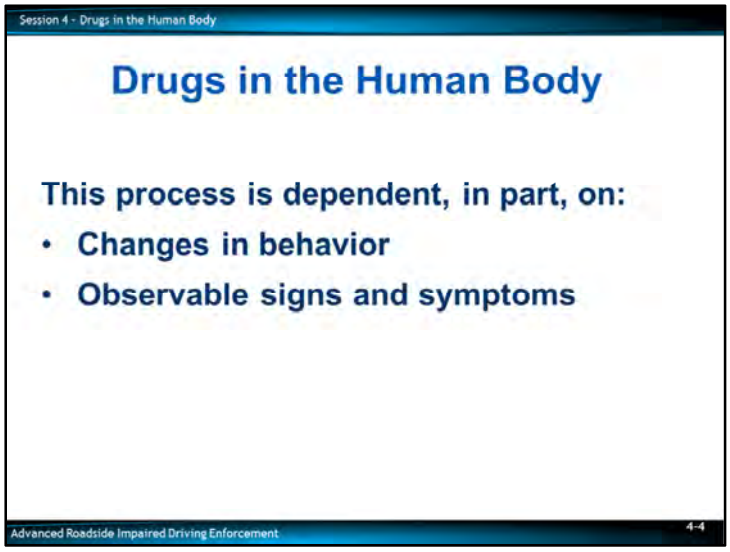
- Describe, in general terms, the basic purpose and functions of selected major systems in the human body as they relate to observable signs
- Identify methods of ingestion and general effects of drugs
- Identify medical conditions that may mimic alcohol and drug impairment
- Identify the seven drug 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



A. <u>Drugs in the Human Body</u>

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.

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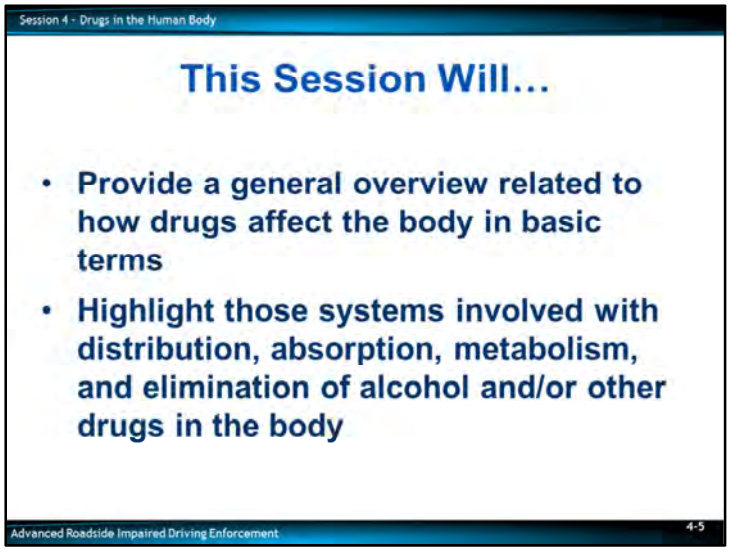
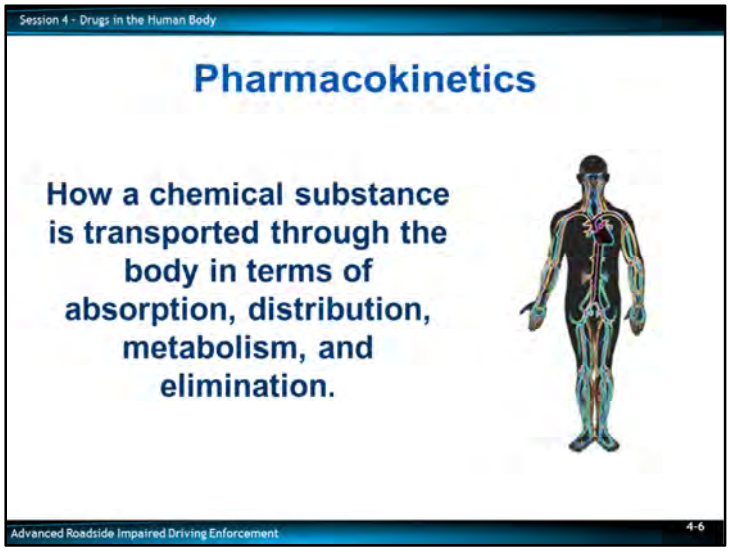


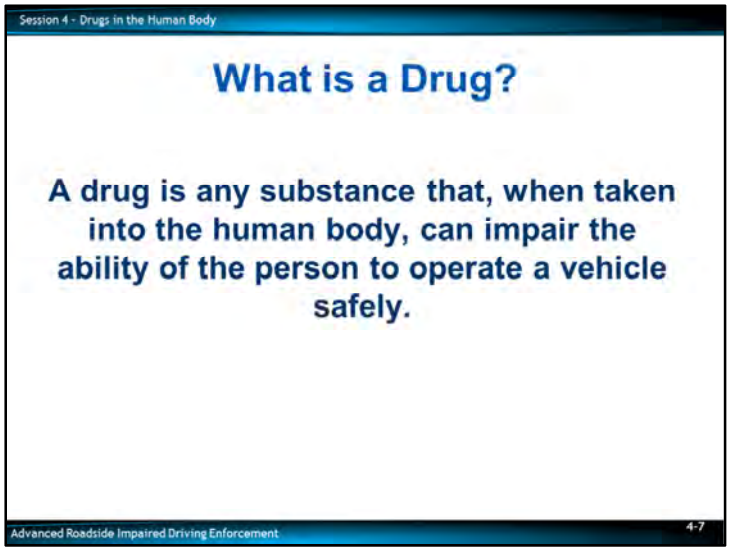
This session is designed to:

- Provide the participant with a general overview related to how drugs affect the body in basic terms
- Highlight those systems involved with distribution, absorption, metabolism, and elimination of alcohol and/or other drugs in the body



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.

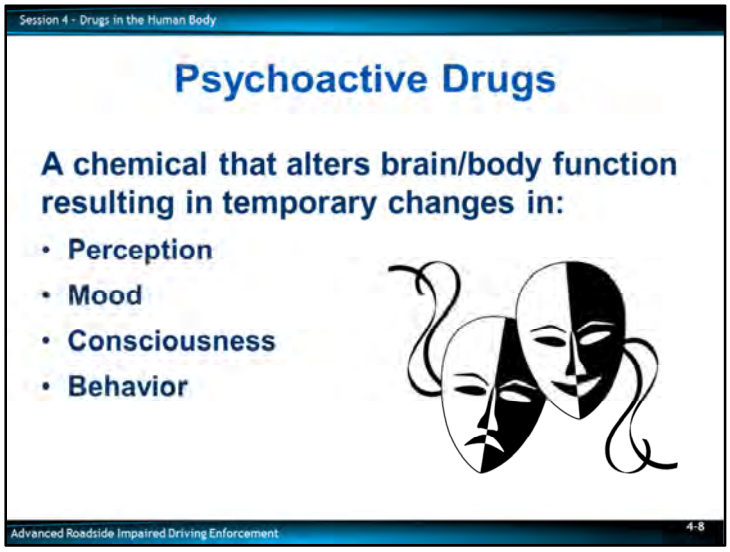


As we progress through this course, it is important to understand how drugs are defined.

The following provides operational definitions for drug and psychoactive drug, which describe the majority of the drugs we will discuss as part of this course.

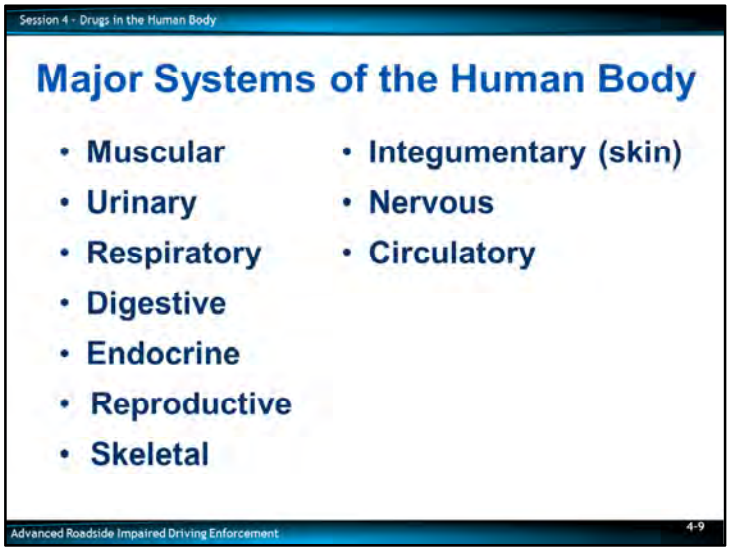
Drug
A drug is: Any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

This definition of a drug is the same definition used in the DEC Program.



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



B. <u>Introduction of Selected Systems of the Human Body</u>

There are ten major systems in the human body:

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

Remind participants each of these systems will be covered in this session.

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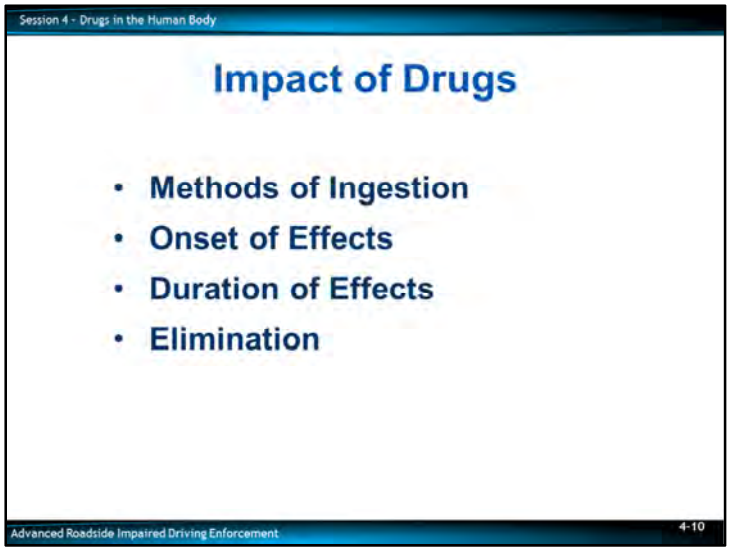

In order to illustrate the impact of drugs, alcohol, or a combination of substances, it is helpful to think of it in terms of:

- 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.

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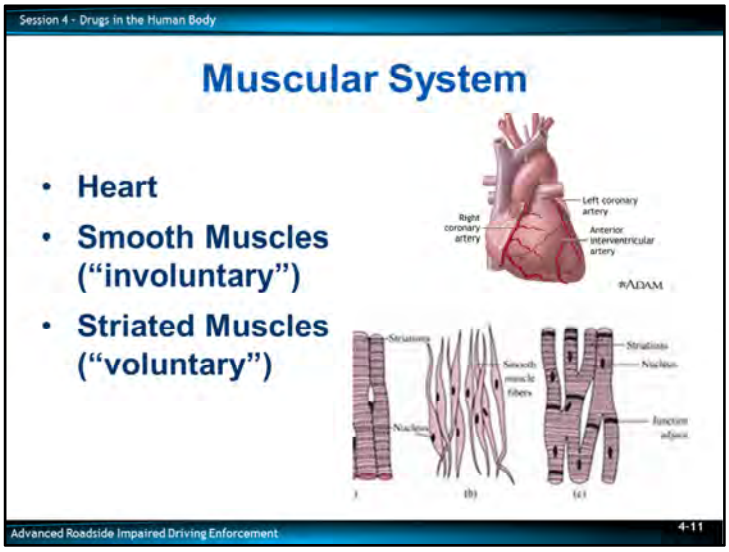

Muscular System

The body has three types of muscles:

1. Heart
2. Smooth muscles (which control involuntary movements)
3. Striated muscles (which control voluntary movements)

The brain controls the operation of all these muscles through the nervous system.

The impact of drugs and alcohol on the muscular system can often be observed during the Walk and Turn (WAT) and One Leg Stand (OLS) test, as well as during general observations.

What types of signs, related to the muscular system, could a subject display while under the influence of alcohol and/or drugs?

Examples: Body or leg tremors, gait ataxia, lack of muscle control, and lack of coordination

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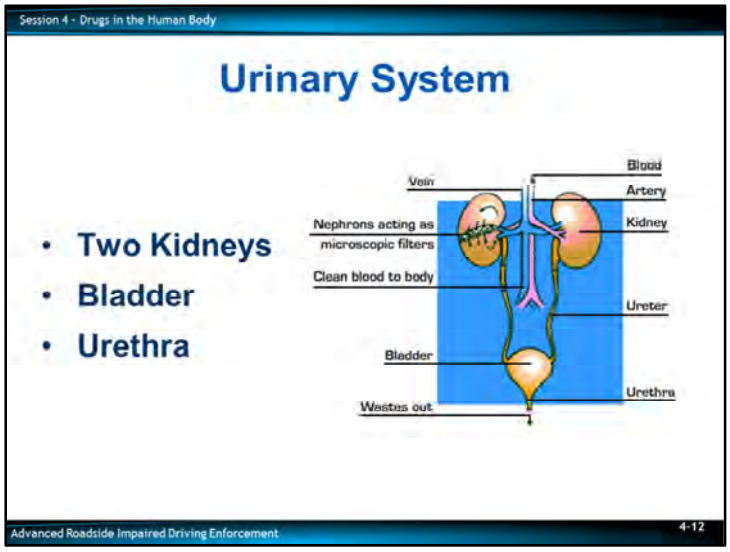

Urinary System

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.

How do you think alcohol and/or drugs might affect a subject's urinary system?

Examples: Evidence of use in urine and loss of bladder control

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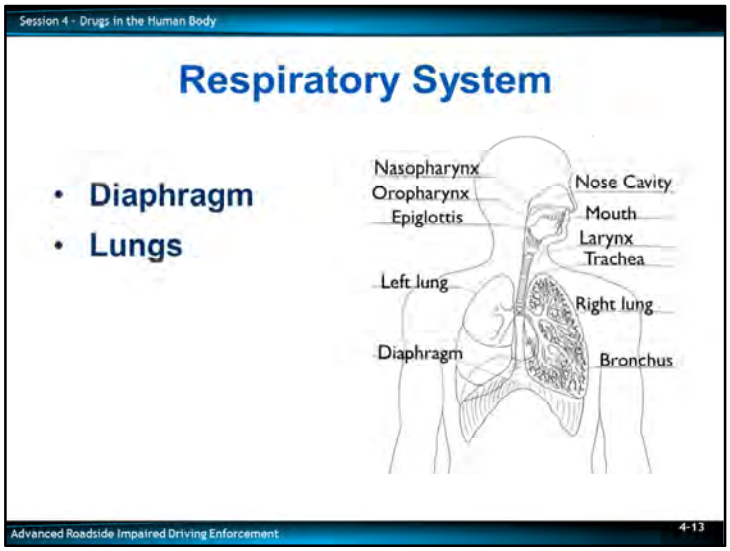

Respiratory System

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.

What types of signs, related to the respiratory system, could a subject display while under the influence of alcohol and/or drugs?

Examples: Rapid or shallow breathing

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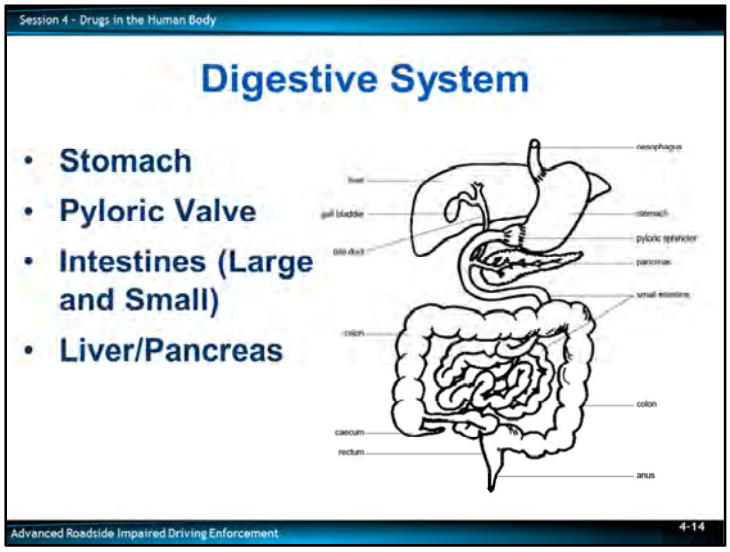

Digestive System

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

This system breaks down food and/or chemicals, metabolizes, and eliminates waste products.
How does the body break down chemicals, such as alcohol, to its basic elements for elimination?
Example: Alcohol dehydrogenase breaks down alcohol into carbon dioxide and water.

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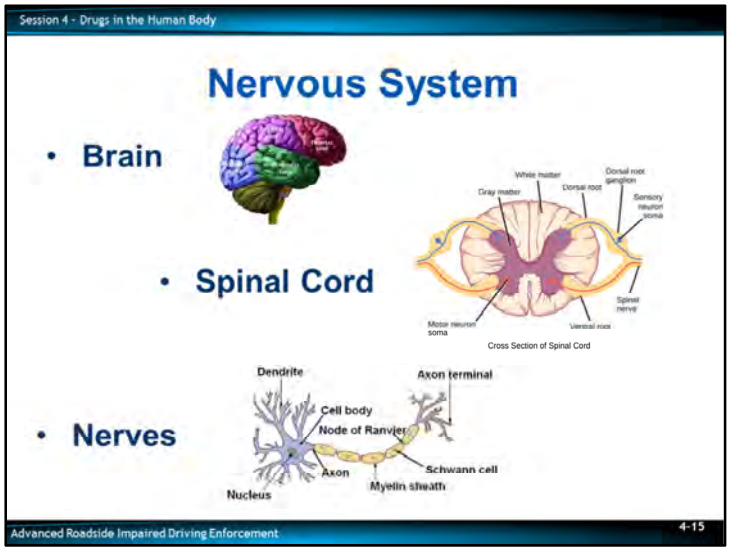


Nervous System

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

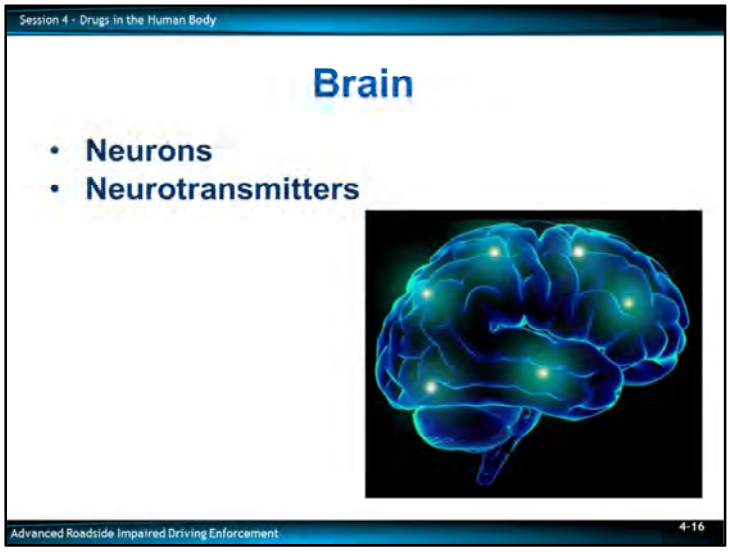
- Sight
- Hearing
- Smell
- Taste
- Touch

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.



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.

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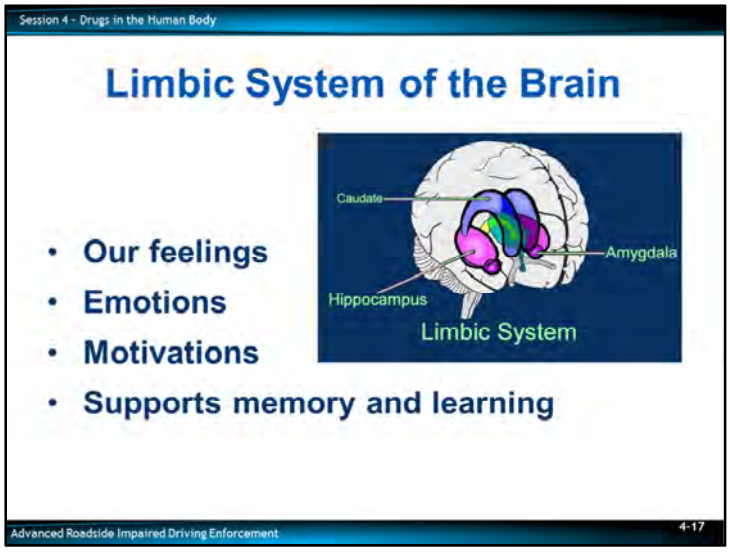


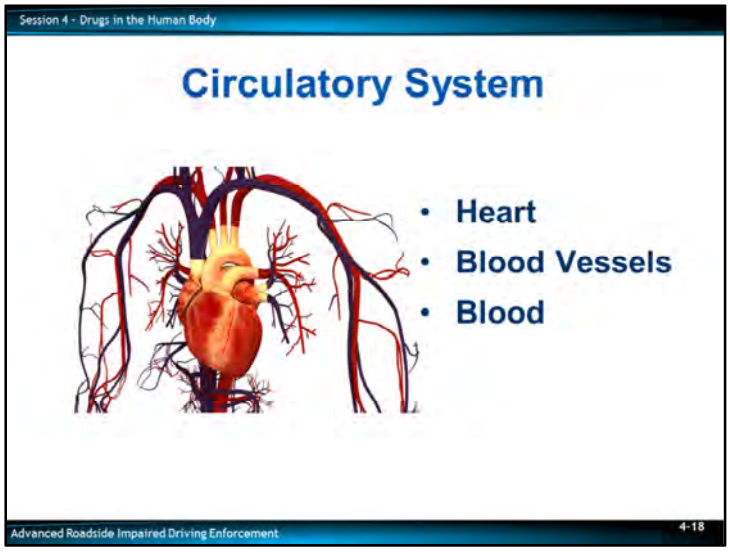
All drugs of abuse, such as nicotine, cocaine, and marijuana impact the limbic system of the brain. The limbic system generates:

- 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

The circulatory system consists of:

- Heart
- Blood vessels
- Blood

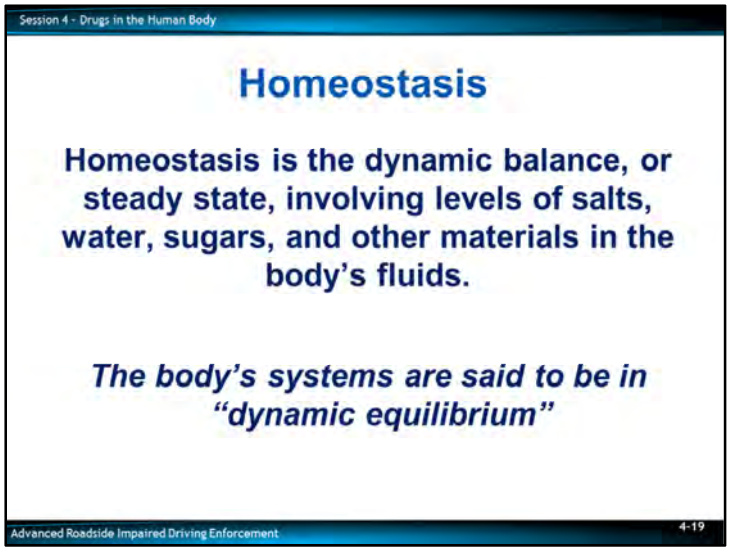
The heart pumps blood throughout the body transporting:

- 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.



C. <u>Homeostasis</u>

Homeostasis is the dynamic balance, or steady state, involving levels of salts, water, sugars, and other materials in the body's fluids.
Point out "homeo" means similar or the same elements and "stasis" means balance.
Point out the rhythm of the heart, breathing, constancy of body temperature, and the steady level of blood pressure under specific circumstances or conditions are all manifestations of homeostatic mechanisms at work within the body.

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.

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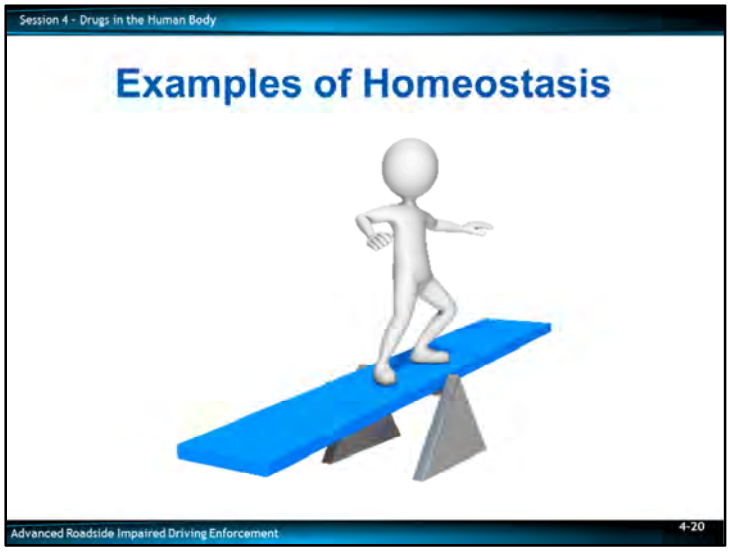
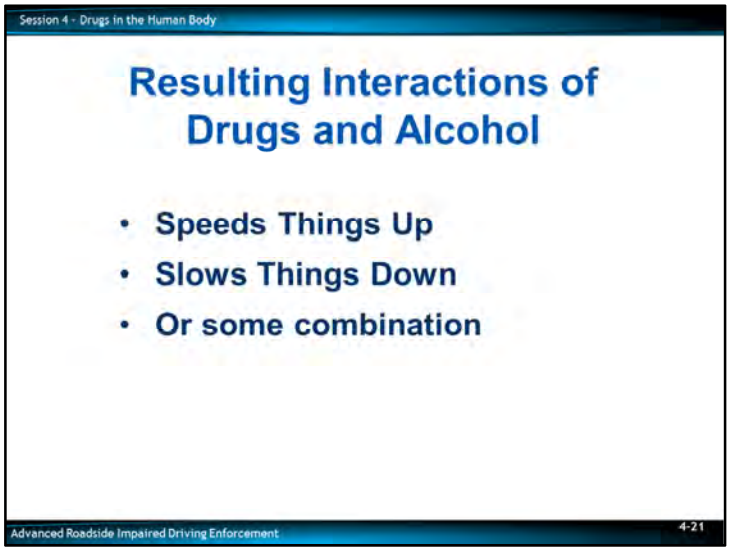


Examples of Homeostasis:

- 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

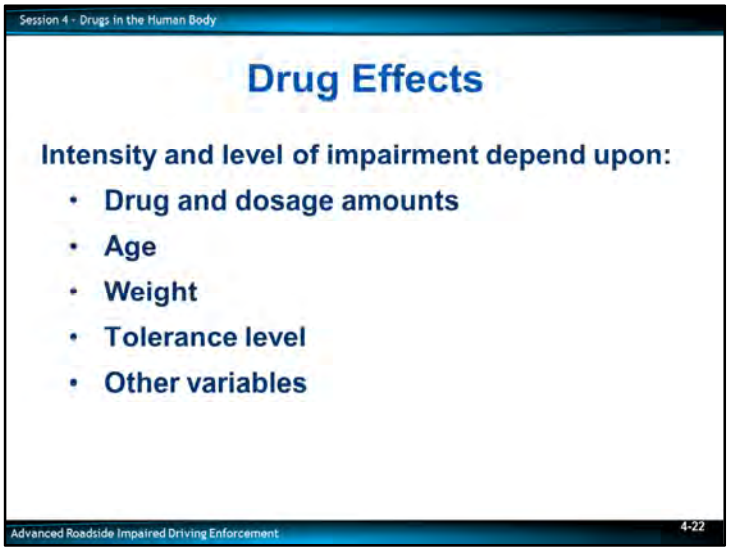


When drugs interact in the body they tend to:

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

Explain some drugs confuse or block signal transmissions to the brain. Explain how different drug categories cause these effects.

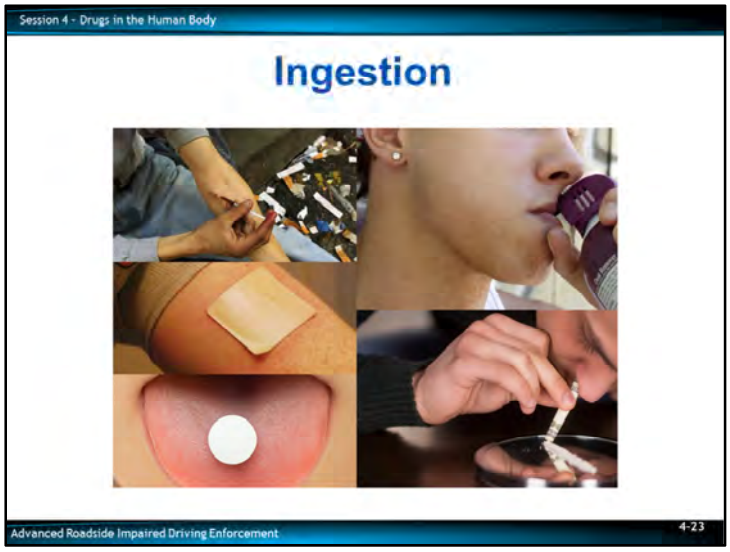
The observation and examination of selected bodily functions help to determine whether a subject is impaired by alcohol and/or other drugs.



Drug Effects

The intensity and level of impairment depend upon:

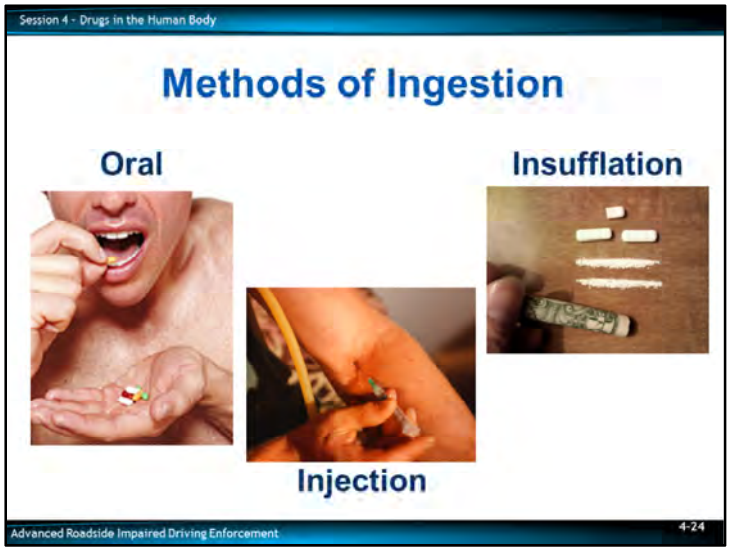
- Drug and dosage amounts
- Age
- Weight
- Tolerance level
- Other variables may dictate the duration of actual impairment



D. <u>Methods of Ingestion</u>

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.
Give some examples of the appearance and physical characteristics of injection sites.

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”.

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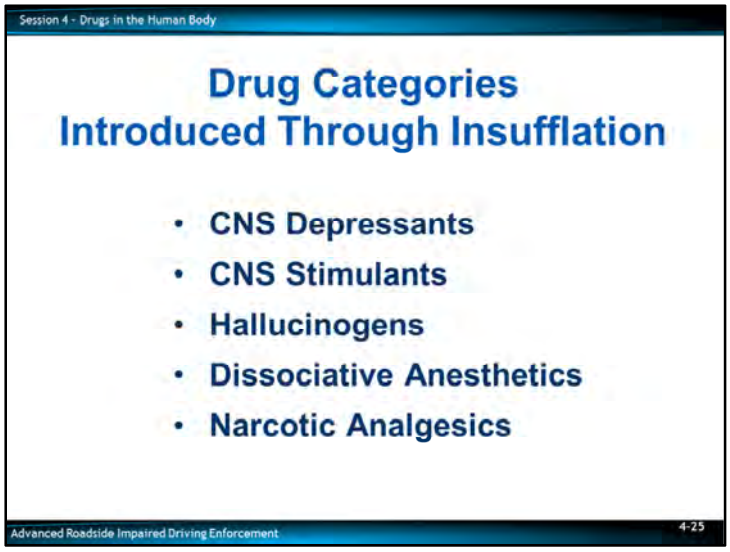
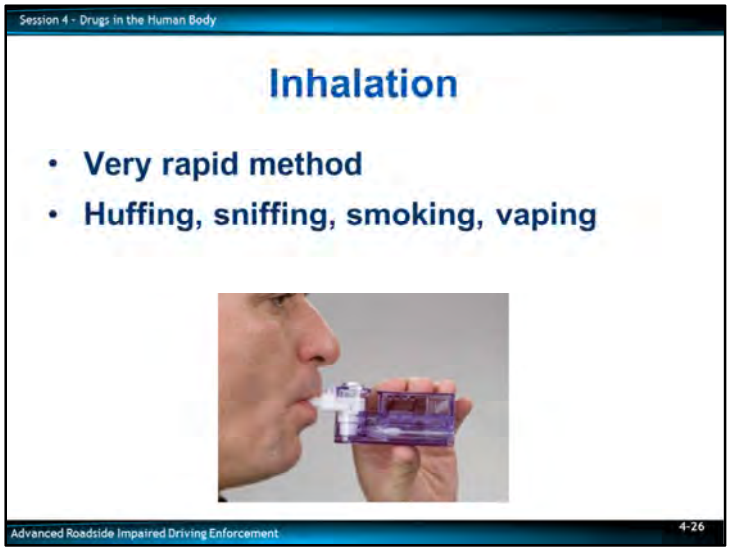


Drug categories which are commonly introduced into the body through insufflation are:

- CNS Depressants
- CNS Stimulants
- Hallucinogens
- Dissociative Anesthetics
- Narcotic Analgesics



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

Transdermal Absorption
A less common method of administering drugs. Transdermal means the chemical or drug is absorbed into a subject's system through the skin.
Examples of drugs prescribed to be transmitted through the skin are the birth control patches, nicotine patch, and pain management patches.

Drugs which are able to be administered transdermally can be administered accidentally through contact. Some selected Hallucinogens, Dissociative Anesthetics, and Narcotic Analgesics can be administered transdermally. Cannabis can also be administered transdermally.
Point out to participants the importance of officer safety indicated in their manual.
Example: Wear protective glasses, masks, and gloves when searching subjects and vehicles.

E. <u>Medical Conditions That May Mimic Drug Impairment</u>

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

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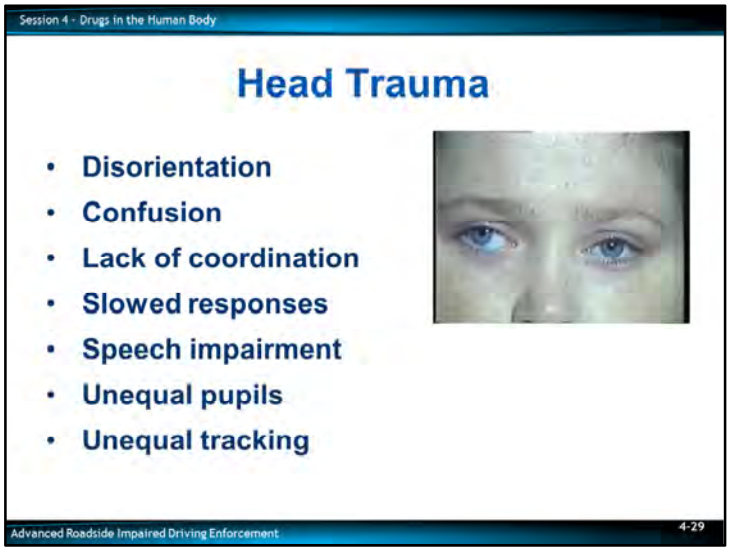

Head Trauma

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.

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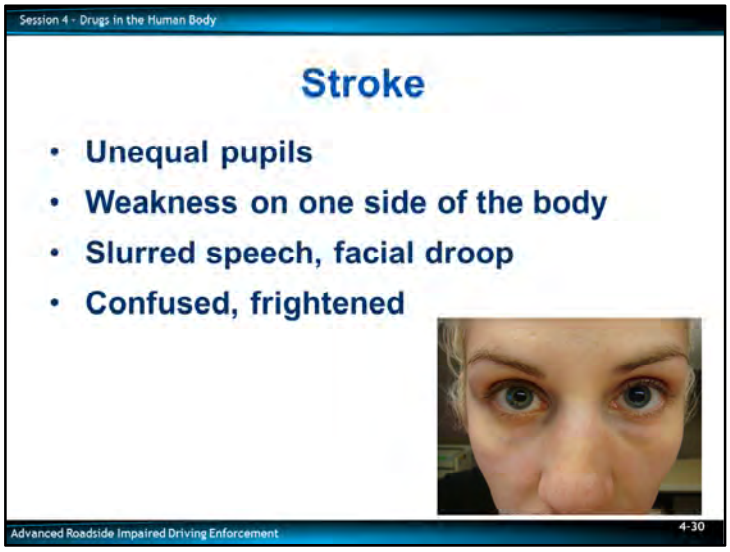

Stroke

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

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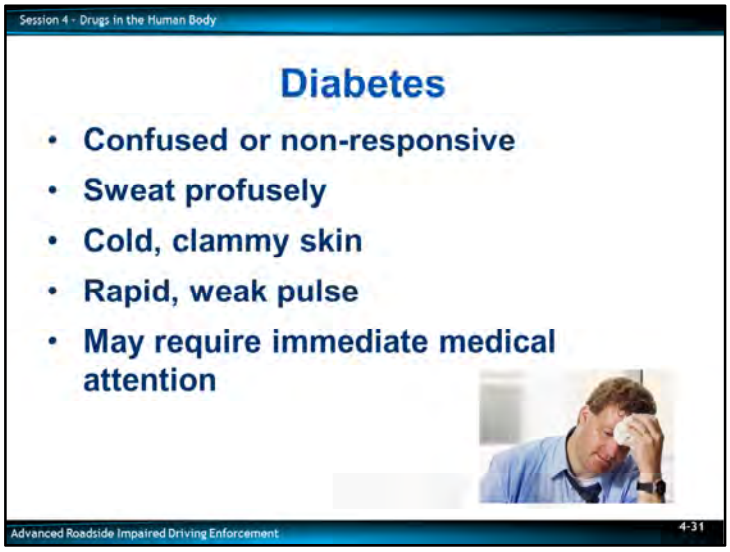


Diabetes

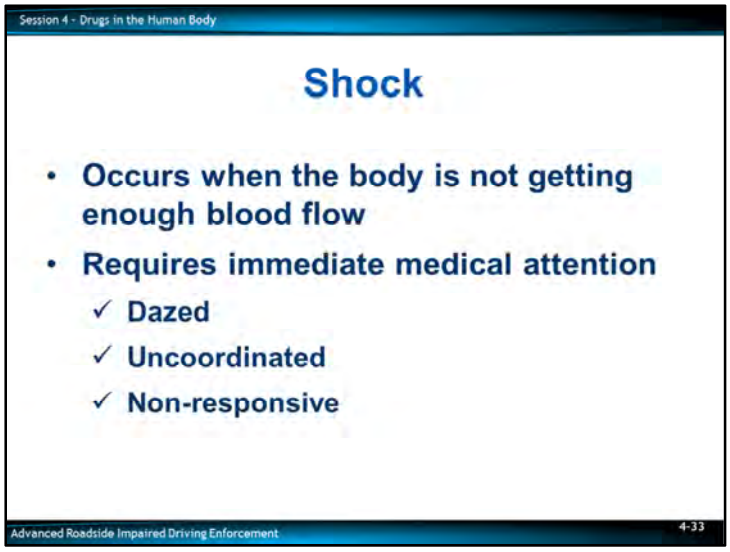
A diabetic is most likely to be mistaken for a person impaired by alcohol and/or drugs when they have too much insulin, causing the blood sugar level to become dangerously low. This condition is referred to as insulin shock. A diabetic in insulin shock may:

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

Conjunctivitis

Conjunctivitis is an inflammation of the mucous membrane that lines the inner surface of the eyelids caused by infection, allergy, or outside factors. It may be bacterial or viral. This condition is commonly referred to as "pink eye", a condition that could be mistaken for the bloodshot eyes produced by alcohol or cannabis.

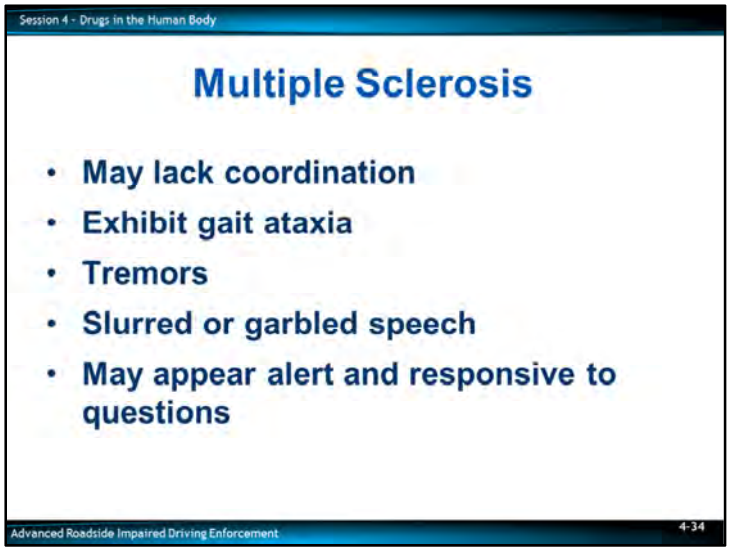
Persons suffering from conjunctivitis may show symptoms in one eye only.



Shock

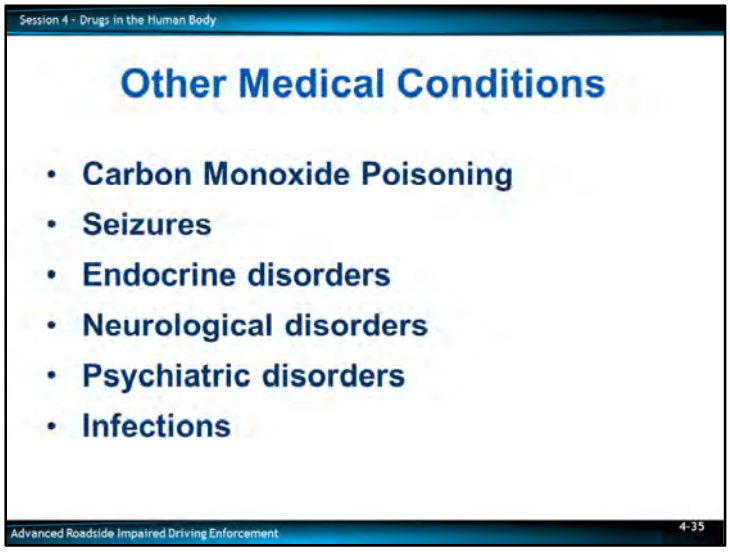
Shock is a life-threatening condition that occurs when the body is not getting enough blood flow. This can damage multiple organs and lead to death.

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



Multiple Sclerosis

Victims of Multiple Sclerosis (MS) and other degenerative muscular disorders may lack coordination or exhibit gait ataxia, tremors, slurred or garbled speech, and many of the other gross motor indicators of intoxication. Unlike subjects impaired by alcohol and/or drugs, MS sufferers usually appear alert.



Other Medical Conditions

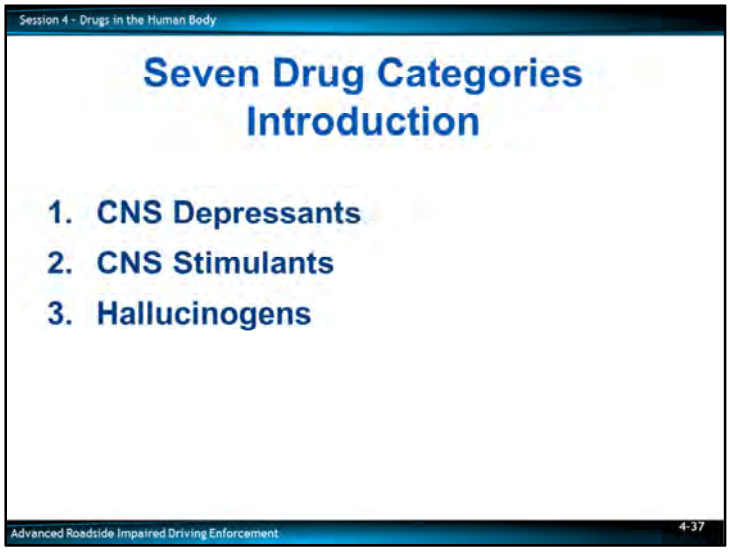
Some other medical conditions that may cause signs and symptoms similar to drug impairment include:

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

Behavioral Conditions

There are some behavioral conditions that may affect vital signs:

- Exercise
- Excitement
- Fear
- Anxiety
- Depression



F. <u>Introduction to the Seven Drug Categories</u>

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.

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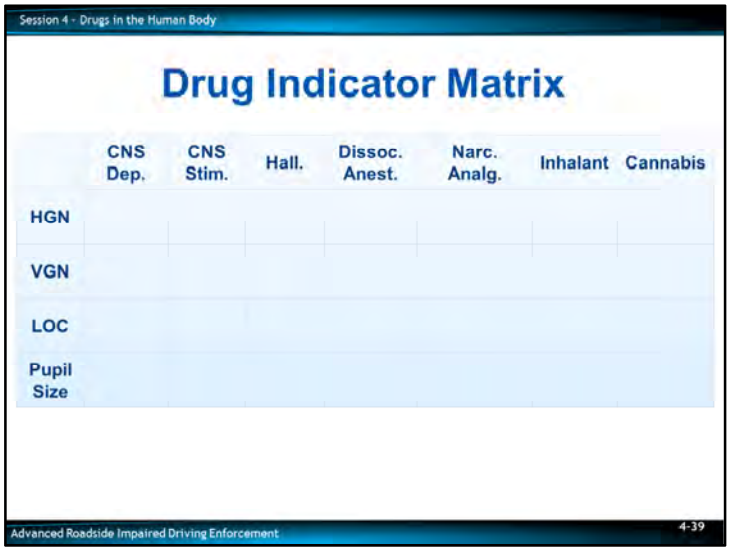
4. Dissociative Anesthetics – Consists of the drug Dextromethorphan (DXM), PCP, and its various analogs. DA's are powerful drugs that act like a depressant in some ways but also causes the body to respond similar to a stimulant as well as a hallucinogen.

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.



G. <u>Blank Drug Indicator Matrix</u>

Direct the participants to the blank Drug Indicator Matrix in their manuals. Inform they will be noting on this form the eye indicators for each drug category in the next session.

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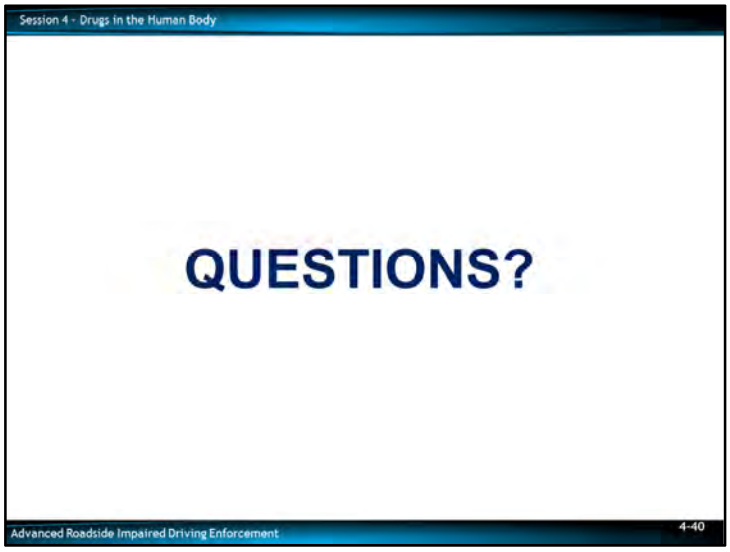
Session 4 - Drugs in the Human Body
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
4-40

Drug Category Matrix

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

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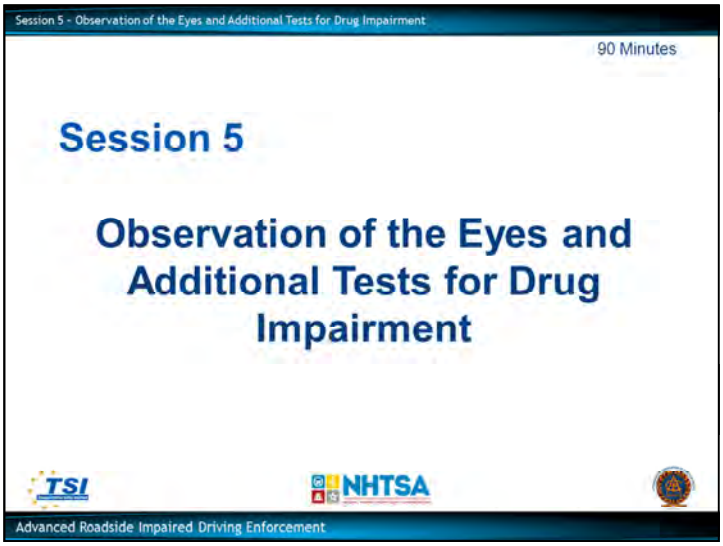
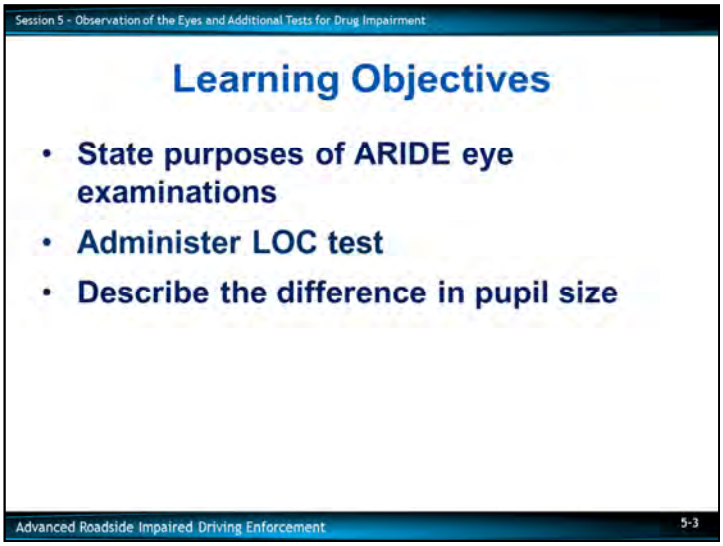
Advanced Roadside Impaired Driving Enforcement

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
90 Minutes
Session 5
Observation of the Eyes and Additional Tests for Drug Impairment
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement



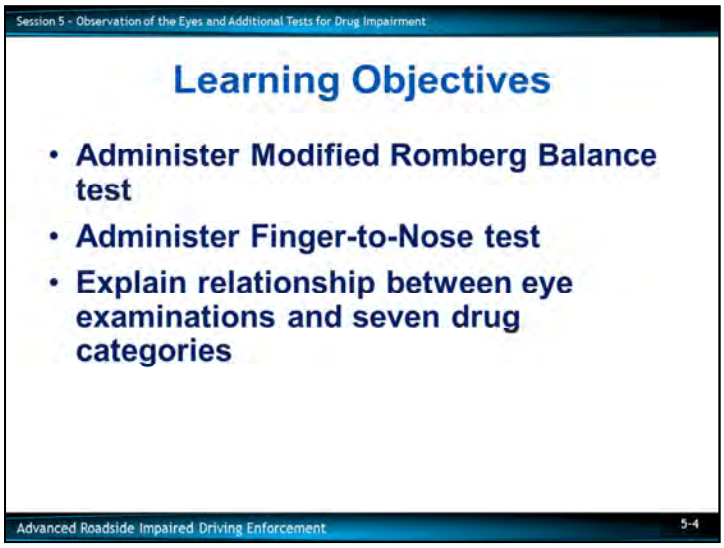
Briefly review the objectives, content, and activities of this session.

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

- State the purposes of various eye examinations used in the Advanced Roadside Impaired Driving Enforcement (ARIDE) Curriculum, which includes Horizontal Gaze Nystagmus (HGN), Vertical Gaze Nystagmus (VGN), and Lack of Convergence (LOC)

- LOC test: How to administer properly and describe what the results indicate

- Describe the difference in pupil size



- Modified Romberg Balance (MRB) test: How to administer properly and describe what the results indicate

- Finger-to-Nose (FTN) test: How to administer properly and describe what the results indicate

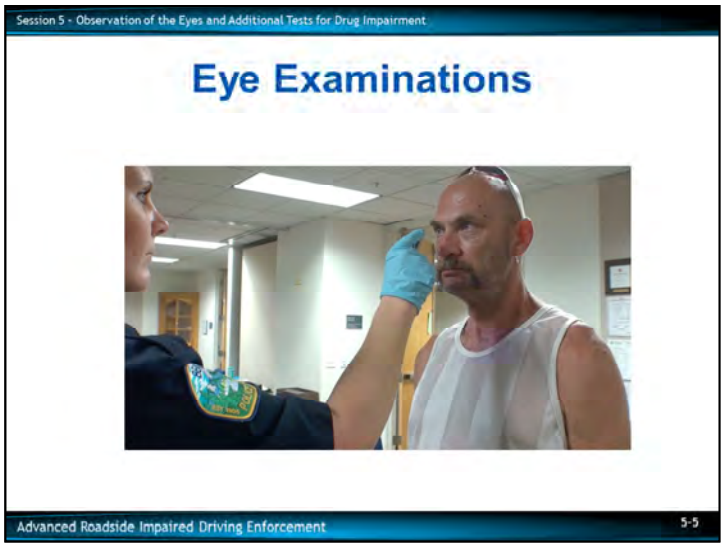
- Explain the relationship between eye examinations and the seven drug categories

CONTENT SEGMENTS

A. Various Eye Examinations Used in the ARIDE Curriculum
B. Discuss Lack of Convergence
C. Describe the Difference in Pupil Size
D. Modified Romberg Balance test
E. Finger-to-Nose test
F. Relationship between eye examinations and the seven categories

LEARNING ACTIVITIES

Instructor-Led Presentation
Participant Practice Session



A. Various Eye Examinations Used in the ARIDE Curriculum

The eyes can disclose indicators of drug impairment or medical conditions.
Ask participants: What is one of the most reliable signs of alcohol influence that can be observed in the eyes?

HGN is an excellent indicator of possible alcohol impairment, but there are other drugs that will also cause HGN. Drug categories that will cause HGN include Central Nervous System (CNS) Depressants, Inhalants, and Dissociative Anesthetics (DID) drugs. The same drugs that cause HGN may cause VGN. There is no known drug that will cause VGN without causing at least four clues of HGN.

In addition to HGN, there are many other clues the eyes will disclose, all of which will suggest the presence or absence of drugs or medical impairment. The test for LOC determines whether the subject is able to cross his or her eyes.

The check for LOC can provide another clue as to the possible presence of DID drugs and is also an indicator of Cannabis.

Drug categories that do not cause HGN cause a change to occur in pupil size. These categories either dilate or constrict the pupils. By carefully observing the subject's eyes you may observe evidence of drug impairment.

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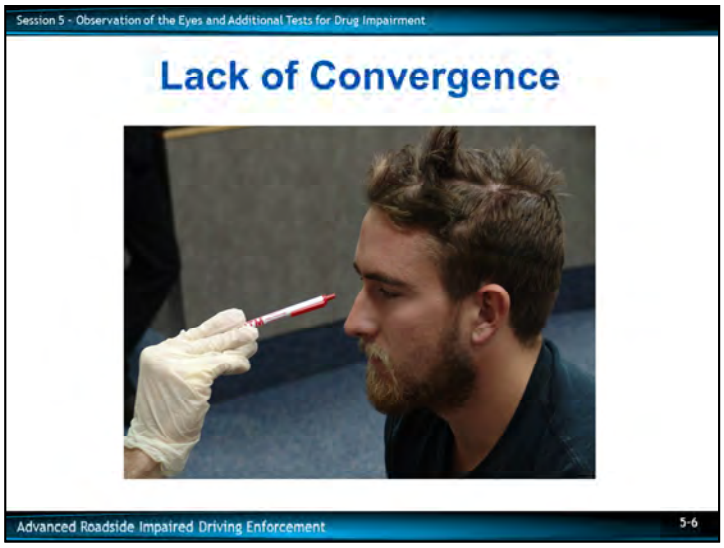
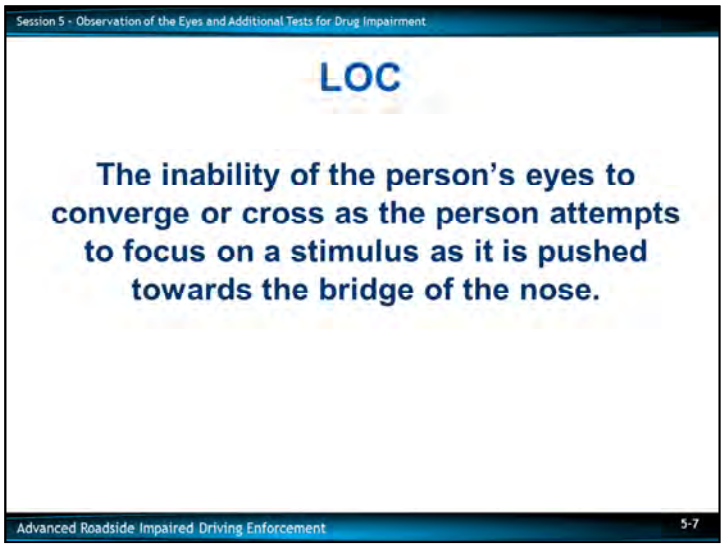


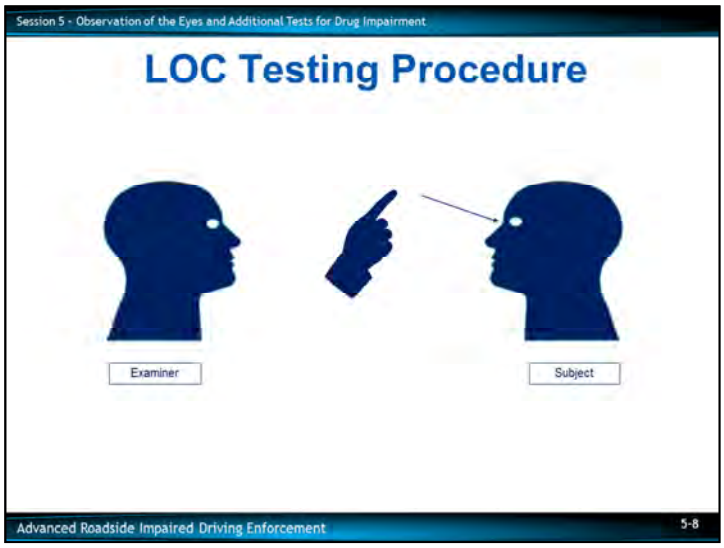
B. <u>Discuss Lack of Convergence</u>

Lack of Convergence (LOC)



Definition of LOC
The inability of the person's eyes to converge or "cross" as the person attempts to focus on a stimulus as it is pushed towards the bridge of the nose.

The check for LOC can provide another clue as to the possible presence of DID drugs and Cannabis. ***Point out an officer might begin to suspect the presence of Cannabis if LOC was observed but no HGN was observed.***



Administration of LOC

Instruction Stage

- Advise the subject he or she will have to keep their head steady and try to cross the eyes in order to keep their eyes focused on the stimulus as it moves in toward the nose

- Advise the subject you will not actually touch the subject's nose

- Keep the object 12-15 inches away from the subject's nose and start to move the stimulus slowly in a circle

Point out this initial circular motion helps to verify the subject has focused on the stimulus and is able to track it.

- Verify the subject is tracking the stimulus

- Stop moving in a circular manner with the stimulus above eye level

- Move the stimulus to within approximately two inches from the bridge of the subject's nose and hold for approximately one second

- Carefully observe the subject's eyes to determine whether both eyes converge on the stimulus

- It is recommended to repeat the check for LOC at least two times

Point out not to actually touch the nose and not to go any closer than approximately two inches from the bridge of the nose.

Remind the participants if the subject wears glasses during reading and for near visual tasks, and they are readily available, ensure the eye glasses are worn for the check for LOC.

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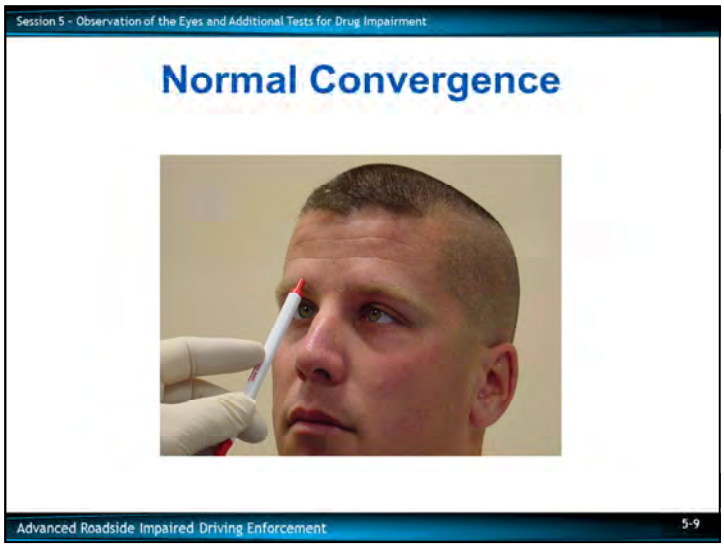

Test Interpretation

- If the eyes converge (cross) when the stimulus is approximately two inches from the bridge of the nose, then LOC is "none"

- LOC <u>is present</u> if the subject's eyes <u>do not</u> come together and cross as they track and stay aligned on the stimulus

- In a non-impaired subject, the eyes should come together (converge) and remain converged for one second

Point out convergence response in most people is a distance of approximately two inches from the bridge of the nose.

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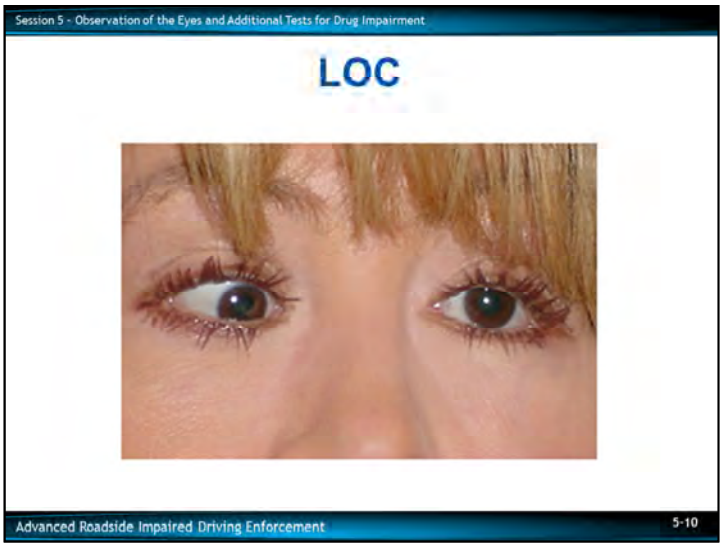
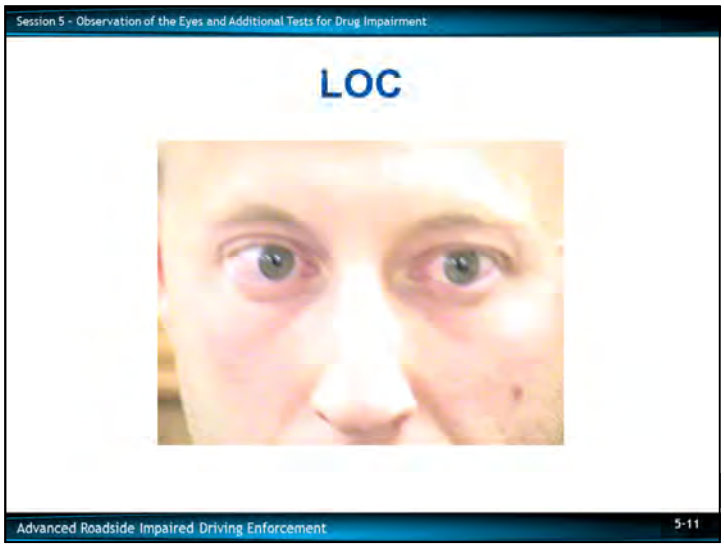


If the eyes do not converge or remain converged on the stimulus for one second, then LOC is present ***Point out some normal non-impaired people may not be able to converge to the bridge of the nose. Moving the stimulus within two inches of the nose provides a better indicator of LOC attributed to drug impairment.***


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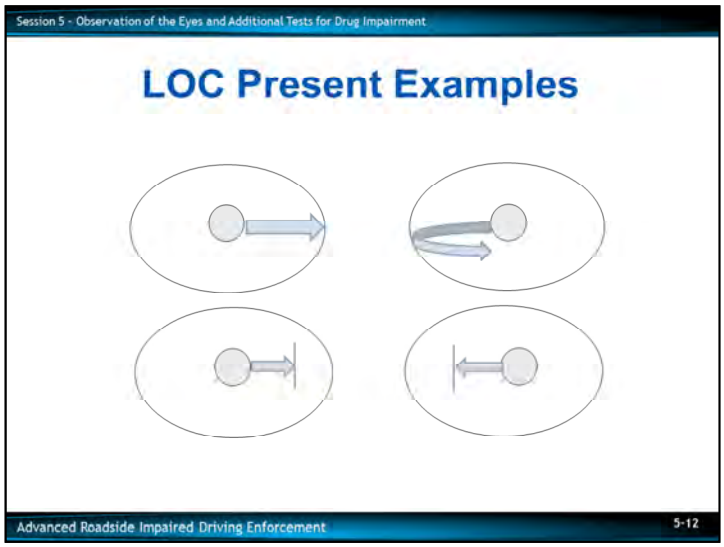

Left Eye Unable to Converge

- Both eyes began to converge, however the left eye bounced down and back out

Both Eyes Unable to Converge

- Both eyes began to converge, however they both stopped before the convergence was completed

There are no validated clues associated with the LOC test, the officer should note all observations associated with this test.

- The law enforcement officer should note whether or not convergence is present and document their observations as to the movement of the eyes during this test.

Conduct Practical Exercise

Split class into groups of three and have them practice administering LOC.

The participants should draw a picture of what the eyes did during the administration of LOC.

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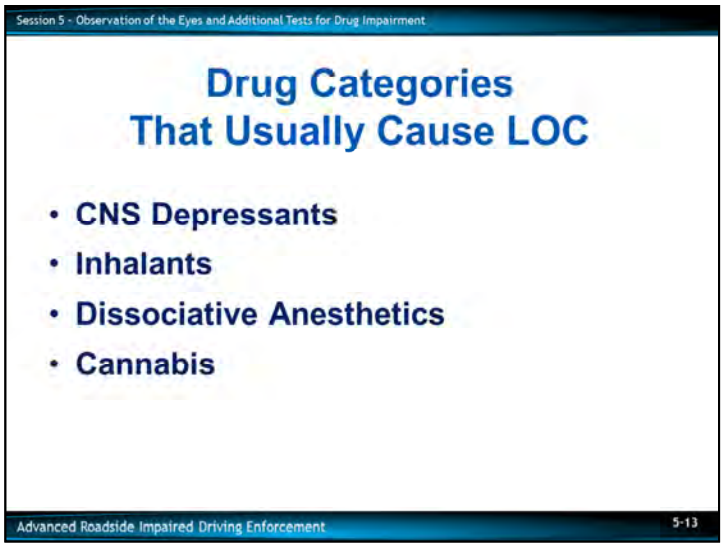
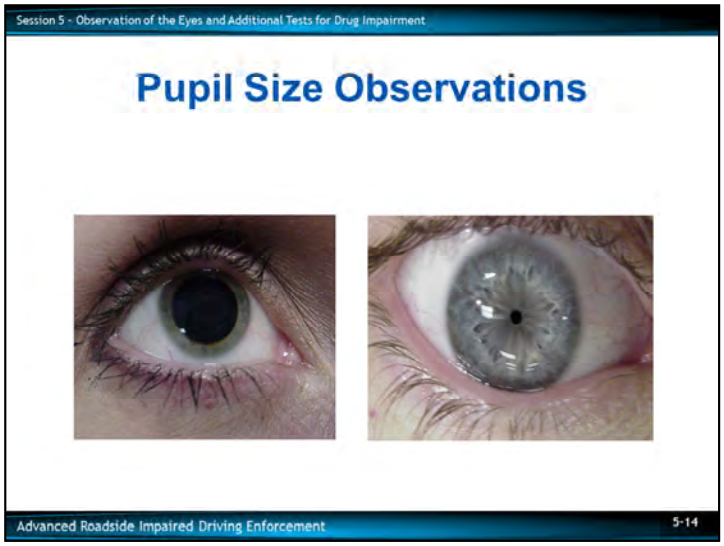


The following drug categories usually will cause LOC:

- CNS Depressants
- Inhalants
- Dissociative Anesthetics
- Cannabis

These four drug categories are often referred to as DIDC drugs.



C. <u>Describe the Difference in Pupil Size</u>

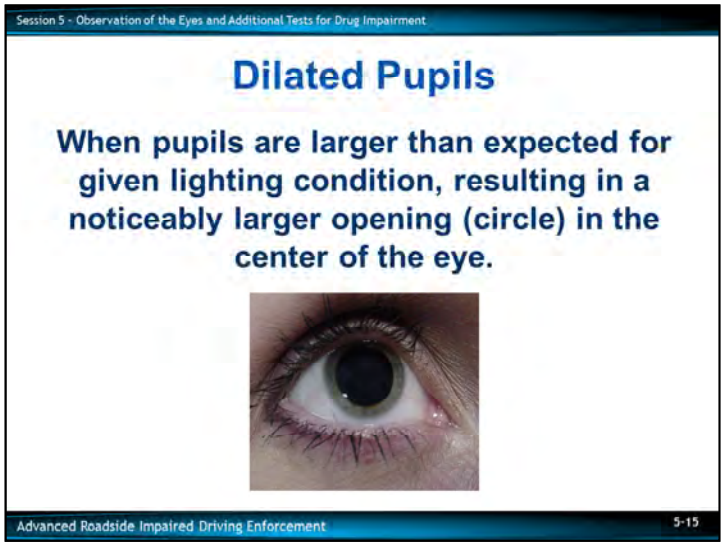
Pupil Size Observations

The eyes are often referred to as "the windows to the soul."

- The pupil is basically a circular hole in the middle of the iris, which regulates the amount of light that passes through into the retina
- The pupils of the eyes continually adjust in size to accommodate different lighting conditions and refocus according to focal length
- When placed in a darkened environment, the pupils will normally expand in size, or dilate, to allow the eyes to capture as much light as possible
- When the lighting conditions are very bright, the pupils will normally shrink or constrict, to limit the amount of light that passes through and to keep the eyes from being over stimulated
- This process of constriction and dilation normally occurs within certain limits
- This course trains officers to recognize the noticeable differences in the pupil sizes
- If the two pupils are distinctly different in size, it is possible the subject has a glass eye or is suffering from a head injury or a neurological disorder
- When ingested, each of the seven drug categories has a predictable effect on pupil sizes, which will be discussed in the subsequent sections.

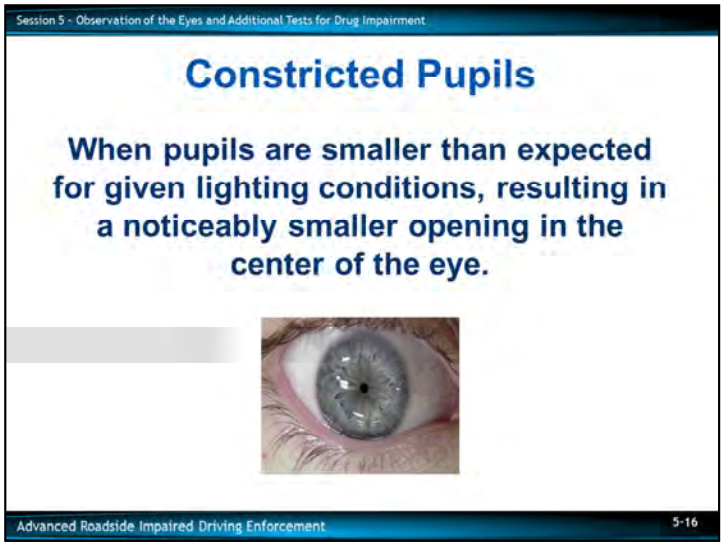
Example: If a stop is made during the day, you should expect to see the pupils somewhat smaller, because of the bright lighting conditions.

Inform the participants if they make a stop at night and the pupils are somewhat constricted, then there may be a drug causing the pupil reaction.



Dilated Pupils

The pupils appear larger than expected for the given lighting condition resulting in a noticeably larger opening (circle) in the center of the eye.



Constricted Pupils
When pupils appear smaller than expected for the given lighting conditions, resulting in a noticeably smaller opening (circle) in the center of the eye.

The effects drugs have on the eyes are involuntary reactions, which mean they cannot be controlled by the subject.
Conduct practical exercise
Line participants up along a wall. Have each individual participant walk down the line observing the pupils of each individual.
Line the participants up around the room and allow the participants to observe other participants' pupils in various lighting conditions.

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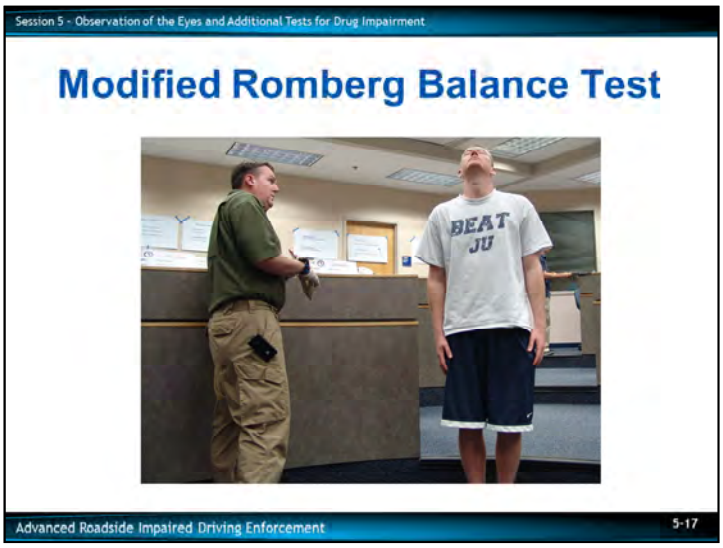

D. <u>Modified Romberg Balance Test</u>

The MRB test is adapted and modified from its original use as a neurological assessment tool. It can be administered to check a subject's time estimation, balance, and presence of tremors (eyelid and body).

Since part of the MRB test checks for balance, care should be taken to ensure the test is conducted on a level surface and in an environment which is appropriate for this type of test when conducted at roadside.
Emphasize the officer must not instruct the subject as to how they are to estimate the time estimation of 30 seconds.
Point out some drugs tend to "speed up" the subject's time estimation so the subject may open the eyes after only 10 or 15 seconds have gone by. Other drugs may "slow down" the time estimation. Sometimes the drugs affect the subject's divided attention to the point where they won't remember to open the eyes until instructed to do so by the officer.
Point out the modified version of the original MRB Test is a divided attention test as well as a possible measurement of the person's internal timing estimates.

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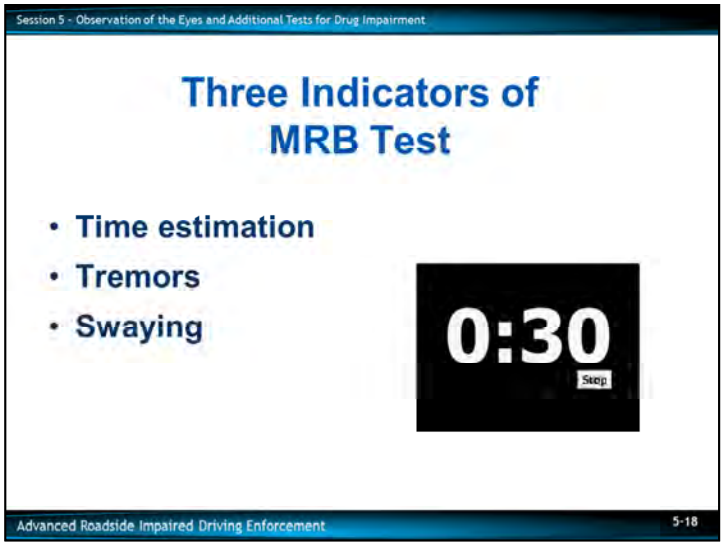


During the MRB test watch for three indicators simultaneously.

- Estimation of the time estimation of 30 seconds

- Observation of tremors
  - Eyelid and/or body or muscle

- Observation of sway
  - Front-to-back
  - Side-to-side
  - Circular/rotational

Point out drug impairment can affect both divided attention and the subject's internal time estimation mechanism and can vary among people. The use of the MRB Test time estimation to predict or relate to certain drug categories is not supported by research at this time. Performance outside the range of plus or minus 5 seconds must be used cautiously and considered with the totality of the decision process.

The modified version of the original Romberg Balance Test is a divided attention test as well as a possible measurement of the person's internal timing estimates.

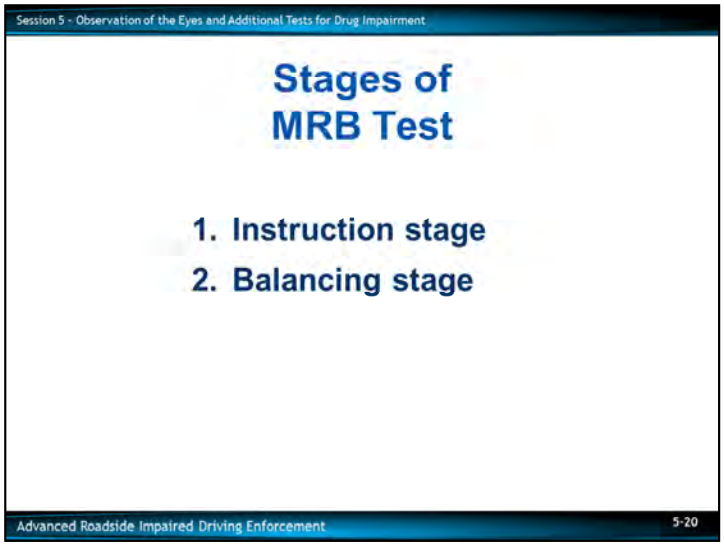
Emphasize the officer must look at a timing device as soon as the subject starts the test and must record the actual amount of time that elapses until the subject opens his or her eyes.

Point out the officer should not close their eyes while demonstrating this test for safety reasons. Emphasize this to the participants.

Two instructors should demonstrate the administrative procedures for MRB. One instructor will play the role of the officer, the other the "subject."

- The officer must record how much time actually elapsed from the start of the test until the subject opened their eyes and said "stop"

- If the subject continues to keep their eyes closed for 90 seconds, the officer should stop the test and record the fact it was terminated at 90 seconds



There are two stages to the MRB test:

1. Instruction stage
2. Balancing stage

Administrative Procedures
Instruction Stage

1. Stand straight with your feet together and your arms down at your sides.

2. Remain in this position while I finish giving the instructions.

3. Do not start the test until I say "start."

4. Ask if the subject understands the instructions

Make sure to obtain a verbal response from the subject.

5. "When I tell you to start, I want you to tilt your head back slightly and close your eyes."

DEMONSTRATE how the head should be tilted, but DO NOT CLOSE YOUR EYES while demonstrating.

6. "Once you have closed your eyes, I want you to remain in that position until you think 30 seconds have gone by."

7. "As soon as you think 30 seconds have passed, open your eyes, tilt your head forward, and say 'Stop.'"

8. Do you understand?

Make sure to obtain a verbal response from the subject.

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Balancing Stage

1. Look at your timing device and pick a convenient time to start the test.

2. Tell the subject to tilt their head back and close their eyes.

3. Tell the subject to begin or start the test.

4. Keep track of time while the subject performs the test.

5. Check subject for presence of tremors (eyelid and/or body) and sway.

6. When the subject opens their eyes, ask them "how much time was that?"

7. Record how much time actually elapsed from the start of the test until the subject opened their eyes or was told to stop.
   - If the subject continues to keep their eyes closed for 90 seconds, stop the test and record the fact it was terminated at 90 seconds.

Make sure to document their "exact" verbal response.
Although not required, additional follow-up questions to assist with clarification of test performance may be asked. (i.e., how did you arrive at that, how did you estimate the time, etc.).

Instructor-Led Demonstrations
One instructor should administer a complete MRB test to another instructor. Solicit participants' questions.

Instructor-to-Participant Demonstration
Select a participant to participate in the demonstration. Administer a complete MRB test to the participant. Thank the participant for his or her participation and solicit questions.

Participant-Led Demonstrations

Select two participants to conduct demonstrations. Have the first participant administer the test to the second.
Offer constructive criticism, as appropriate, about the participant-administrator's demonstration.
Have the second participant administer the test to the first and offer appropriate constructive criticism.
Thank the participants for their participation and solicit questions.
Solicit participants' questions.

Hands-On Practice

Assign participants to work in pairs.
Instruct teammates to practice administering the MRB test to each other.

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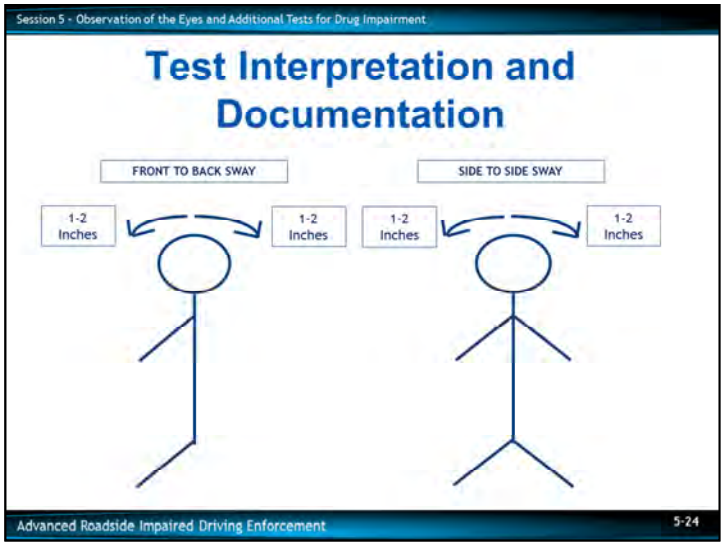

Recording Results of the MRB Test

The major items that need to be recorded for the MRB test are:

- The amount the subject sways
- The actual amount of time the subject keeps their eyes closed
- To record swaying, the officer must estimate how many inches the subject sways, either front-to-back or left-to-right, or both
- In some cases, the subject may exhibit a circular or rotational sway. An estimate on the amount of sway should be documented if observed.

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

Source: "Hartman, R. L., Richman, J. E., Hayes, C. E., & Huestis, M. A. (2016). Drug recognition expert (DRE) examination characteristics of cannabis impairment. Accident Analysis and Prevention, 92, 219-229. doi:10.1016/j.aap.2016.04.012"

Assign participants to work in pairs and administer the MRB test on each other.

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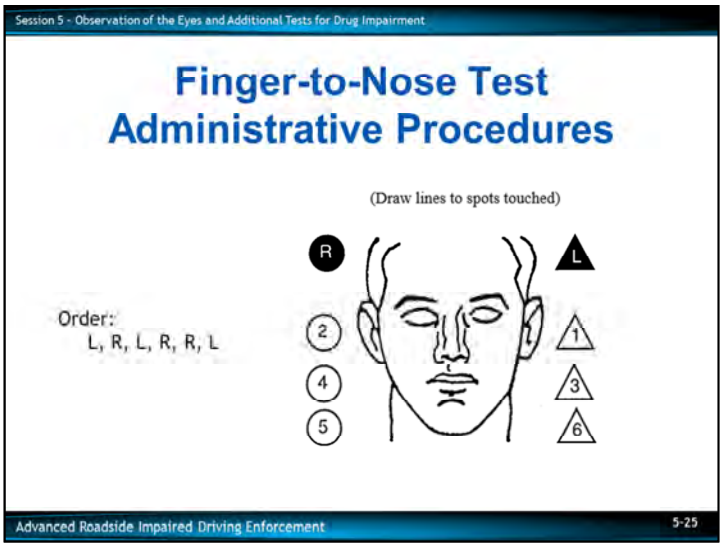


Write "Finger-to-Nose" on dry erase board or easel/easel pad.

E. <u>Finger-to-Nose</u>

The FTN is another divided attention test used to detect drug impairment.

FTN differs from the other three tests in the officer must continue to give instructions to the subject throughout the test.

Administrative Procedures for FTN

Two instructors should serve in this demonstration (or one instructor and one student), an instructor as the officer and the other as the "subject."

- The subject must be told he/she will be given a series of commands, i.e., "left, right, etc." to indicate which fingertip is to be brought to the tip of the nose

- The subject must be told to stand with feet together, arms down at the sides, facing the examiner

- The officer should demonstrate the stance

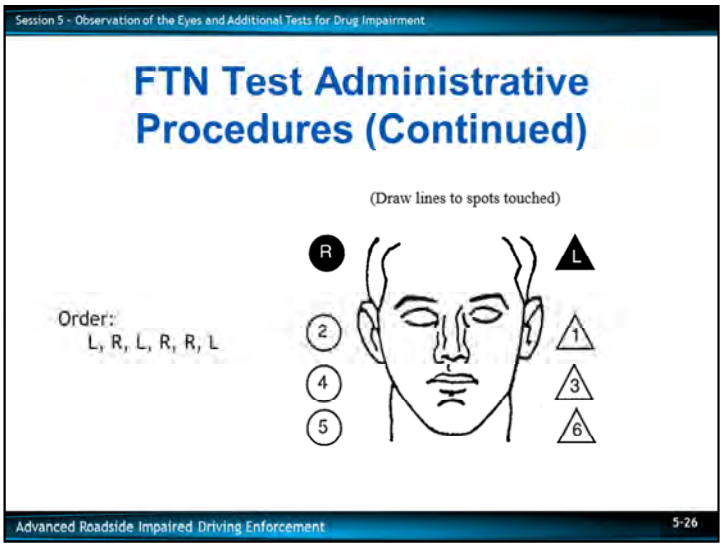
- The subject must be told to close his/her hands, rotate the palms forward and then to extend the index fingers from the closed hands

Demonstrate the proper extension of the index fingers.

- The officer must tell subject they will be asked to touch the tip of the index finger to the tip of the nose

- The officer must demonstrate to the subject how they are expected to touch the fingertip to the nose (without actually touching the nose)

- Demonstrate: When I say 'left,' touch the tip of your left index finger to the tip of your nose



- The officer must tell the subject they are expected to return the arm to the side immediately after touching the fingertip to the nose

- Demonstrate the movement of the fingertip to the nose by standing at an angle to the subject so he/she can see the proper method for touching the nose

- The subject must be told to tilt the head back slightly and to close the eyes and keep them closed until the officer says to open them

The subject's head should be tilted back in the same fashion as in the MRB test.

- The officer should demonstrate the stance with head tilted back, arms at the sides with index fingers extended. Remind the participants they should not close their eyes during the instructions for safety reasons.

The test is always given in the following sequence of commands: Write the sequence on the dry erase board or flip-chart. Left, Right, Left, Right, Right, Left. Solicit participants' questions concerning administrative procedures for FTN.

Instructor-Led Demonstrations

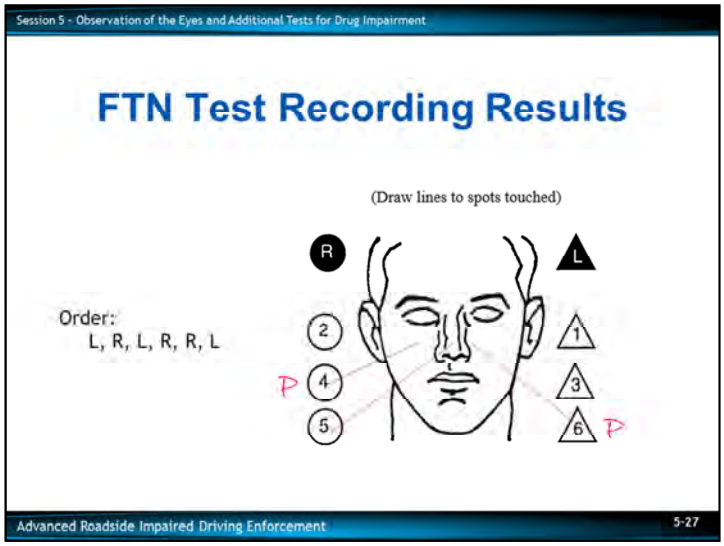
One instructor should give a complete demonstration of FTN.

Instructor demonstration.

Select a participant to serve as the "subject" and administer a complete FTN test to that participant. Thank the participant for his/her participation and solicit questions about the demonstrations.

Participant-Led Demonstrations

Select two participants and have them take turns administering FTN tests to each other. Offer appropriate comments and constructive criticism about the participants' administration of the test. Thank the participants and solicit questions from the class.



Recording Results of the FTN Test

- The results of FTN test are recorded by drawing a "map" showing where the fingertips landed on each attempt

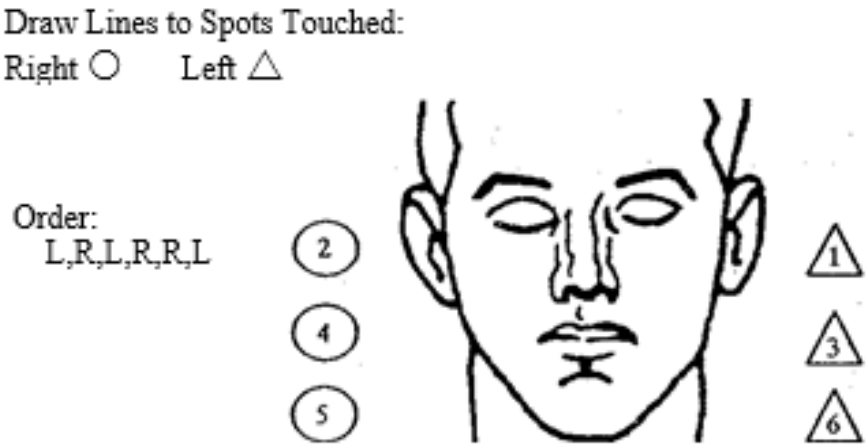
- A line should be drawn to the appropriate circle or triangle to indicate where the subject touched their nose

- Suggestion: If the officer draws the line from the place where the subject touches to the appropriate circle or triangle, it enables them to draw a straighter line

Instruct students a "P" is an indicator the subject touched with the pad of his/her finger instead of the finger tip. Solicit questions about recording the results of FTN.

Hands-on Practice

Assign participants to work in pairs. Instruct teammates to take turns administering FTN tests to each other. It is not necessary for the teammate who is the "subject" to carry out the test completely. Monitor the practice and offer appropriate coaching and constructive criticism. Allow 5 minutes for this activity. An example of a diagram to document the FTN test is below.



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

Relationships to the Categories

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present*	None	None	Present	None	Present*	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (1)*	Dilated	Dilated	Normal	Constricted	Normal (2)*	Dilated (3)*

*High dose for that individual
1. Soma, Quaaludes, and some antidepressants usually dilate pupils
2. Normal , but may be dilated
3. Pupil size possibly normal

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F. <u>Relationship Between the Eye Examinations and the Seven Drug Categories</u>

Eye Observations

- Eye observations can provide valuable information which can help determine impairment
- Additionally, as discussed in Session 2, HGN is a critical part of assessing subjects suspected of being impaired by alcohol
- HGN also plays a significant part in the evaluation of subjects who might be impaired by drugs alone or in combination with alcohol

In addition to HGN, VGN, and LOC, pupil size can also provide information which contributes to the overall process in determining whether or not a subject is impaired by alcohol and/or drugs.

A chart is provided in Session 6 to assist in recognizing signs of alcohol, drug, or a combination of both alcohol and drug impairment relative to eye observations. This chart or any of the other information presented in this course relative to a specific drug category is not meant to encourage the officer to connect their observations to a specific drug category.

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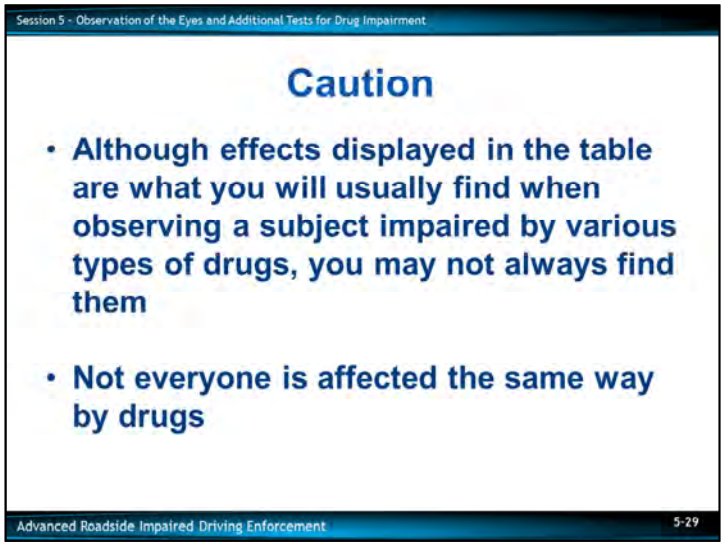

The officer who successfully completes this course shall use only their roadside observations to make a decision as to whether the subject is impaired or not impaired according to their specific State's statutes and support an arrest or no arrest decision.

Important Note: (Caution) Although effects displayed in the chart are what you will ***usually*** *find when observing a subject impaired by various types of drugs, you* ***may not always*** *find them. Not everyone is affected the same way by drugs. You need to remember this when describing drug effects. It is best "never to say never" and "always avoid saying always."*

The officer who completes this course is NOT certified as a Drug Recognition Expert (DRE) and does not have the training required to support the selection of a specific drug category which may be the source of the subject's impairment.

It is strongly recommended an officer, whenever possible, involve a DRE in the post-arrest investigation.

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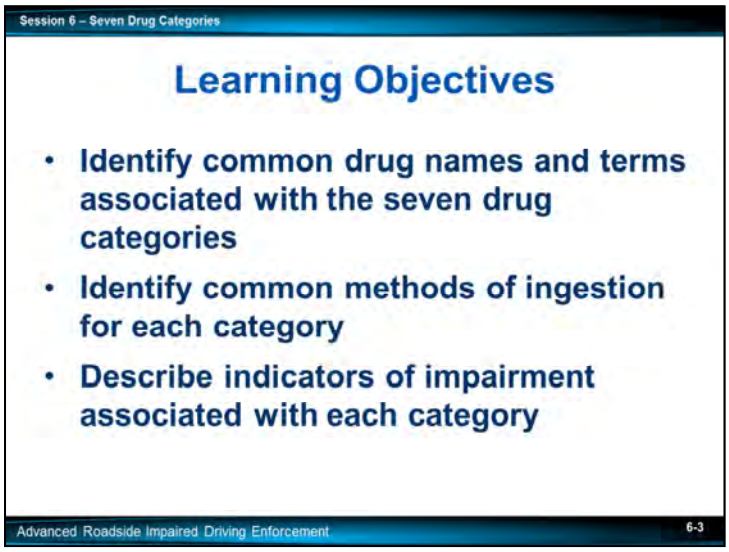
Session 5 - Observation of the Eyes and Additional Tests for Drug Impairment
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
5-30

Advanced
Roadside
Impaired Driving
Enforcement
Session 6 – Seven Drug Categories
NHTSA
TSI
February 2018

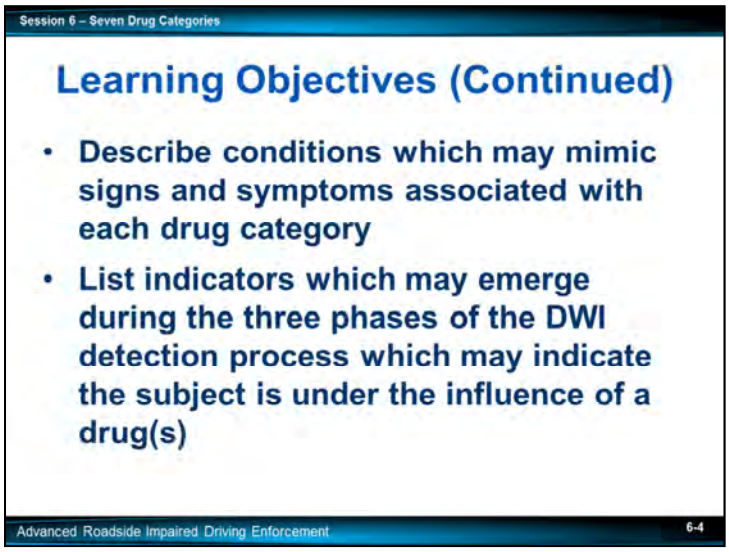
Session 6 – Seven Drug Categories
3 Hours 30 Minutes
Session 6
Seven Drug Categories
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement



Briefly review the objectives, content, and activities of this session.

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

- Identify common drug names and terms associated with the seven drug categories
- Identify the common methods of ingestion for each category
- Describe the indicators of impairment associated with each category



- Describe conditions which may mimic the signs and symptoms associated with each drug category

- List the indicators which may emerge during the three phases of the DWI detection process (vehicle in motion, personal contact and pre-arrest screening) which may indicate the subject is under the influence of a drug(s)

<u>CONTENT SEGMENTS</u>

A. Overview of the Drug Categories

- For each Drug Category, identification of:
  - Drugs
  - Indicators
  - Eye indicators
  - Other conditions which mimic indicators
  - Expected results from the detection process

B. Officer Safety

<u>LEARNING ACTIVITIES</u>

Instructor-Led Presentation

A. <u>Overview of the Drug Categories</u>
Ask class what the most used and abused drug is.

Historically, alcohol has been the most used and abused psychoactive Depressant.

The majority of the general public is familiar with the effects of alcohol either through personal experience and/or observing others impaired by alcohol.

This familiarity with the indicators of impairment associated with alcohol makes the Depressant category relatively straightforward.

Seven Categories of Drugs:
- Central Nervous System (CNS) Depressants
- CNS Stimulants
- Hallucinogens
- Dissociative Anesthetics
- Narcotic Analgesics
- Inhalants
- Cannabis

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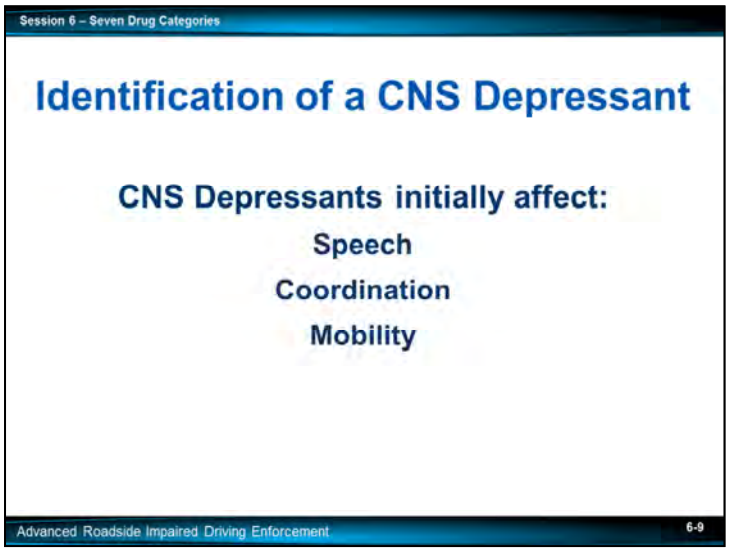
CNS Depressants
CNS Depressants are drugs that slow down the operations of the central nervous system.

In order for a drug to be classified as a Depressant according to the Drug Evaluation and Classification (DEC) Program, it must:

- Depress the activity of a subject's brain and CNS

Pose question to class: What body functions could Depressants affect?
Suggested answers would include: heart rate, respiration, pulse rate.
The CNS Depressant category includes the single most commonly abused and most familiar drug in America – alcohol.

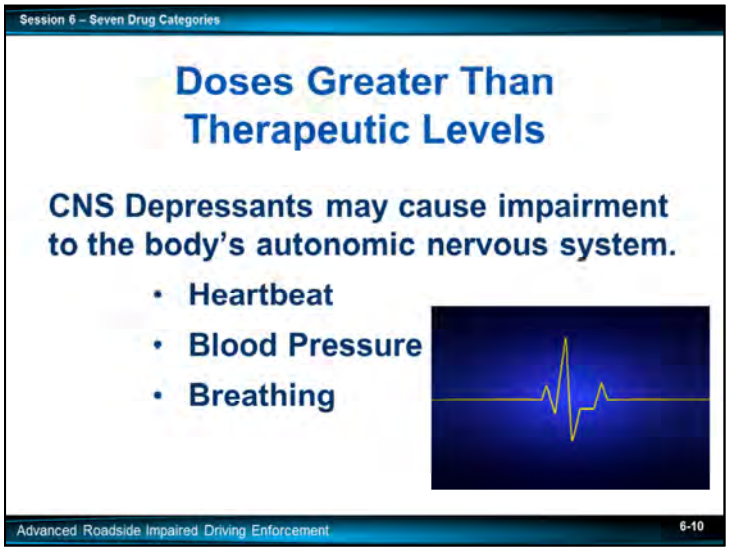
At doses greater than therapeutic levels, impairment of the body's autonomic nervous system is affected.



The Depressant category initially affects a person's functions:

- Speech
- Coordination
- Mobility

At doses greater than therapeutic levels (amounts typically prescribed by a physician), the body's autonomic nervous system is affected and may cause impairment.



The systems affected are:

- Heartbeat
- Body temperature
- Breathing

In addition to alcohol, the Depressant category also includes:

- Anti-anxiety drugs
- Antipsychotics
- Antidepressants
- Barbiturates
- Non-barbiturate
- Combinations

Subjects impaired by Depressants may look very much like subjects impaired by alcohol, but without the odor of alcohol on their breath.

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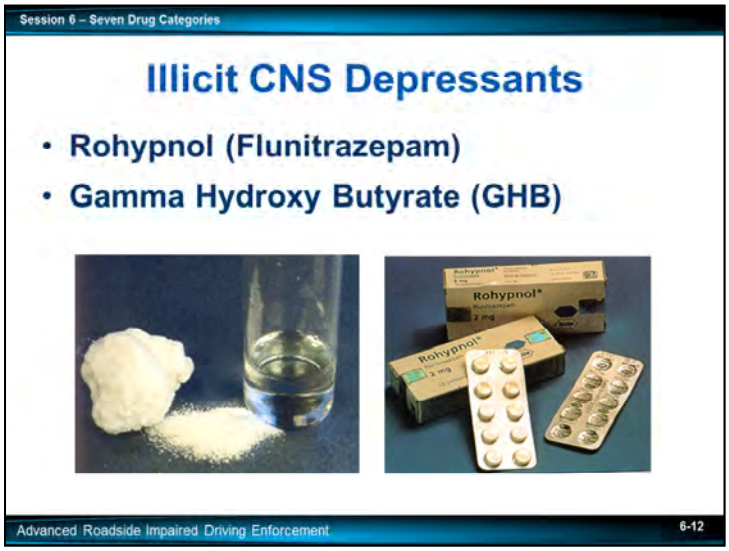
Some familiar and often abused Depressants include:

- Valium
- Prozac
- Xanax
- Soma
- Alcohol



These are examples of just a few anti-anxiety tranquilizers, antidepressants, and antipsychotics legally prescribed for a variety of disorders.

There are also several illicit CNS Depressants that have gained national attention in the past several years.

- Rohypnol (Roofies)(Flunitrazepam)
- Gamma Hydroxy Butyrate (GHB)

These drugs have been implicated in an alarming number of sexual assaults and overdose deaths. Rohypnol is most commonly found in pill form (1 or 2 mg).

Methods and Signs of Ingestion
Generally, CNS Depressants will be found in pill or liquid form.

The most common method for using Depressants is to take them orally. Pills may be crushed and insufflated (snorted).

Some CNS Depressants, on very rare occasions, may be injected.

When CNS Depressants (other than alcohol) are taken orally, signs of ingestion may be difficult to detect.

- There are occasions when a subject may chew the tablets to create a quicker onset of effect
  - When this happens traces of the tablet may be lodged in the teeth.

- Injection sites are easily identifiable by swelling of the area and ulcerations of the skin

- The injection sites differ from those of other injectable drugs because liquid Depressants are generally thicker and take a larger gauge needle to inject the drug

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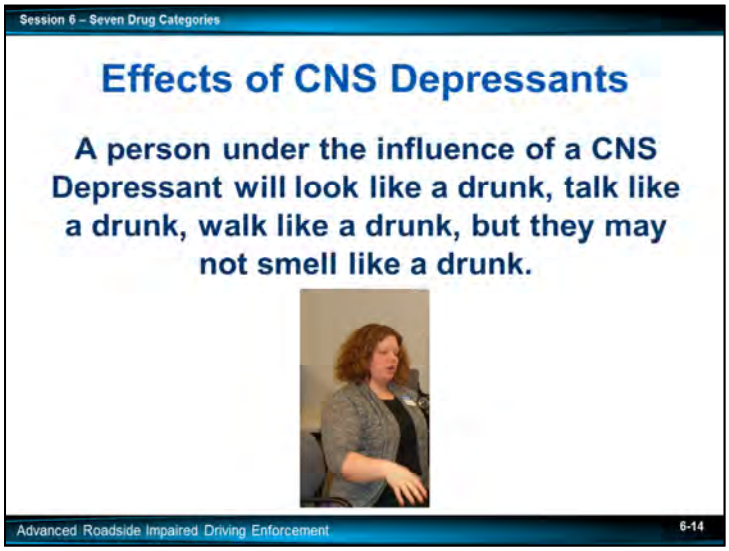

Effects of CNS Depressants
A person impaired by a CNS Depressant will look like a drunk, talk like a drunk, walk like a drunk, but they may not smell like a drunk.

Therapeutic doses (amounts typically prescribed by a physician) may not exhibit observable effects if they are ingested as prescribed.

Combinations of Depressants can be risky; they are commonly combined with alcohol. This increases the effects of the Depressant and could magnify the effects and observable signs and symptoms.
This is an example of an additive effect.

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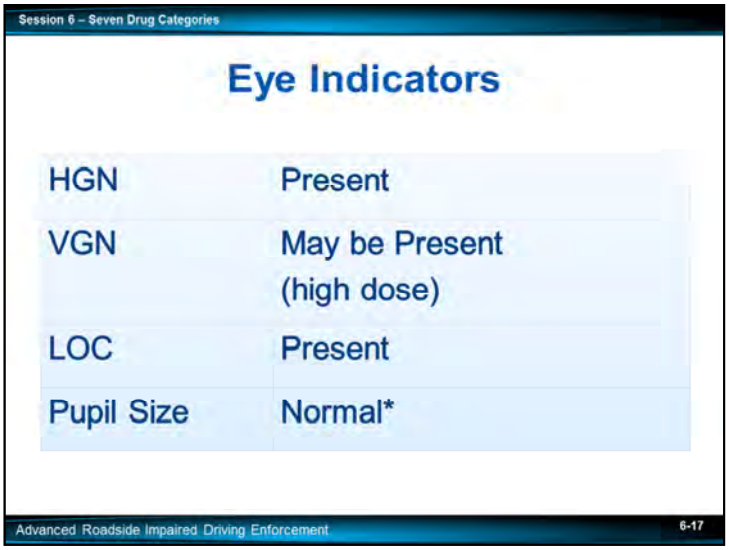
Ask participants: How would a Depressant possibly impair a subject's ability to operate a vehicle safely?
Example: Slowed reflexes may cause a delay in applying brakes in a timely manner.
Indicators include:

- A wide variety of emotional effects:
  - Euphoria
  - Depression
  - Laughing or crying for no apparent reason

- Reduced ability to divide attention
- Disoriented
- Sluggish
- Thick, slurred speech
- Drunk-like behavior

- Droopy eyelids
- Relaxed inhibitions
- Uncoordinated
- Drowsiness
- Unsteady/Staggering walk

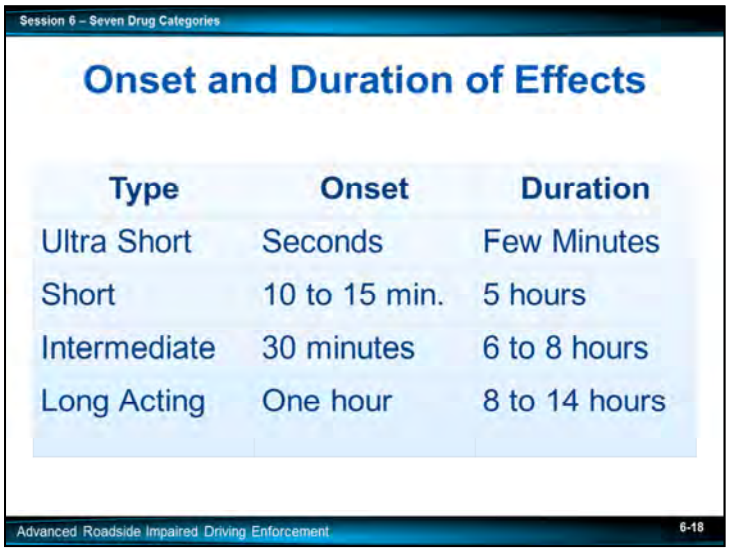
CNS Depressants typically slow the Central Nervous System and may slow a subject's time estimation.



Eye Indicators

- Horizontal Gaze Nystagmus (HGN) – Present
- Vertical Gaze Nystagmus (VGN) – May be Present – especially at high dose levels for that individual
- Lack of Convergence (LOC) – Present
- Pupil Size – Normal *Soma, Quaaludes and certain anti-depressants may dilate

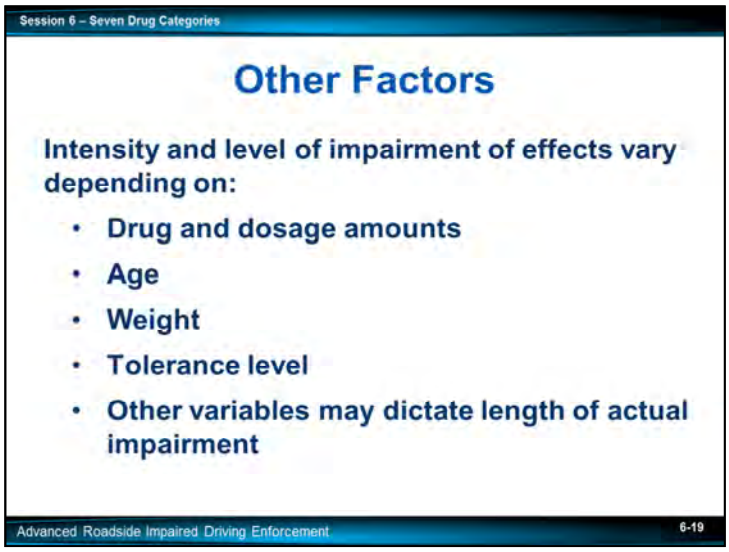
Point out "normal" refers to the average ranges established in the DEC Program.



Onset and Duration of Effects

There are four different classes of Depressants which are classified based on how quickly they take effect and how long their effects last. They are:

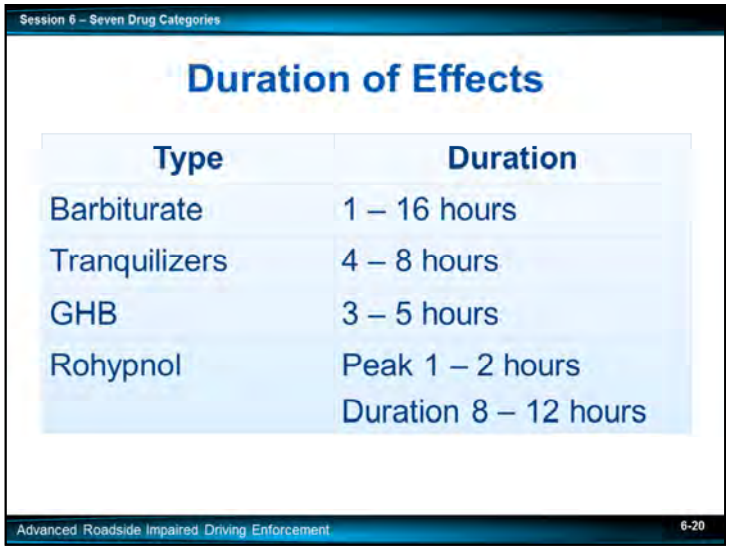
Type	Action
Ultra Short	Very fast acting, very brief effects
Short	Fairly fast acting, effects last several hours
Intermediate	Relatively slow acting but prolonged effects
Long	Delayed but long-lasting effects



Other Factors

The intensity and level of impairment effects vary depending on:

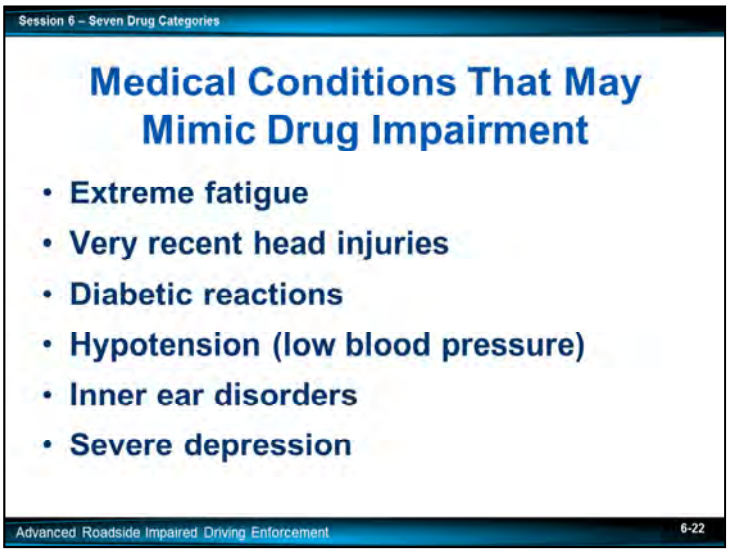
- Drug and dosage amounts
- Age
- Weight
- Tolerance level
- Other variables may dictate the length of actual impairment



Type	Duration
Barbiturate	1-16 hours
Tranquilizers	4-8 hours
GHB	3-5 hours
Rohypnol	1-2 hours, Duration 8-12 hours

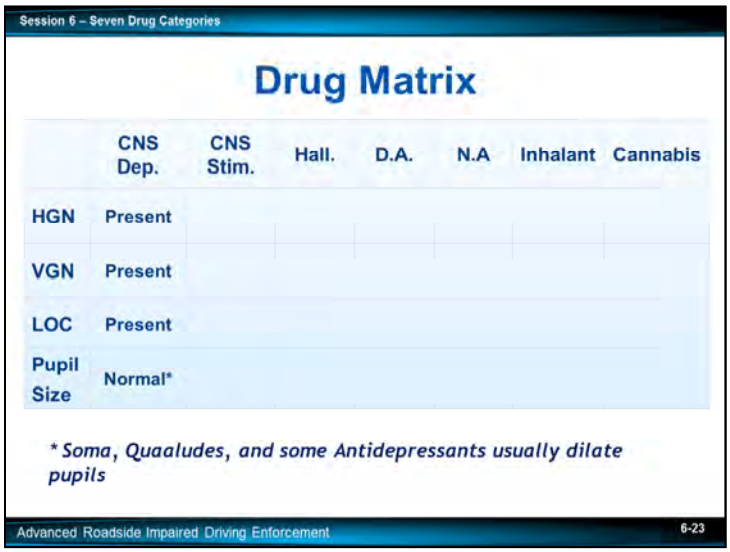
Overdose Signs and Symptoms

- Shallow breathing
- Clammy skin
- Rapid/weak pulse
- Dilated pupils



Medical Conditions That May Mimic Drug Impairment

- Extreme fatigue
- Very recent head injuries
- Diabetic reactions
- Hypotension (low blood pressure)
- Inner ear disorders
- Severe depression

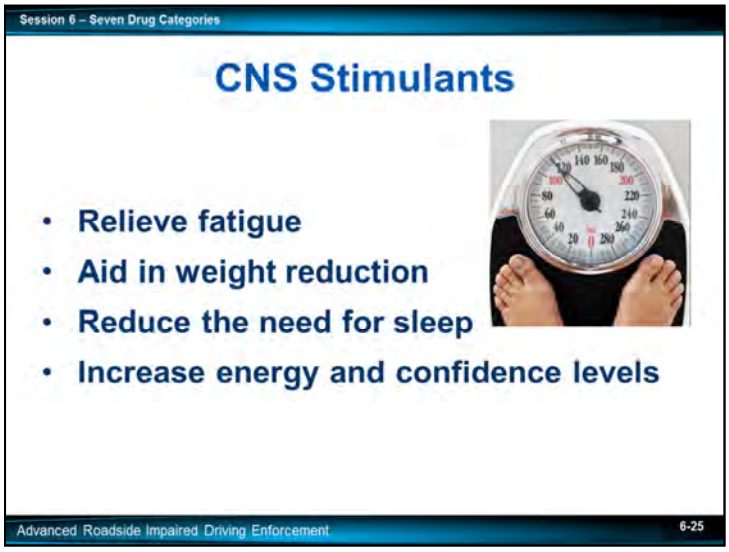


Drug Matrix

Complete Matrix Chart for CNS Depressant Category.

CNS Stimulants

CNS Stimulates are drugs that speed up the operation of the central nervous system.



CNS Stimulants:

- Relieve fatigue
- Aid in weight reduction
- Reduce the need for sleep
- Increase energy and confidence levels

In general, stimulants bring about both a psychological and physical stimulation.

CNS Stimulants are commonly known as *"uppers"* and their effects are similar to the body's fight or flight responses.

As Stimulants "wear off," the individual can exhibit signs and symptoms similar to those associated with Depressants since some of the body's systems may experience a "crash."

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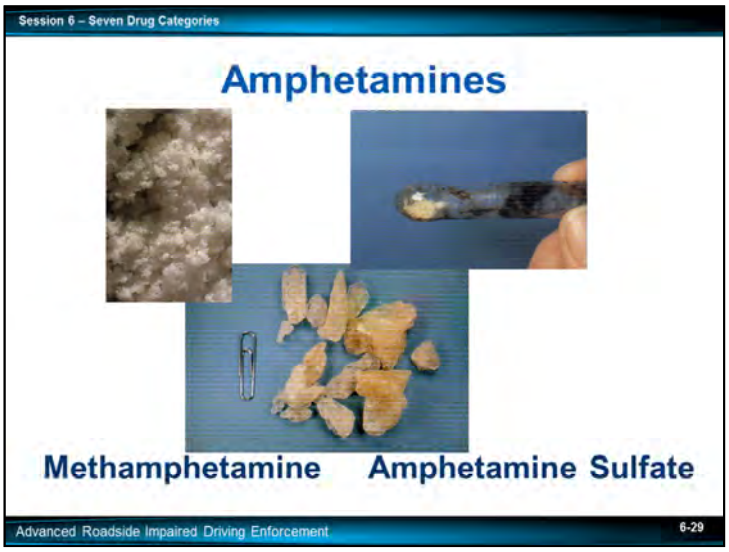
The most widely abused CNS Stimulants are:

- Cocaine
- Amphetamines
- Methamphetamines

Cocaine is made from the leaves of the coca plant and is generally found as a white or off-white power.

Crack cocaine is made by mixing baking soda, Cocaine, water, then heating.

It appears as small white or off-white chunks.



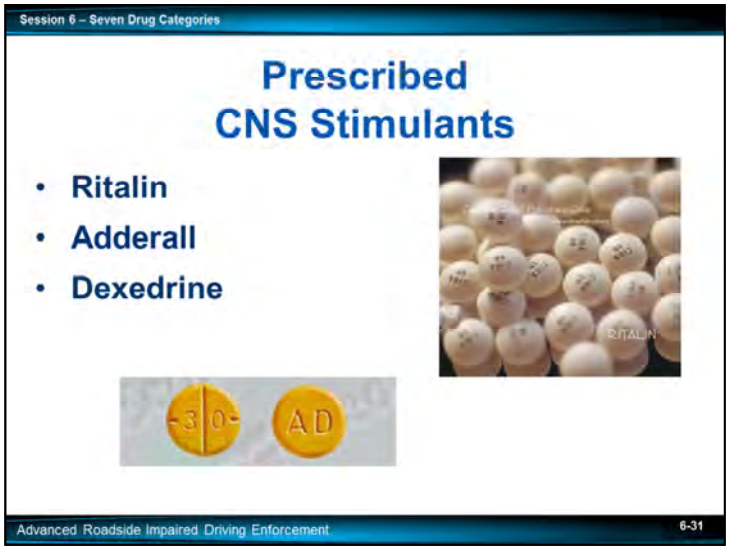
Amphetamines are usually found in pill form and are legally manufactured for medical use.

Methamphetamine is an illicit drug and usually has the consistency of brown sugar, can be a variety of different colors, and is primarily produced illegally.

Ephedrine and pseudoephedrine are also classified as CNS Stimulants.

Ephedrine is often advertised as diet supplements:

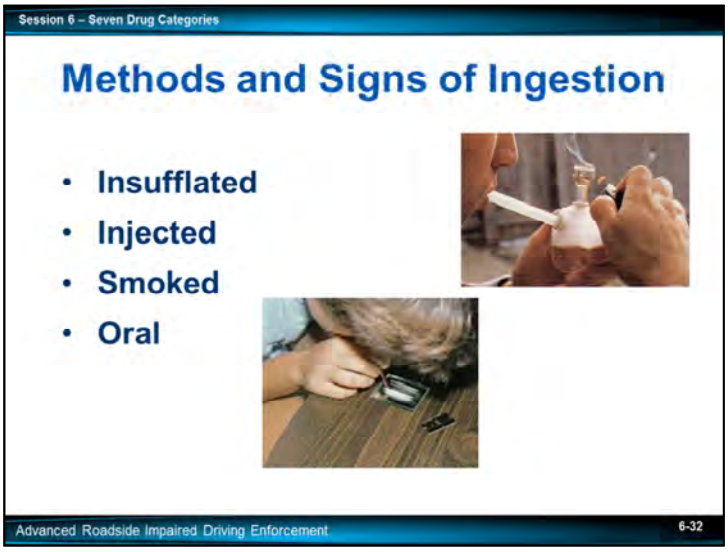
- Diet Max
- Diet Now
- Diet Pep
- Mahuang
- Anti-insomnia aids (Mini-tabs, 357 Magnum, Ephedrine)
- "Natural versions of illegal drugs" (Herbal Ecstasy and Herbal Bliss). Pseudoephedrine can be found in a variety of over-the-counter antihistamines, decongestants, and cold products, thus making it more accessible
    - Both are usually found in pill form and can be used in the production of methamphetamine
    - When taken in excess, they have the ability to impair



Ritalin, Adderall, and Dexedrine are also classified as CNS Stimulants.

These medications allow an individual with Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) to focus their attention.

These medications have recently become commonly abused by students and professionals who want to obtain a temporary increase in their ability to focus and process information.



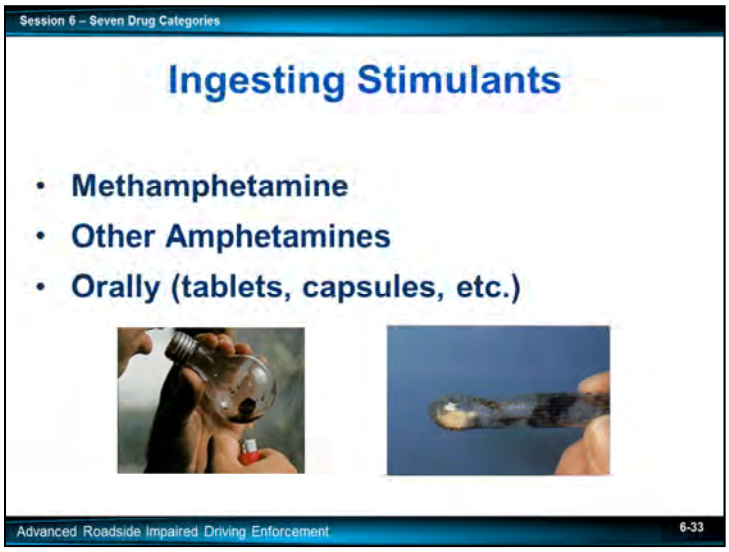
Methods and Signs of Ingestion

There are many types of Stimulants and their form will dictate the method of ingestion.

- Powder cocaine is typically insufflated, but can be injected or smoked

- To be injected it must be converted to a liquid form
  - Users will heat the powder in distilled water
  - The chemicals will combine to form the injectable liquid

- Crack cocaine is smoked
  - Crack Cocaine burns very hot, there may be signs of ingestion in the mouth



- Methamphetamines can be insufflated, smoked, injected, or taken orally

- Ephedrine, Pseudoephedrine, Ritalin, Adderall, and Dexedrine are primarily taken orally
  - Ritalin can also be crushed and insufflated

Discuss some examples of possible signs in the oral cavity.

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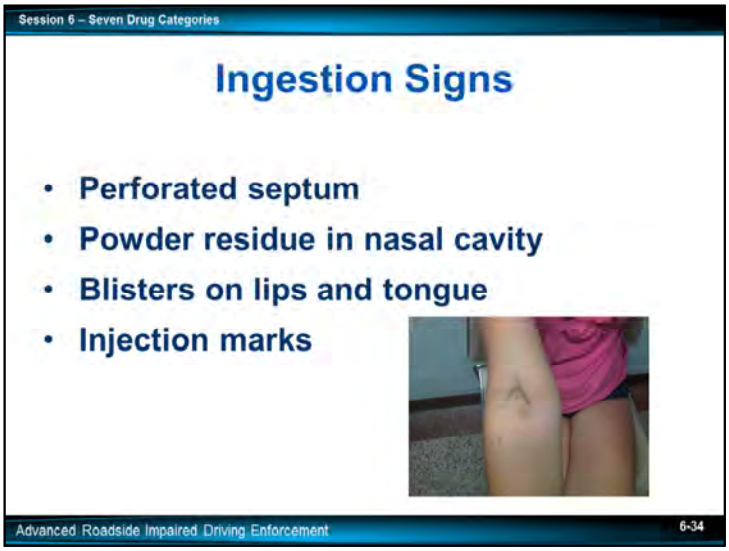
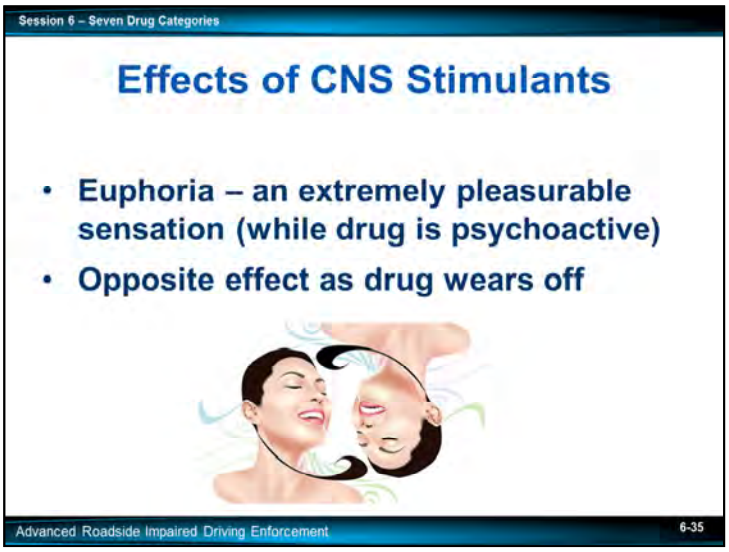


When a CNS Stimulant is taken orally, signs of ingestion may be very limited.

When they are inhaled (as a powder) the septum may be perforated and the nasal tissue may be irritated or inflamed.

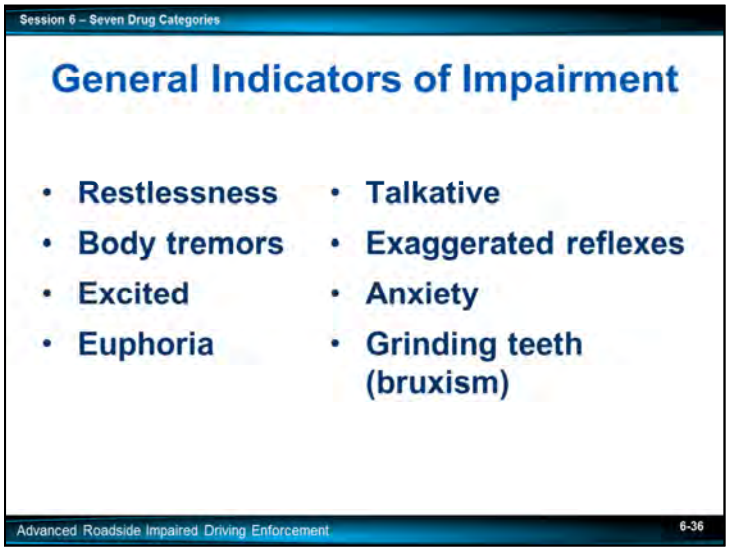
When they are smoked, the intense heat of the smoke may cause burn marks on the fingers (where the pipe was held) and burn marks on the lips (where the pipe touched the mouth).

Injection marks may be observed as a fresh puncture mark with blood oozing, bruising of the vein (caused by damage to the vein itself), or older marks which may have dried blood covering the mark.



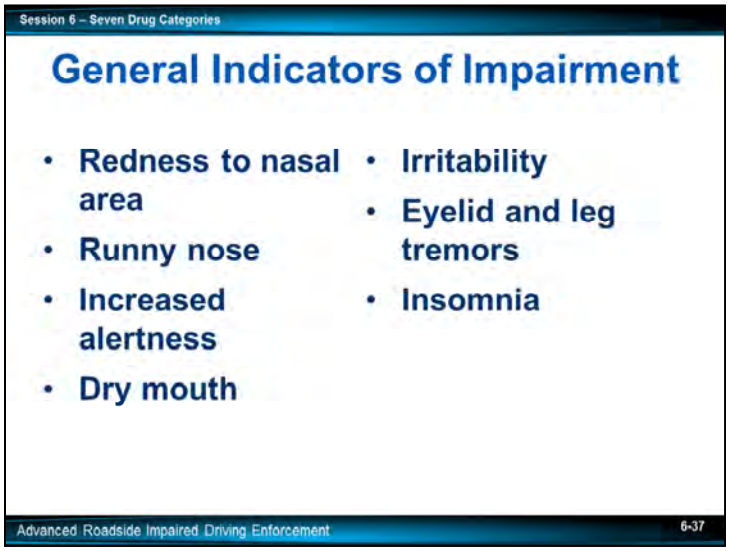
The main effect of most CNS Stimulants is Euphoria – an extremely pleasurable sensation, while the drug is psychoactive. However, the user may find an opposite effect as the drug wears off.

While the drug is psychoactive, the user may seem like their system is sped up or in fast forward, but, as the drug leaves the system (crashing), this person may appear as though they are under the influence of a CNS Depressant or Narcotic Analgesic.



General Indicators

- Restlessness
- Body tremors
- Excited
- Euphoria
- Talkative
- Exaggerated reflexes
- Anxiety
- Grinding teeth (bruxism)



- Redness to nasal area
- Runny nose
- Increased alertness
- Dry mouth
- Irritability
- Eyelid and leg tremors
- Insomnia

Because CNS Stimulants speed up the CNS, the user may exhibit a fast time estimation.

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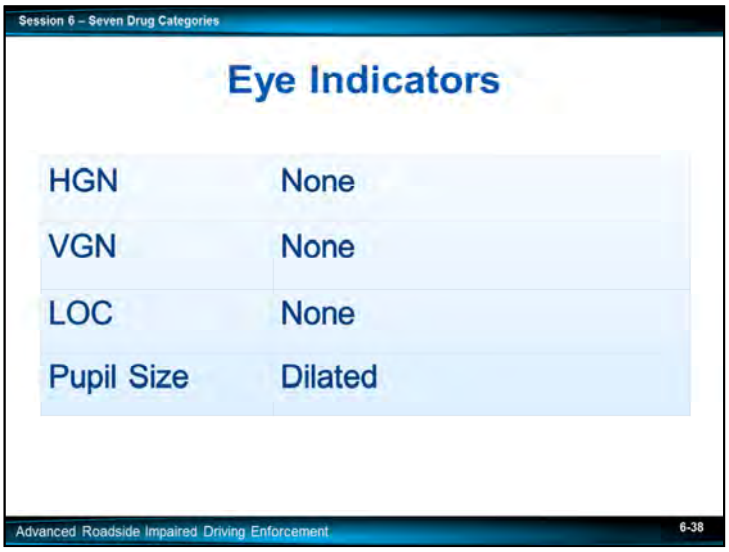


Eye Indicators / Matrix

- HGN – None
- VGN – None
- LOC – None
- Pupil Size – Dilated

Duration of Effects

Type	Duration
Cocaine	5 – 10 minutes (smoked) 5 – 15 minutes (injected) 30 – 90 minutes (snorted)
Amphetamines	4 – 8 hours
Methamphetamines	12 hours
Ritalin Adderall Dexedrine	Varies Varies Varies

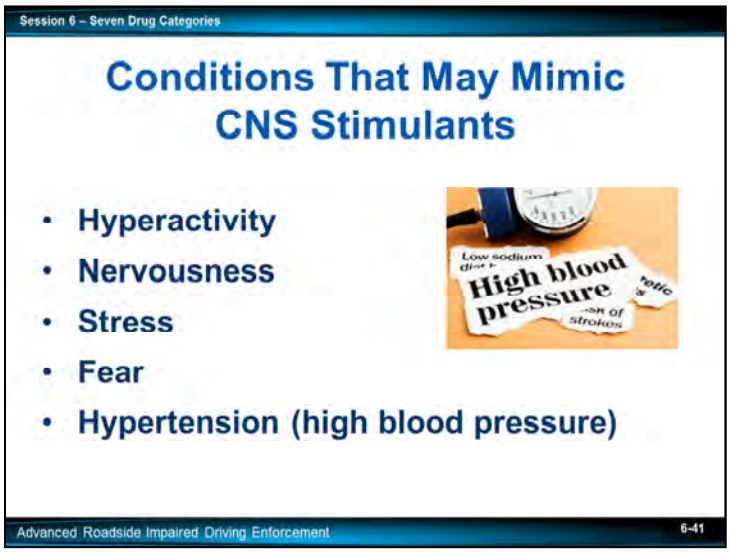
Duration of Effects

Cocaine	5-10 minutes (smoked) 5-15 minutes (injected) 30-90 minutes (snorted)
Amphetamines	4-8 hours
Methamphetamines	12 hours
Ritalin, Adderall, Dexedrine	Varies

Overdose Signs and Symptoms

Overdose signs and symptoms of a CNS Stimulant may include, but are not limited to:

- Agitation
- Increased body temperature
- Hallucinations



Conditions that may mimic CNS Stimulant impairment

There are several conditions that may mimic impairment by a CNS Stimulant. These may be, but are not limited to:

- Hyperactivity
- Nervousness
- Stress
- Fear
- Hypertension (high blood pressure)

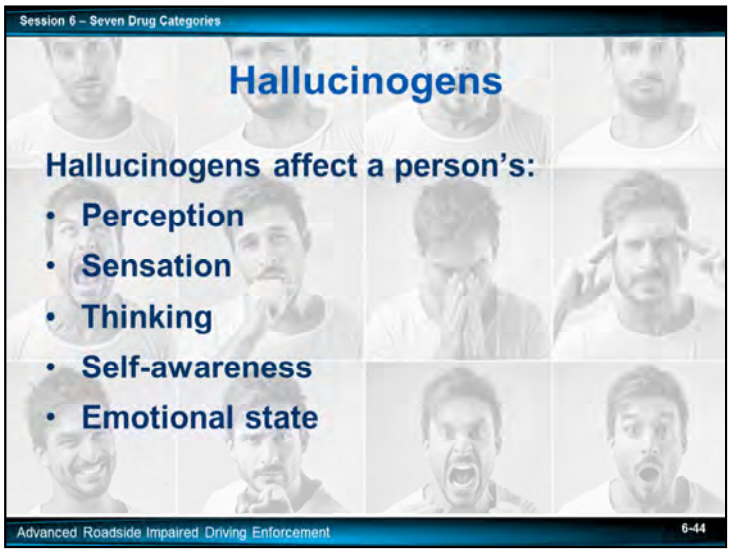
Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None					
VGN	Present	None					
LOC	Present	None					
Pupil Size	Normal*	Dilated					

**Soma, Quaaludes, and some Antidepressants usually dilate pupils*

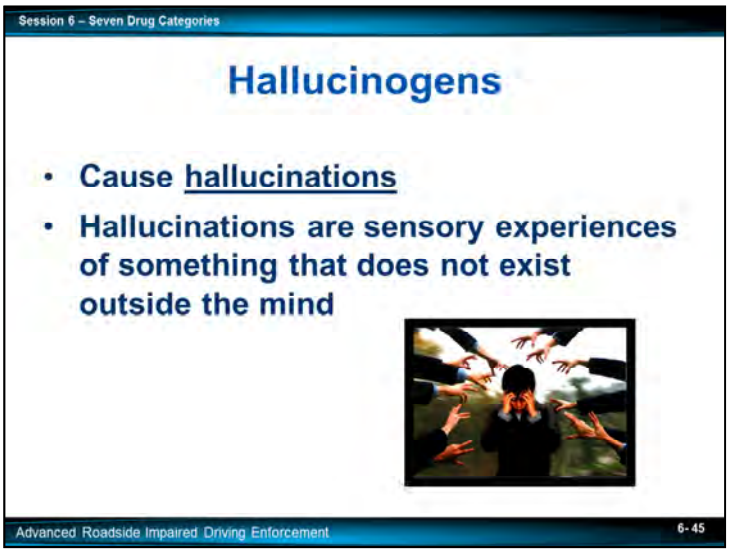
Complete Matrix Chart for CNS Stimulant Category

Hallucinogens



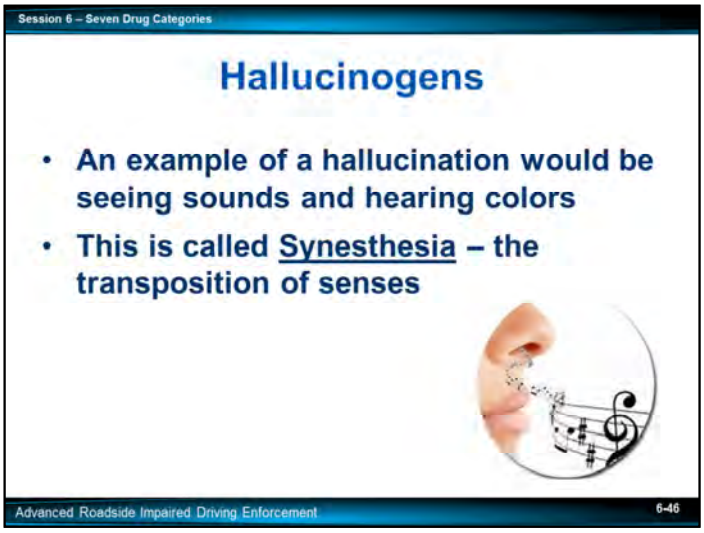
Hallucinogens are drugs that affect a person's:

- Perception
- Sensation
- Thinking
- Self-awareness
- Emotional state



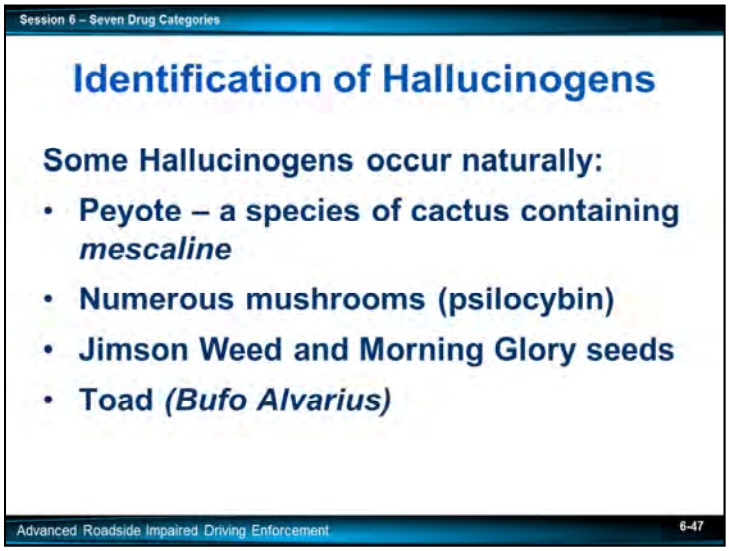
The word "Hallucinogen" means something that causes hallucinations.

A hallucination is a sensory experience of something that does not exist outside the mind.



The category is classified in this manner because one of the significant effects of these drugs is hallucinations.

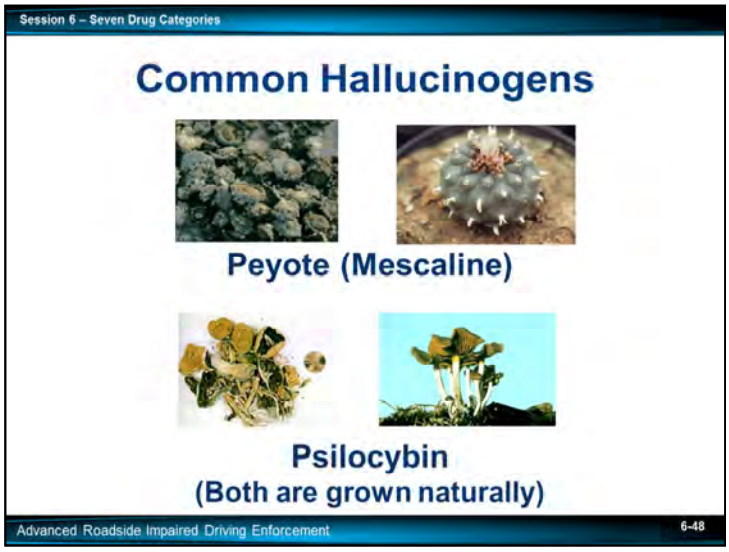
An example would be seeing something that does not exist or hearing a color. This is called Synesthesia – or a transposition of senses.



Identification of Hallucinogens

Some hallucinogenic drugs occur naturally.

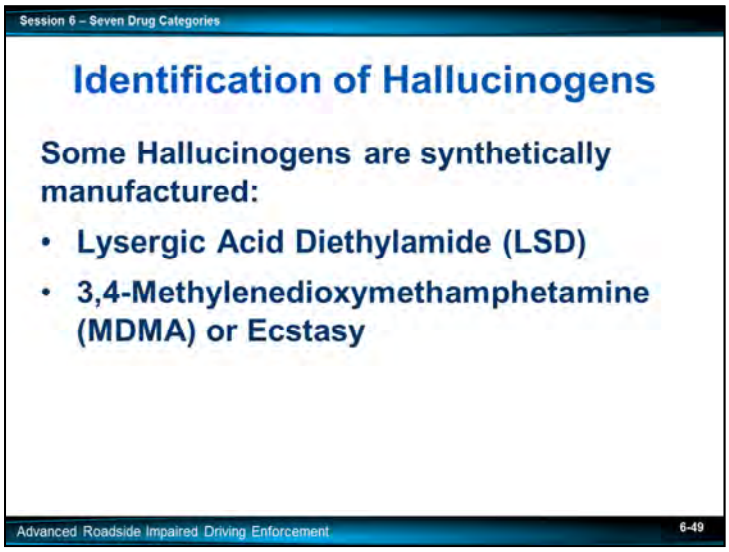
- Peyote - is a species of cactus containing mescaline
- There are numerous mushrooms (psilocybin) capable of inducing hallucinations
- Jimson Weed and Morning Glory seeds can also be abused, often with tragic consequences
- There is also a toad (Bufo Alvarius), which releases a hallucinogenic secretion when threatened ***This secretion is a defense mechanism for the toad.***



Common Hallucinogens

- Peyote (Mescaline)
- Psilocybin

Both are grown naturally.



Hallucinogenic drugs are also synthetically manufactured. Examples include:

- Lysergic Acid Diethylamide (LSD) liquid can be placed on blotter paper and sold as tabs or it can be absorbed by sugar cubes or other pills

- 3,4-Methylenedioxymethamphetamine (MDMA) or Ecstasy is an example of a synthetically produced Hallucinogen
  - MDMA can be found as a pill or as a powder

A pill press can be used to compress the powder into a pill which may contain a variety of different shapes or figures.

The use and abuse of Ecstasy has received wide spread attention because of its popularity in the "rave scene" and overdose deaths.

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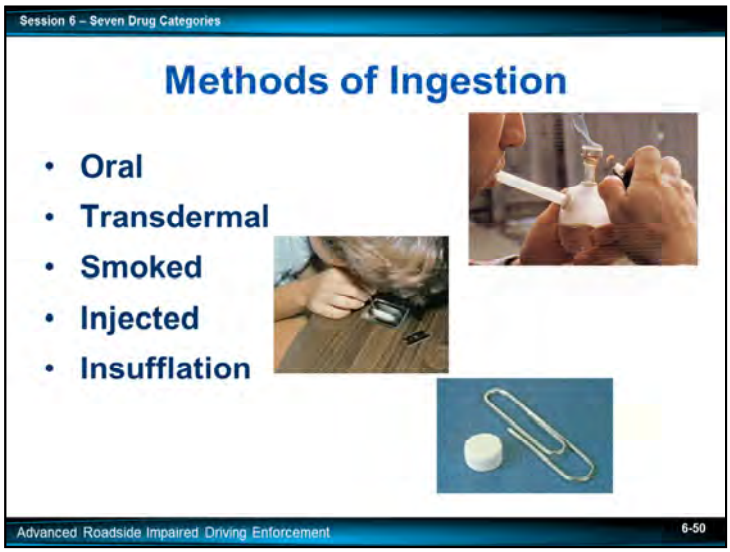

Many Hallucinogens are taken orally.

LSD is absorbed directly either by placing it on the:

- Tongue
- Skin
- When a substance is absorbed through the skin it is called transdermal absorption.

Extreme care should be taken when handling suspected LSD blotter paper. LSD can be absorbed through the skin causing unintentional intoxication. Gloves should be worn!

Substances that are dried and then eaten or brewed as a tea.

- Peyote
- Psilocybin Mushrooms
- Jimson Weed
- Morning Glory seeds

Ecstasy is usually taken orally.

Additionally, users can consume Hallucinogens by:

- Smoking
- Injecting
- Insufflation

Since most Hallucinogens are taken orally, detecting any signs of ingestion may be difficult.

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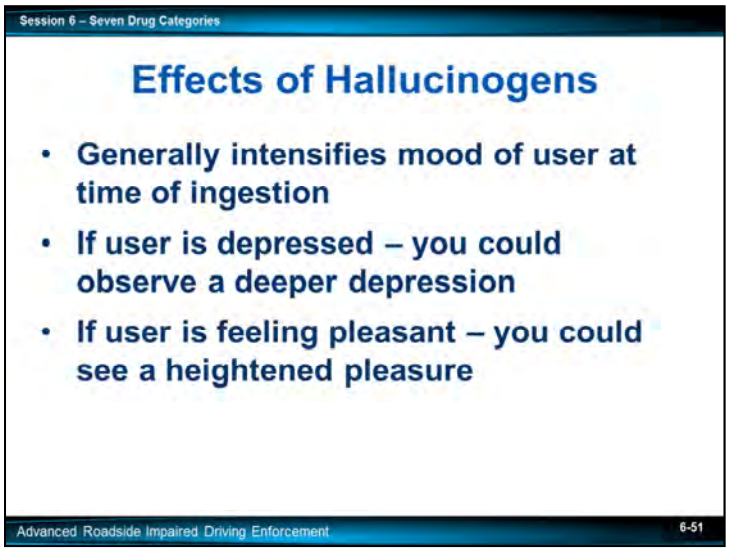
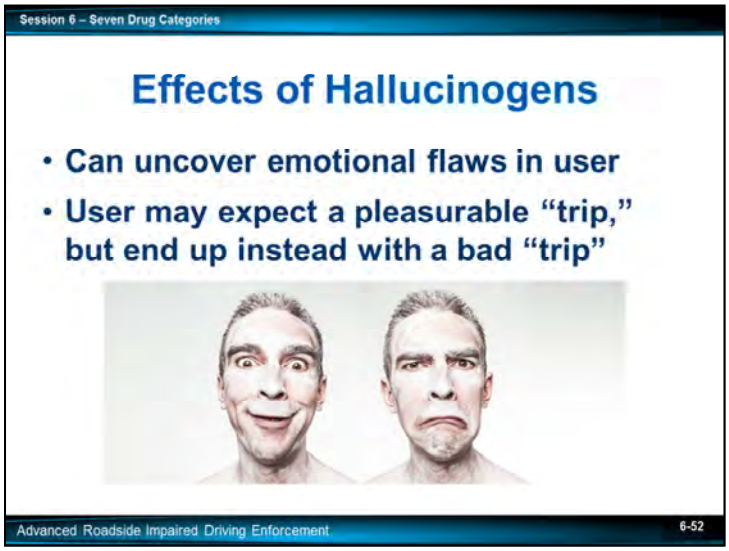
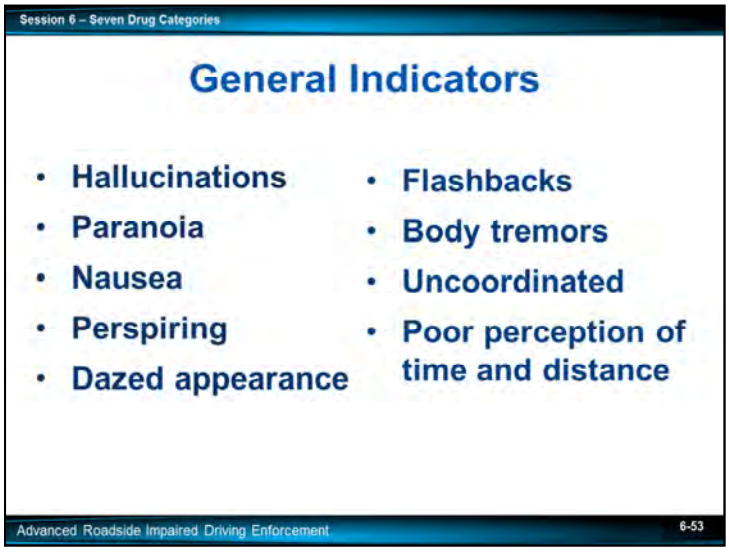


Effects of Hallucinogens
The user can feel a wide variety of effects when using Hallucinogens. The effects depend on the personality and expectations of the individual as well as the surroundings in which the drug is taken.

The drug generally intensifies the mood of the user at the time of ingestion. If the user is depressed, you could observe a deeper depression. If the user is feeling pleasant, you could see a heightened pleasure.



Explain the terms used in the Drug Recognition Expert (DRE) Manual "Bad Trip" or "Flash Backs."
Hallucinogens can uncover emotional flaws in the user. Therefore, the user may expect a pleasurable "trip" but end up instead with a bad "trip."



General Indicators

Some of the physical, mental, and medical behaviors associated with Hallucinogens are:

- Hallucinations
- Paranoia
- Nausea
- Perspiring
- Dazed appearance
- Flashbacks
- Body tremors
- Uncoordinated
- Poor perception of time and distance

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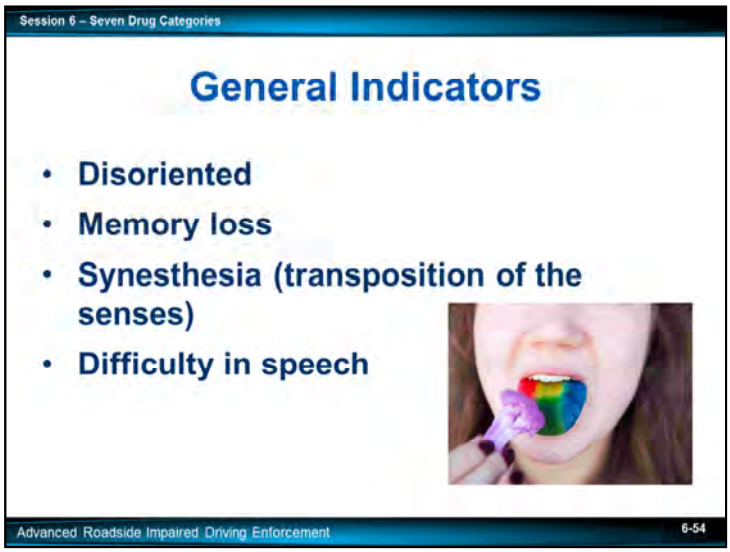
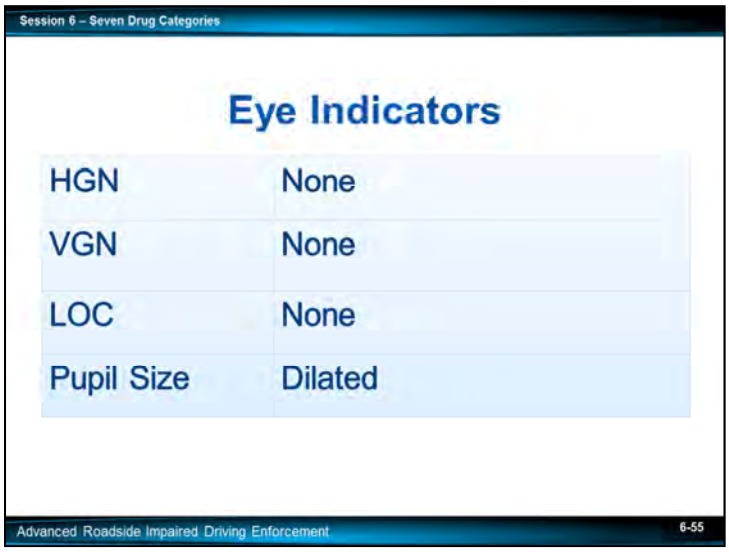


Flashbacks are not believed to be caused by a residual quantity of drug in the user's body, but rather are vivid recollections of a previous hallucinogenic experience.

This can be similar to flashbacks associated with traumatic events.

- Disoriented
- Memory Loss
- Synesthesia (transposition of the senses)
- Difficulty in speech

Hallucinogens cause the user to have a poor perception of time and can result in difficulty estimating time.



Eye Indicators

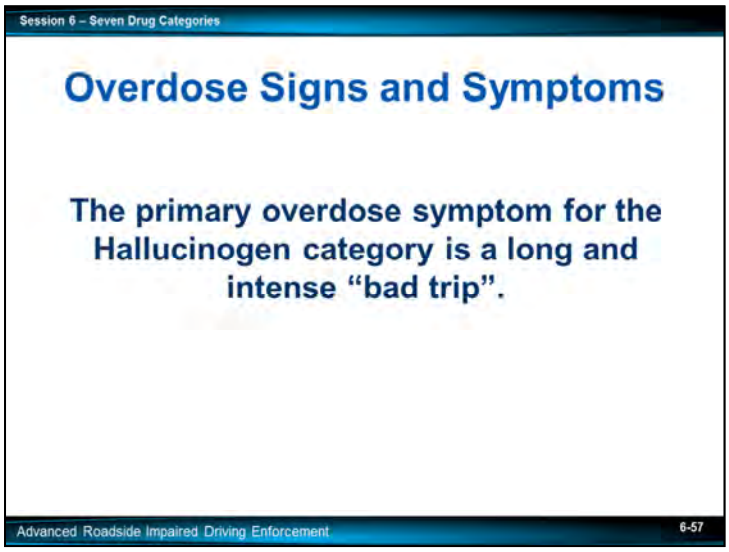
- HGN – None
- VGN – None
- LOC – None
- Pupil Size – Dilated

Duration of Effects

Type	Duration
LSD	10 – 12 hours (peaks between 4 – 6 hours)
Ecstasy	1 – 3 hours
Psilocybin	2 – 3 hours
Peyote	Up to 12 hours (peaks between 3 – 4 hours)

Duration of Effects

LSD	10 to 12 hours (Peaks between 4-6 hours)
Ecstasy	1 to 3 hours
Psilocybin	2 to 3 hours
Peyote	up to 12 hours (Peaks between 3-4 hours)



The primary overdose symptom for the Hallucinogen category is a long and intense "bad trip."

There are two conditions that may mimic impairment by a Hallucinogen. These may be, but are not limited to:

- High fever
- Mental illnesses

Drug Matrix

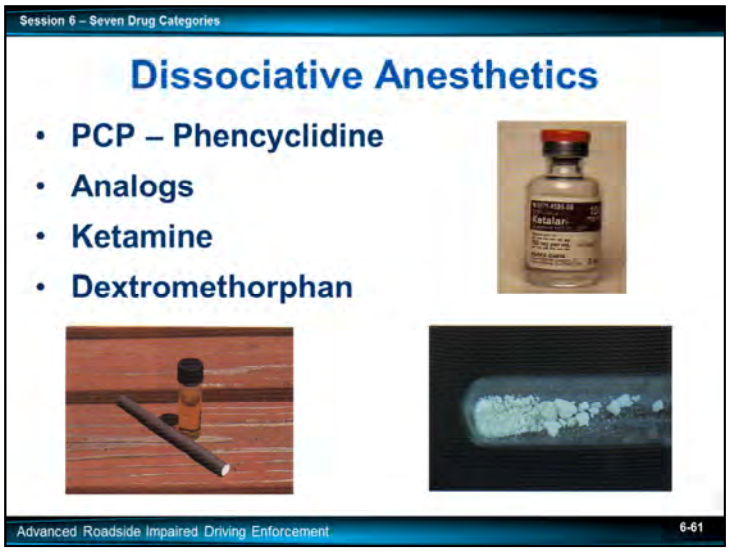
	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None	None				
VGN	Present	None	None				
LOC	Present	None	None				
Pupil Size	Normal *	Dilated	Dilated				

** Soma, Quaaludes and some Antidepressants usually Dilate Pupils*

Complete Matrix Chart for the Hallucinogen Category

Dissociative Anesthetics

Dissociative Anesthetics include drugs that inhibit pain by cutting off or disassociating the brain's perception of pain.



Phencyclidine, along with its analogs, forms a distinct category all by themselves.

The chemical name for PCP is Phenyl Cyclohexyl Piperidine.

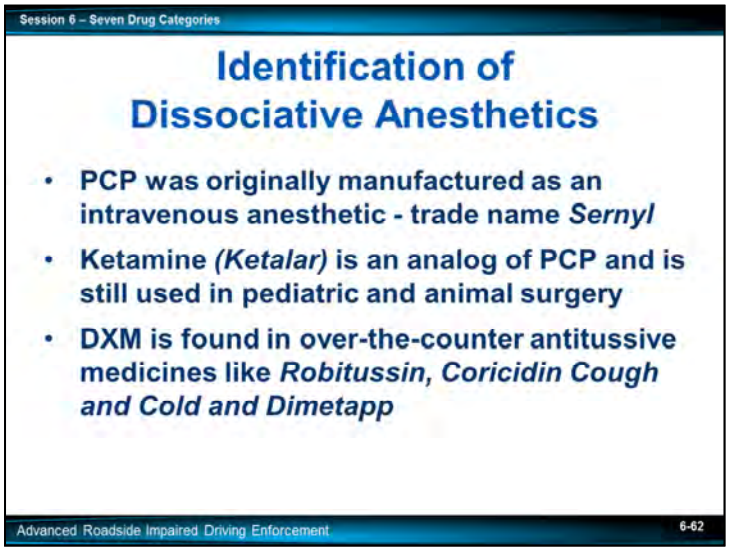
An analog of a drug is one with a similar chemical composition.

Analogs have slightly different chemical structures but produce the same effects.

Dissociative Anesthetics symptoms may be confused with individuals under the influence of Hallucinogens, Stimulants, and Depressants.
Give examples of the categories that mimic Dissociative Anesthetics.

If a thorough assessment is not performed, the examiner may jump to an incorrect conclusion.

- ***High temperature with Stimulants (sweating)***
- ***HGN with Depressants***
- ***Blank stare of Dissociative Anesthetics mimicking Hallucinogens***



Identification of Dissociative Anesthetics
PCP was originally manufactured as an intravenous anesthetic. It was marketed under the trade name of Sernyl.

Although the drug proved to be a very effective anesthetic, it was discontinued for human use in 1967 because of very undesirable side effects.

Ketamine (Ketalar) is an analog of Dissociative Anesthetics and is still used in pediatric and animal surgery.

DXM is found in over-the-counter antitussive medicines like Robitussin, Coricidin Cough and Cold and Dimetapp.

Methods and Signs of Ingestion

Dissociative Anesthetics ingestion:

- Oral
- Insufflation
- Transdermal
- Eye Drops
- Smoked
- Injection

Most common form of ingestion is smoking in cigars, cigarettes, and marijuana.

Officer safety is important. Numerous incidents have been documented where officers have been exposed to the side effects of the drug.

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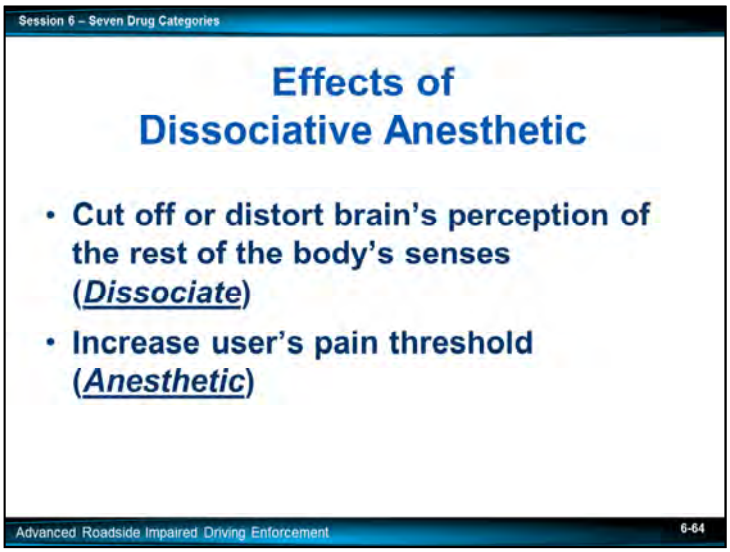
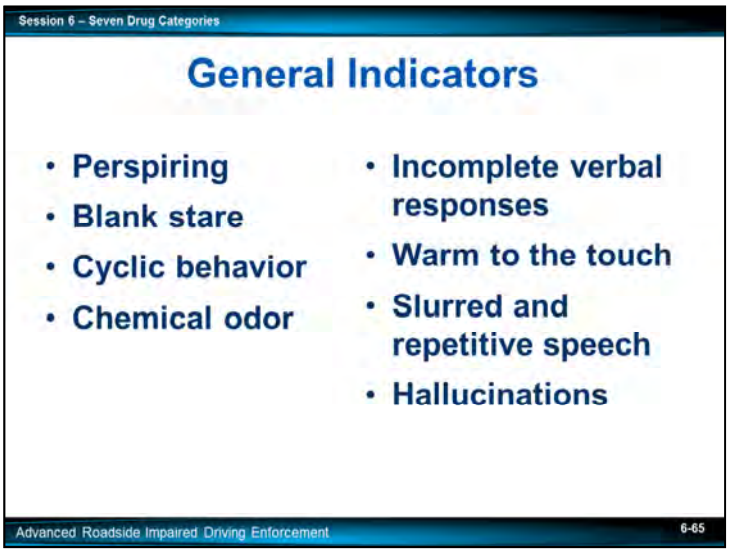


Effects of Dissociative Anesthetic

The predominant effect of Dissociative Anesthetics is the ability to cut off the brain's perception of the rest of the body's senses. This sense is so strong many users feel their head is actually separated from their body.

Another, more dangerous, effect of PCP is the user's increased pain threshold. The user is impervious to the same pain sensations that would typically render an impaired person incapacitated.

One should be extremely cautious when dealing with an individual impaired by PCP.

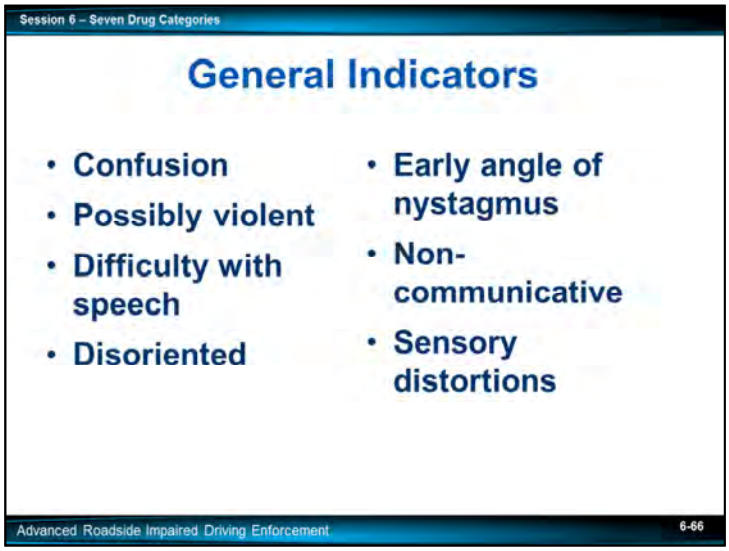


General Indicators

- Perspiring (PCP)
- Blank stare
- Cyclic behavior (PCP)

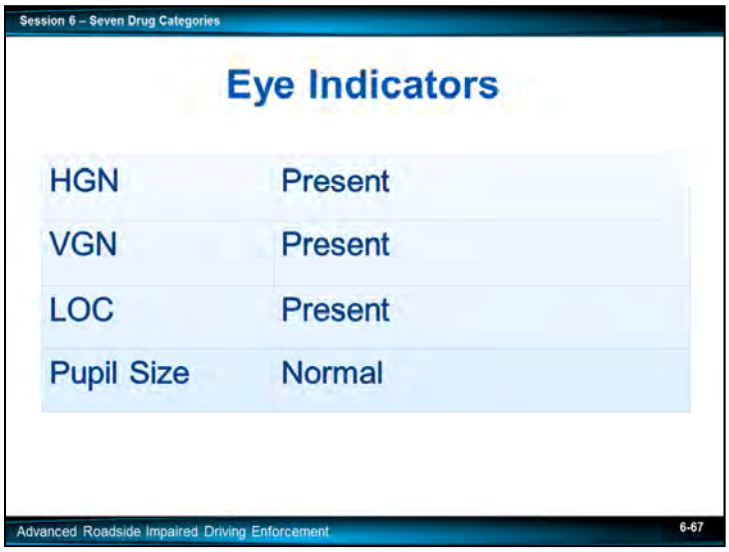
Inform the participants PCP abusers may display "Cyclic behaviors," which is a drug-induced cycle of behaviors, varying between passive/calm, irritated/agitated, and aggressive/combative that tend to increase and decrease cyclically.

- Chemical odor (PCP)
- Incomplete verbal responses
- Warm to the touch (PCP)
- Slurred and repetitive speech
- Hallucinations

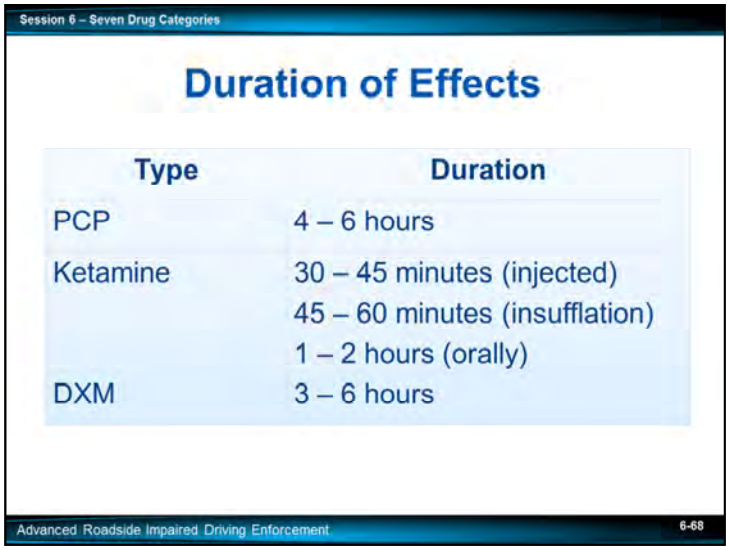


- Confusion
- Possibly violent
- Difficulty with speech
- Disoriented
- Early angle of nystagmus
- Non-communicative
- Sensory distortions

Subjects impaired by Dissociative Anesthetics typically have difficulty estimating time.



Eye Indicators
HGN – Present
VGN – Present
LOC – Present
Pupil Size – Normal
Point out "normal" refers to pupils within the DEC Program average ranges.

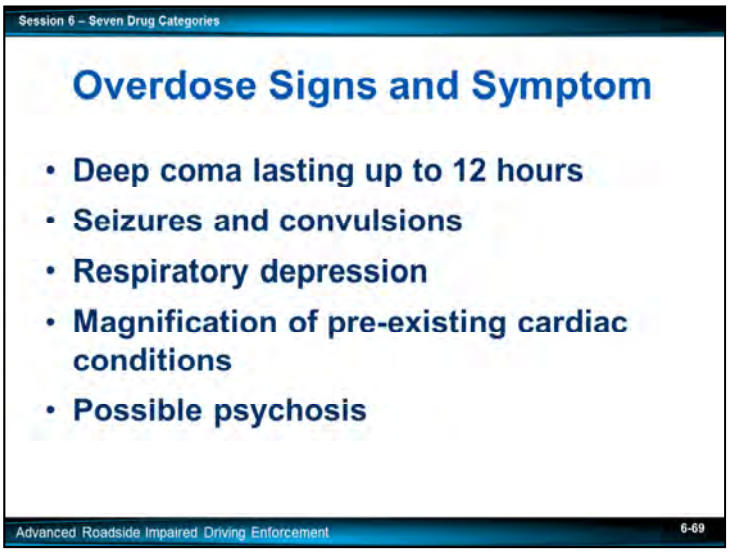


Duration of Effects

PCP	4-6 hours
Ketamine	30-45 minutes (injected)
	45-60 minutes (Insufflation)
	1-2 hours (orally)
DXM	3-6 hours

The duration of general effects may vary according to dose and whether the drug is injected, snorted, smoked, or taken orally.

There is often a prolonged recovery period following the dissipation of the general effects.



In addition to the bizarre, violent, and self-destructive behavior discussed previously, persons severely intoxicated by Dissociative Anesthetics may exhibit definite and extreme symptoms signifying a medically dangerous condition.

- A deep coma, lasting up to 12 hours
- Seizures and convulsions
- A danger associated with severe Dissociative Anesthetics intoxication is the person may die due to respiratory depression
- There is also some evidence Dissociative Anesthetics may trigger a heart attack if the user had some pre-existing condition disposing him or her to possible cardiac problems
- Eyes generally open with a blank stare

There is also some evidence prolonged use of Dissociative Anesthetics can lead to psychosis, which can be permanent.
Solicit students' questions and comments concerning signs and symptoms of Dissociative Anesthetic overdose.

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Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None	None	Present			
VGN	Present	None	None	Present			
LOC	Present	None	None	Present			
Pupil Size	Normal*	Dilated	Dilated	Normal			

**Soma, Quaaludes, and some Antidepressants usually dilate pupils*

Complete Matrix Chart for the Dissociative Anesthetic Category

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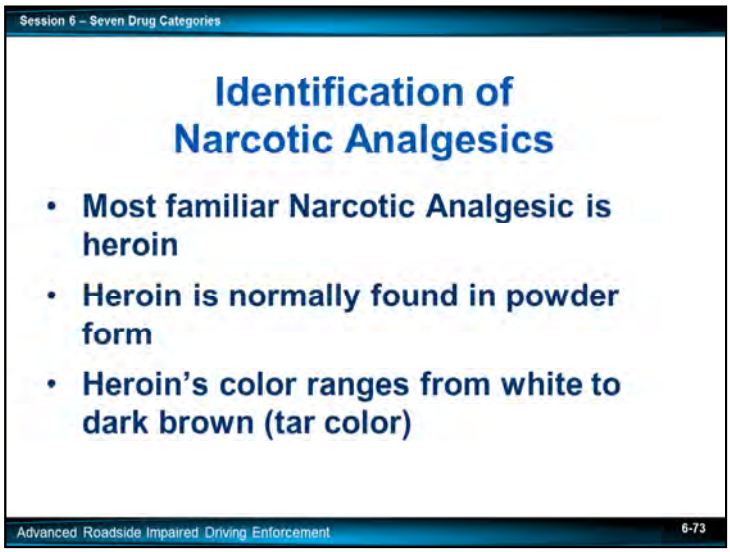
Narcotic Analgesics

Narcotic Analgesics
Drugs in the Narcotic Analgesics category relieve pain.

They induce euphoria, alter moods, and produce sedation.

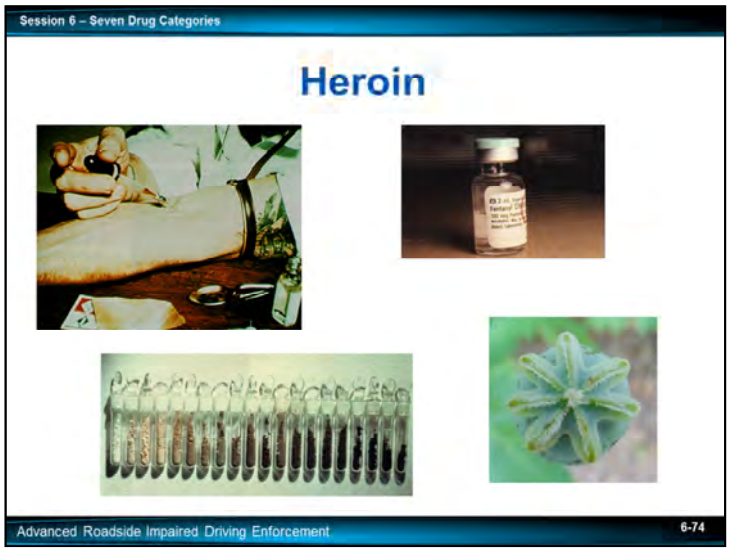
Narcotic Analgesics are also included in the opiate family and are legal prescription medications as well as illegal drugs.

This category is known for its physically addicting properties and severe withdrawal symptoms.



Identification of Narcotic Analgesics
The most familiar Narcotic Analgesic is heroin.

Depending on the purity, heroin may be a white powder to a dark brown powder/tar color.



Heroin
Heroin is the most commonly abused illicit Narcotic Analgesic.
Point out the chemical or technical name for heroin is "Diacetyl Morphine."
Write "Diacetyl Morphine" on the dry erase board or easel/easel pad.

Derived from Morphine in 1874.

Heroin was first thought to be a non-addictive substitute for Morphine.

It was approved for general use by the American Medical Association in 1906.

By the 1920's, it was evident heroin was much more addictive than Morphine.

Importation and manufacture of heroin have been illegal in this country since 1925.

Heroin is a Schedule I drug, which means it has no legitimate medical uses in the United States.

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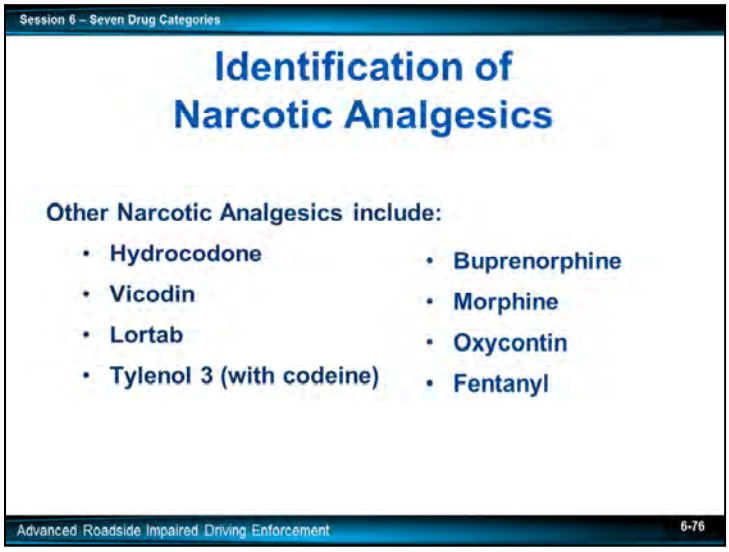
Session 6 – Seven Drug Categories
Heroin
Advanced Roadside Impaired Driving Enforcement
6-75



Other Narcotic Analgesics include:

- Hydrocodone
- Vicodin
- Lortab
- Tylenol 3 (with codeine)
- Buprenorphine
- Morphine
- Oxycontin
- Fentanyl

Typically, these are prescription drugs and found in pill form. The shape, size, or scoring can depend on the manufacturer or milligram amount. In most cases, Narcotic Analgesics are obtained in local pharmacies and sold locally. These drugs are inexpensive and frequently prescribed, but nevertheless remain a controlled substance.

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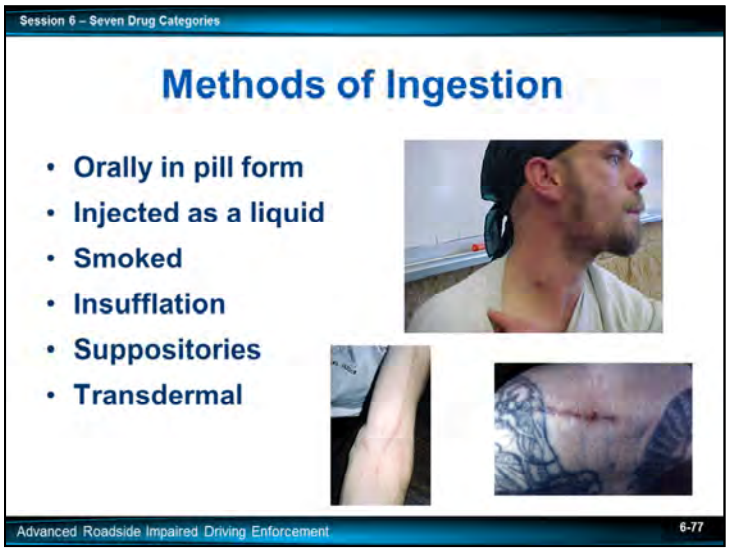


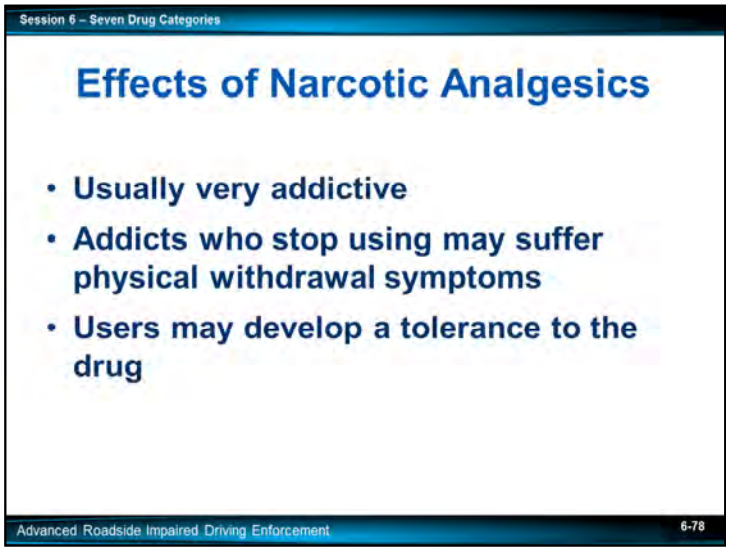
Methods of Ingestion

Methods of ingestion vary, depending on the drug used. They may be taken:

- Orally in pill form
- Injected as a liquid
- Smoked
- Insufflation
- Suppositories
- Transdermal

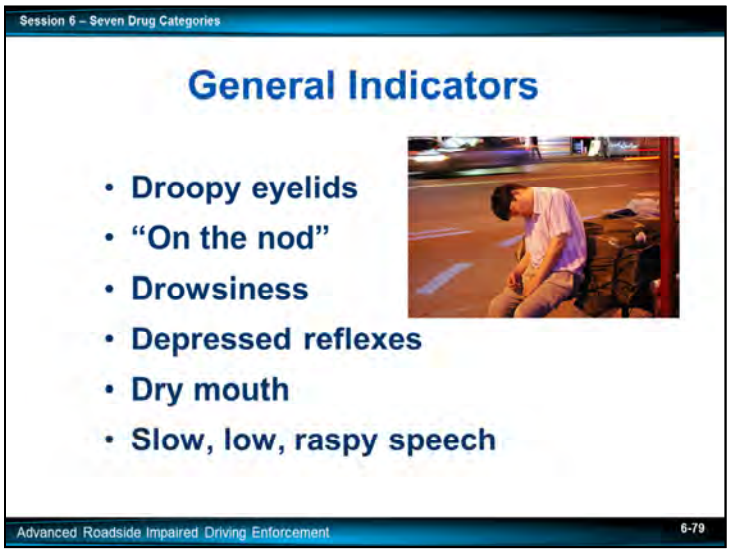
Most of the prescribed pain relievers are found in the pill form, which will be taken orally. If taken orally, signs of ingestion may be limited.

Heroin that is more pure may be insufflated, while heroin that is less pure is typically injected.



Effects of Narcotic Analgesics

- Usually very addictive
- This means the person must receive a dose of the drug at regular intervals or physical withdrawal may result
- Narcotic Analgesics also enable the person to develop a tolerance to the drug
- Each time the drug is taken, a larger dose is required to achieve the same feeling

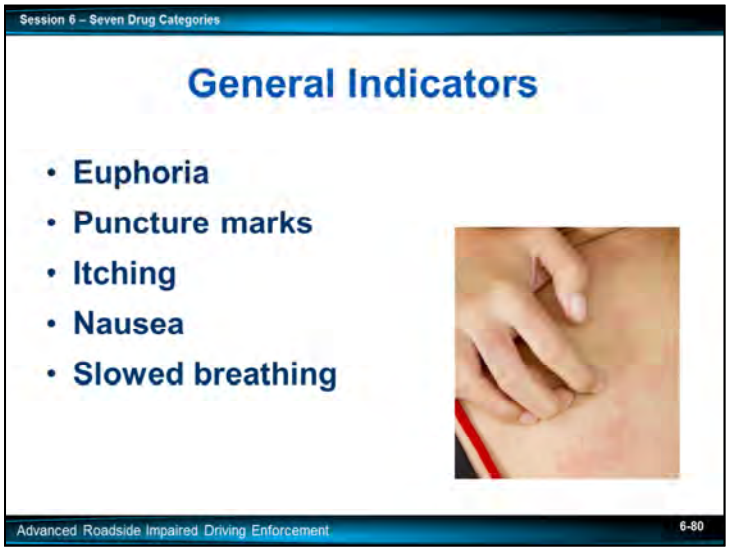


General Indicators

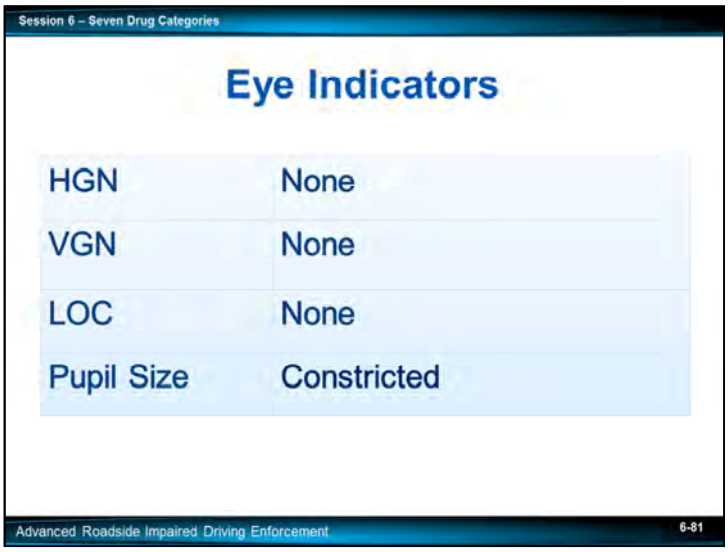
- Droopy eyelids
- "On the nod" (Semiconscious type state of deep relaxation)

Explain "on the nod" and how it differs from someone "crashing" after high doses of CNS Stimulants.

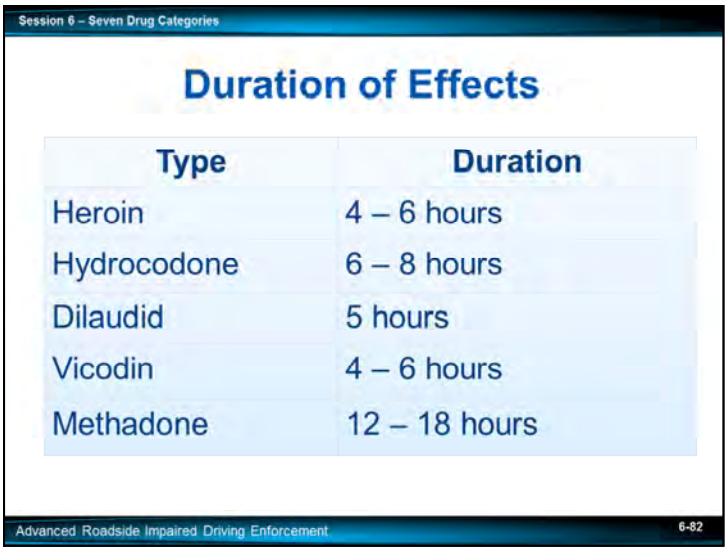
- Drowsiness
- Depressed reflexes
- Dry mouth
- Slow, low, raspy speech



- Euphoria
- Puncture marks
- Itching (Face, arms or body)
- Nausea
- Slowed breathing



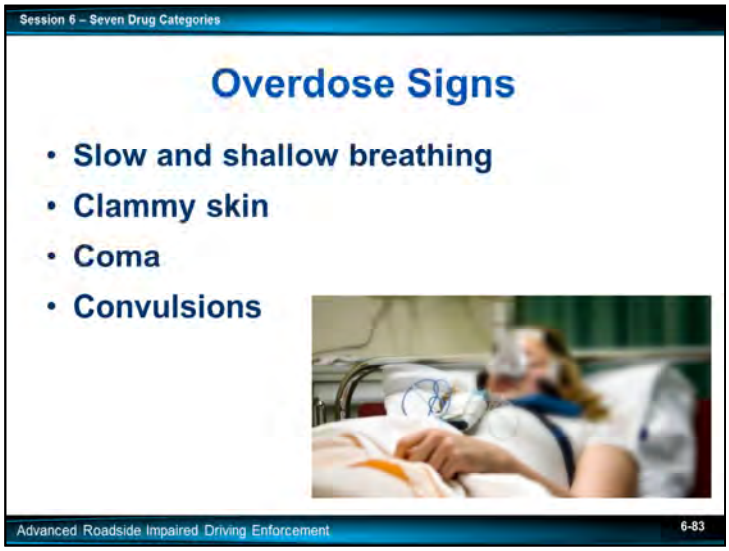
Eye Indicators
HGN – None
VGN – None
LOC – None
Pupil Size – Constricted



Duration of Effects

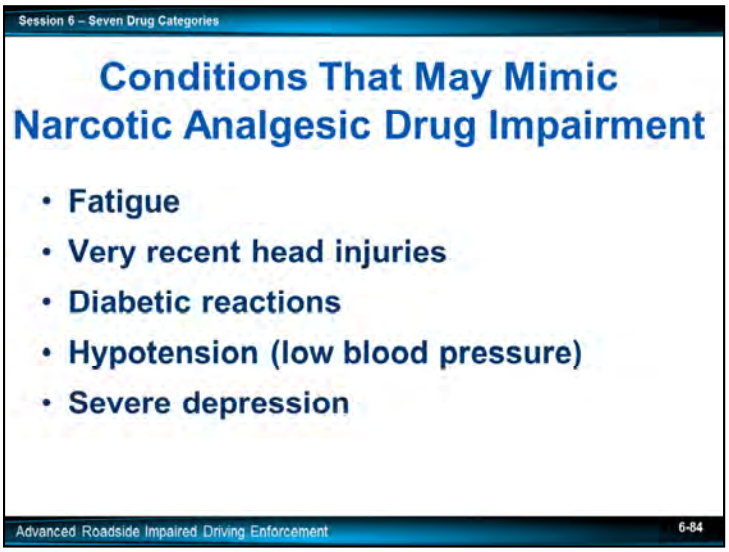
The duration of Narcotic Analgesics can vary from one type to another. Dosage amounts, age, weight, tolerance, and other variables may dictate the length of actual impairment.

Heroin	4-6 hours
Hydrocodone	6-8 hours
Dilaudid	5 hours
Vicodin	4-6 hours
Methadone	12-18 hours



Overdose signs and symptoms of a Narcotic Analgesic may include, but are not limited to:

- Slow and shallow breathing
- Clammy skin
- Coma
- Convulsions



There are several conditions that may mimic impairment by a Narcotic Analgesic. These may be, but are not limited to:

- Fatigue
- Very recent head injuries
- Diabetic reactions
- Hypotension (low blood pressure)
- Severe depression

Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None	None	Present	None		
VGN	Present	None	None	Present	None		
LOC	Present	None	None	Present	None		
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted		

** Soma, Quaaludes, and some Antidepressants usually dilate pupils*

Complete Matrix Chart for the Narcotic Analgesics Category

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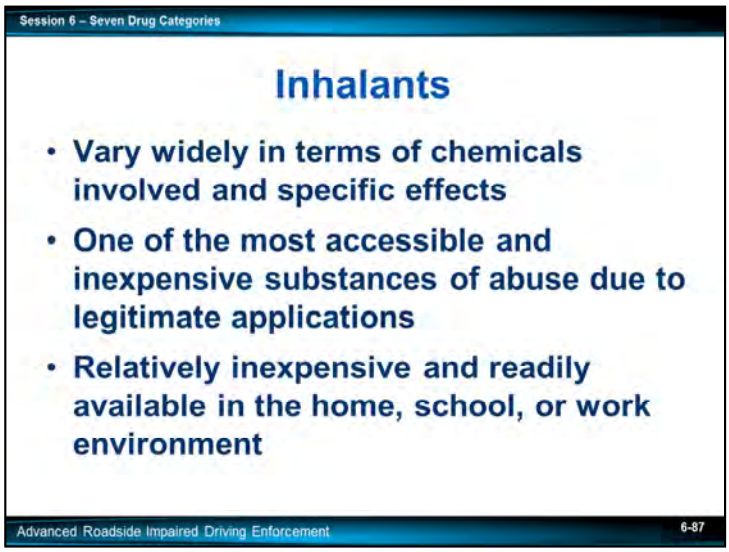
Inhalants

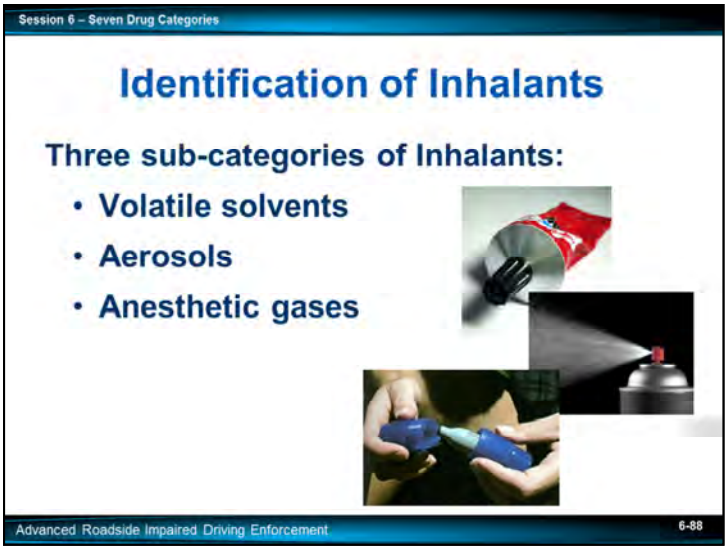
Inhalants are breathable chemicals that produce mind altering results.



Inhalants vary widely in terms of the chemicals involved and the specific effects they produce.

Inhalants are one of the most accessible and inexpensive substances of abuse due to their legitimate applications.

They are relatively inexpensive as well as readily available in the home, school, or work environment.



There are three major categories of Inhalant abuse:

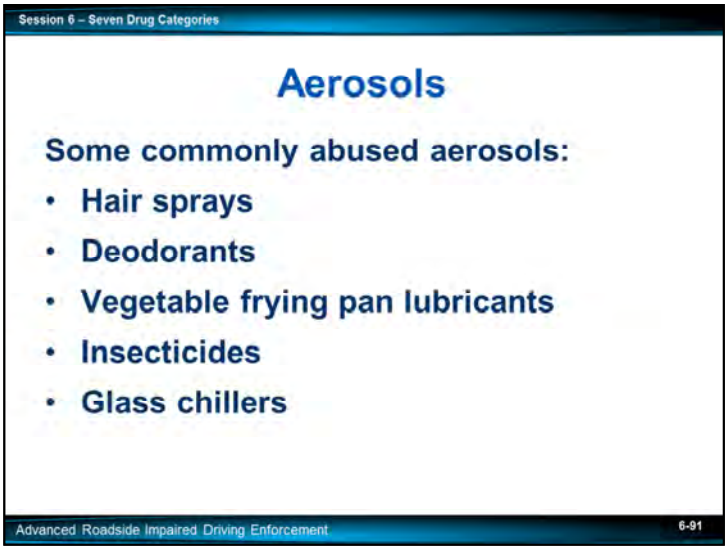
- Volatile solvents
- Aerosols
- Anesthetic gases

Volatile solvents include a large number of readily available substances, none of which are intended by their manufactures to be used as drugs. Some of these include:

- Gasoline
- Paint thinners
- Fingernail polish remover (contains Acetone)
- Dry cleaning fluid
- Liquid correction fluid
- Paint (particularly oil or solvent based)
- Various glues (model airplane glue)

Aerosols are chemicals discharged from pressurized containers by propellants or compressed gas. These are usually inhaled from a secondary source such as a:

- Soaked rag
- Paper bag
- Plastic bag



Some of the commonly abused aerosols include:

- Hair sprays
- Deodorants
- Vegetable frying pan lubricants
- Insecticides
- Glass Chillers

Anesthetic Gases are the least abused of the three subcategories of inhalants mainly because of the expense and unavailability.

Anesthetic gases are drugs which allow the user to disassociate pain and are generally used for medical procedures involving surgery.

These can be inhaled from the source directly.

Some of the anesthetic gases include:

- Ether
- Amyl nitrite
- Butyl nitrite
- Isobutyl nitrite
- Nitrous oxide
    - Whipped cream gas

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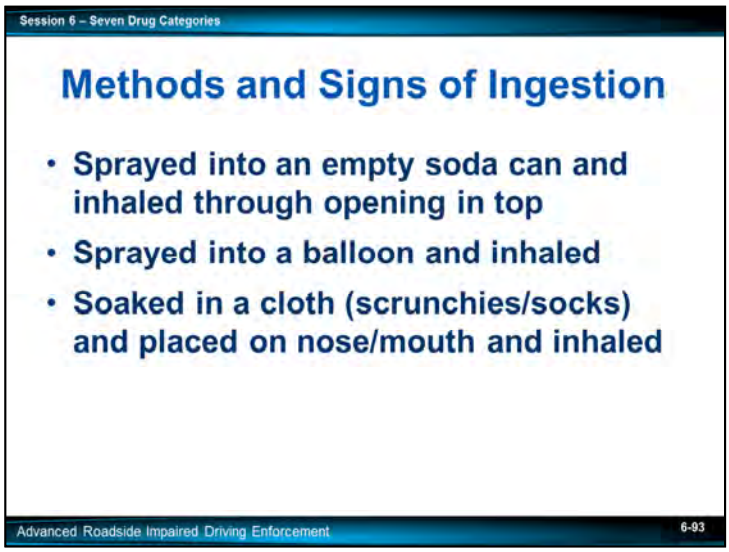
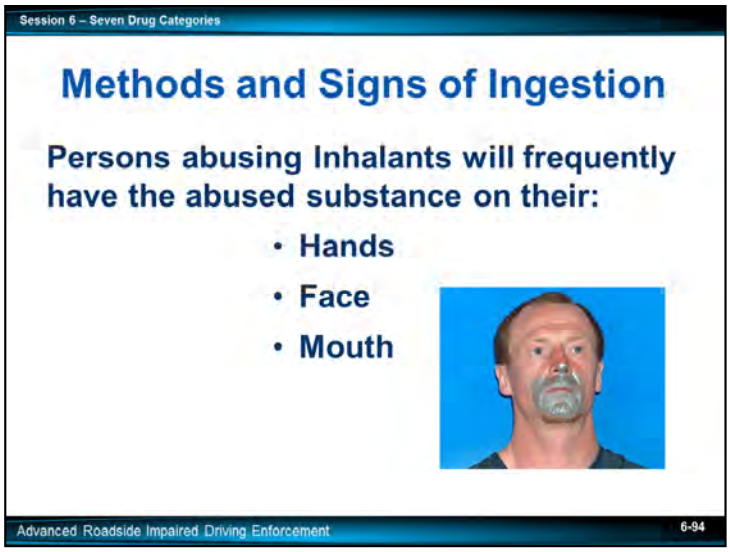


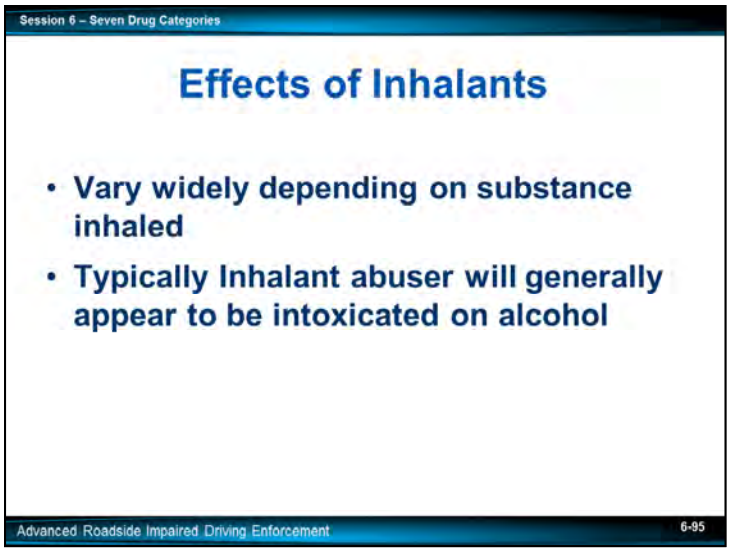
Spray paint and other Inhalants:

- Can be sprayed into an empty soda can and inhaled through the opening in the top
- Sprayed into a balloon and inhaled
- Soaked in a cloth (scrunchies/socks) and placed on the nose/mouth and inhaled



Persons abusing Inhalants will frequently have the abused substance on their:

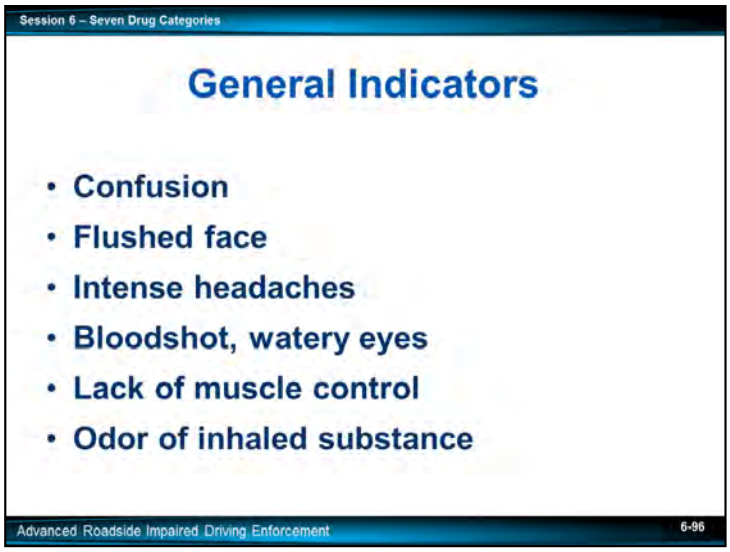
- Hands
- Face
- Mouth



Effects of Inhalants
The effects of Inhalants will vary widely depending on the substance inhaled.

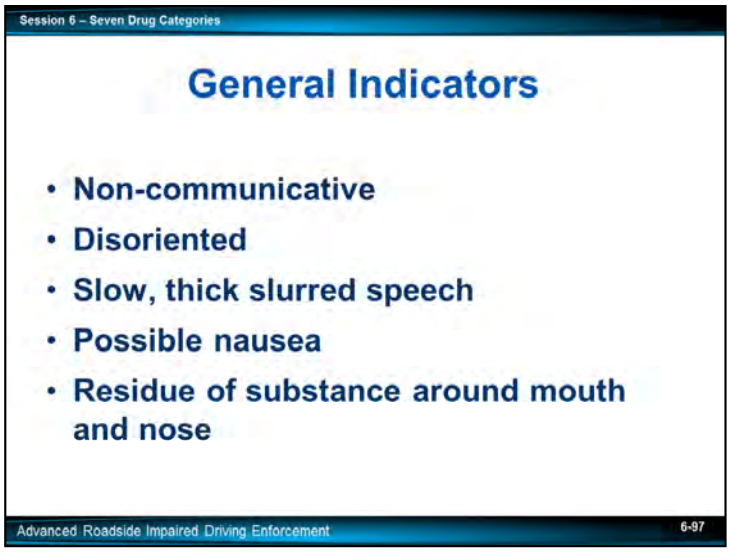
Typically the Inhalant abuser will generally appear to be intoxicated on alcohol.

Inhalant abusers can be detected and distinguished from other drug abusers because they will usually carry a chemical odor of the inhaled substance about their breath and person.



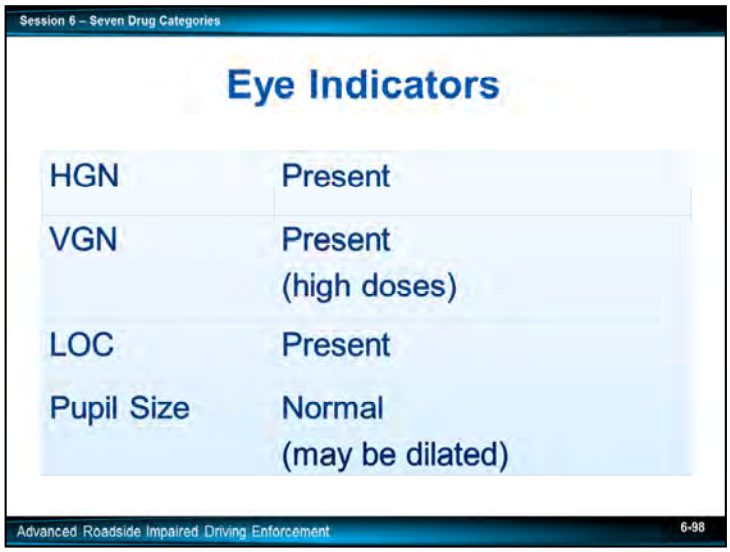
General Indicators

- Confusion
- Flushed face
- Intense headaches
- Bloodshot, watery eyes
- Lack of muscle control
- Odor of inhaled substance

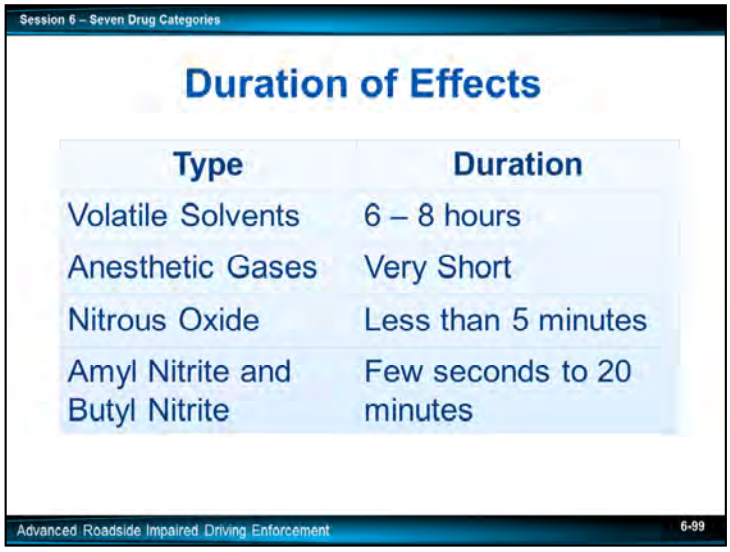


- Non-communicative
- Disoriented
- Slow, thick slurred speech
- Possible nausea
- Residue of substance around mouth and nose

Because Inhalants typically cause the user to be confused and disoriented, a subject impaired by an Inhalant will have difficulty estimating time.



Eye Indicators
HGN – Present
VGN – Present (High Doses)
LOC – Present
Pupil Size – Normal (May be Dilated)



Duration of Effects

Volatile Solvents	6-8 hours
Anesthetic Gases	Very Short
Nitrous Oxide	Less than 5 Minutes
Amyl Nitrite and Butyl Nitrite	Few seconds to 20 minutes

Overdose Signs and Symptoms

The primary overdose sign for an Inhalant is coma or "sudden sniffing death." This is where the individual stops breathing from inhaling a substance. This may occur during the first experience with an Inhalant.

Conditions That May Mimic Drug Impairment

There are two conditions that may mimic impairment by an Inhalant. These may be, but are not limited to:

- Severe head injuries
- Inner ear disorders/Equilibrium

Drug Matrix

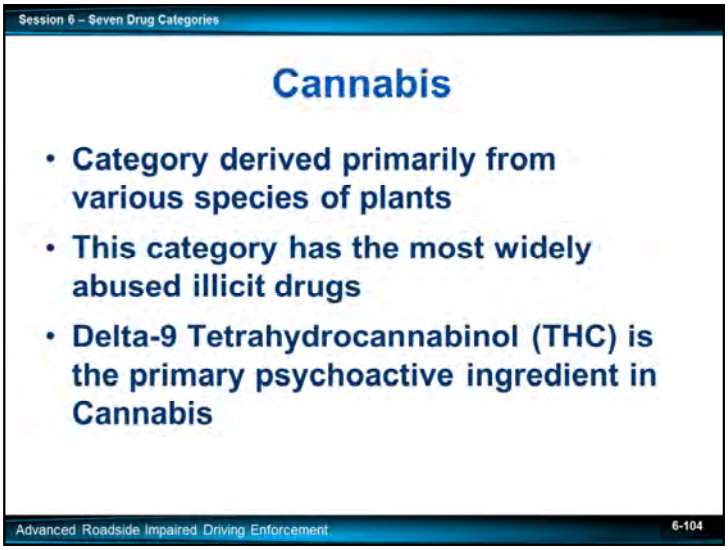
	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	
VGN	Present	None	None	Present	None	Present	
LOC	Present	None	None	Present	None	Present	
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted	Normal**	

**Soma, Quaaludes, and some Antidepressants usually dilate pupils*
***Normal (average ranges) but may be dilated*

Complete the Matrix Chart for the Inhalant Category

Session 6 – Seven Drug Categories
Seven Drug Categories
Cannabis
Advanced Roadside Impaired Driving Enforcement
6-103

Cannabis



Cannabis is a category of drugs derived primarily from various species of plants, such as Cannabis Sativa and Cannabis Indica.
Indica plants grow short and wide, while Sativa plants grow tall and thin.

The drugs in this category are the most widely abused illicit drugs.

They can be extremely impairing even though they are often believed to be fairly benign.

The primary psychoactive ingredient in Cannabis is:
- Delta-9 Tetrahydrocannabinol (THC)

THC is found primarily in the leaves and flower of the marijuana plant.

Different varieties of Cannabis contain various concentrations of THC.

Marijuana is usually found as green leaves.

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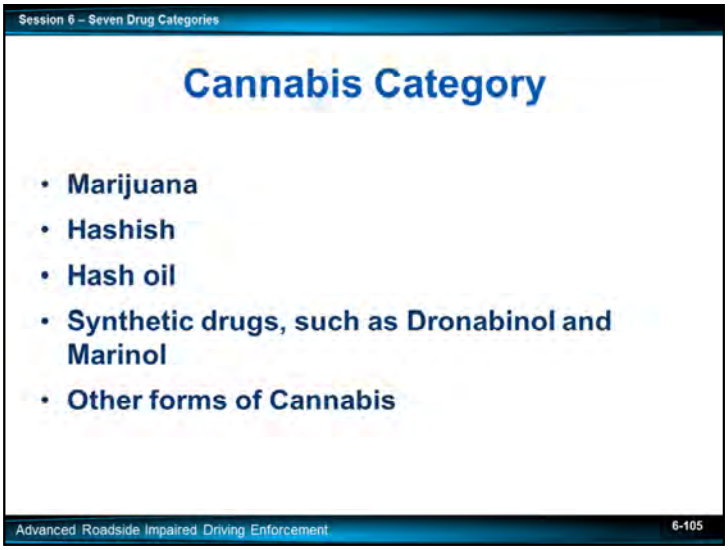
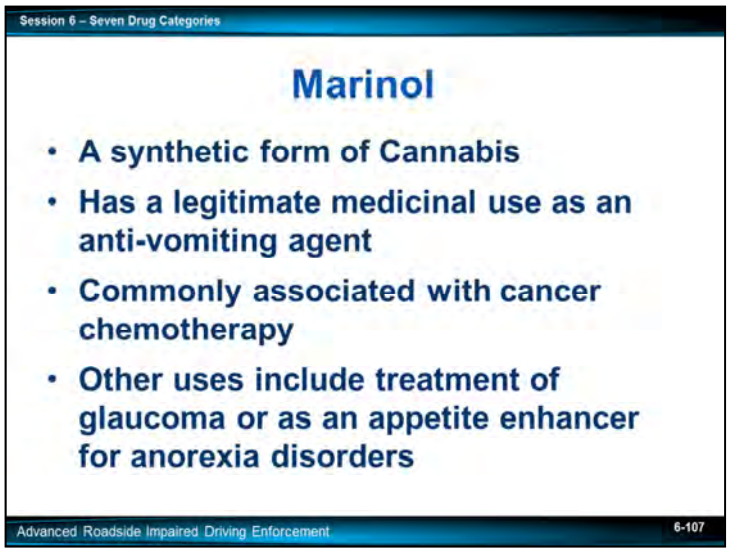


The Cannabis category includes:

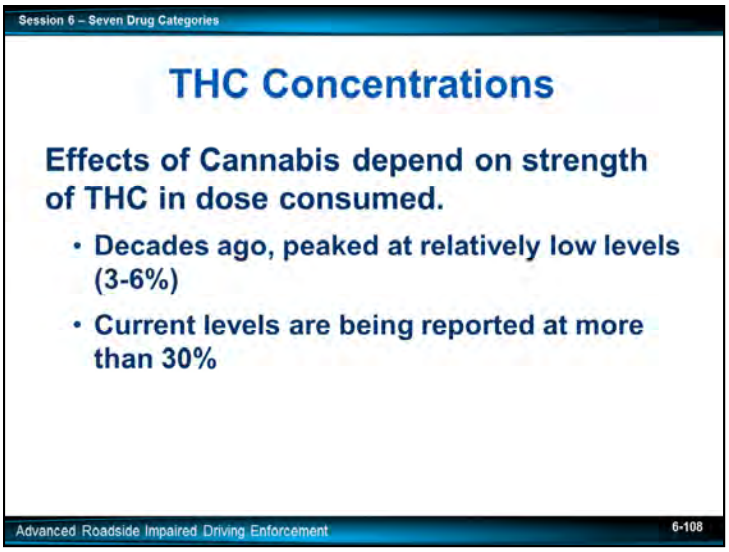
- Marijuana
- Hashish
- Hash oil
- Synthetic drugs, such as Dronabinol and Marinol
- Other forms of Cannabis

Marijuana is the most common and well-known of the drugs in this category, but there are other forms as well.



Marinol, a synthetic form of Cannabis, has a legitimate medicinal use as an anti-vomiting agent, commonly associated with cancer chemotherapy.

Other forms are used for glaucoma patients or as an appetite enhancer for anorexia disorders.



THC Concentrations
The effects of Cannabis depend on the strength of the THC in the dose consumed.

THC concentrations decades ago, peaked at relatively low levels (3-6%), however, current levels are being reported at more than 30%.

The increase in THC levels is due to hybridization and better cultivation techniques used by producers.

There are several chemicals in marijuana smoke. Some of these chemicals are water soluble (meaning they combine with the water) and some are not (THC).
THC bonds to fat molecules and may be in the urine toxicology reports for up to 30 days. (Explain)

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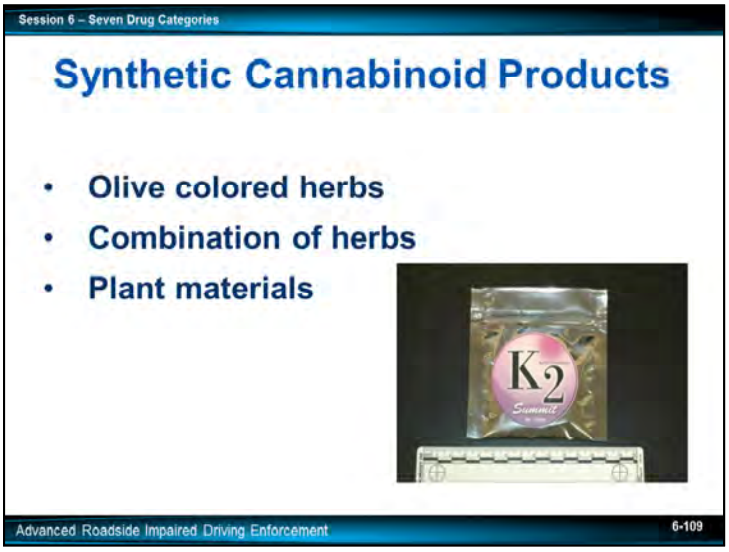
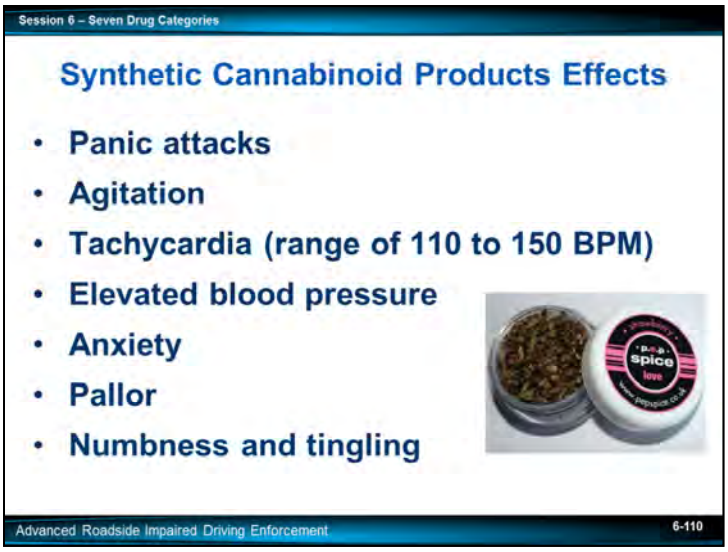


Synthetic Cannabinoid Products

Synthetic cannabinoid products typically include olive colored herbs, combination of herbs, or plant materials enhanced with a THC synthetic analog. When smoked, synthetic cannabinoid products can produce stimulant and/or hallucinogenic effects.

Point out there are literally hundreds of different chemical synthetic cannabinoids and hundreds of names for the synthetic cannabinoids.



Synthetic Cannabinoid Products Effects
They have many adverse effects that include:

- Panic attacks
- Agitation
- Tachycardia (range of 110 to 150 BPM)
- Elevated blood pressure
- Anxiety
- Pallor
- Numbness and tingling

Users report effects lasting between 30 minutes and 2 hours.

Common brand names for synthetic cannabinoids include K2, Spice, Spice Gold, Spice Diamond, Yucatan fire, Solar Flare, K2 Summit, Genie, PEP Spice, and Fire n Ice to name a few.

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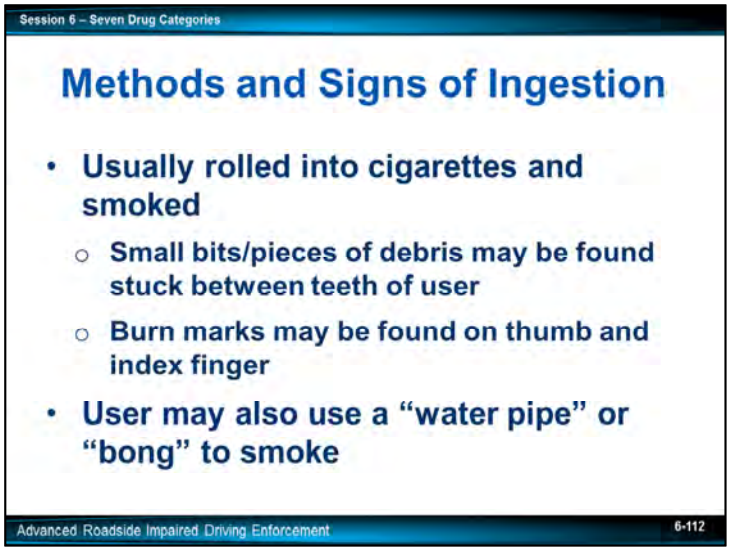
Sources indicate "waxy marijuana or wax marijuana is the purest form of cannabis. It contains anywhere from 82-99% THC making it several times more potent than a marijuana bud on a cannabis plant which usually contains 5-28% THC. One hit of wax is supposedly equal to 1-2 full cannabis joints and is reported as being more clear and longer lasting than average marijuana. Wax marijuana is also a medical marijuana product. Typical wax marijuana is golden in color and crumbly; though texture may vary based on type."
Source: Intelligence Bulletin, Hampton Police Division Crime and Intelligence Analysis Unit, Subject: Waxy Marijuana, Bulletin: #2013-10, Date: 03/20/2013
Mention wax is also known as Butane Hash Oil and/or Dabs.



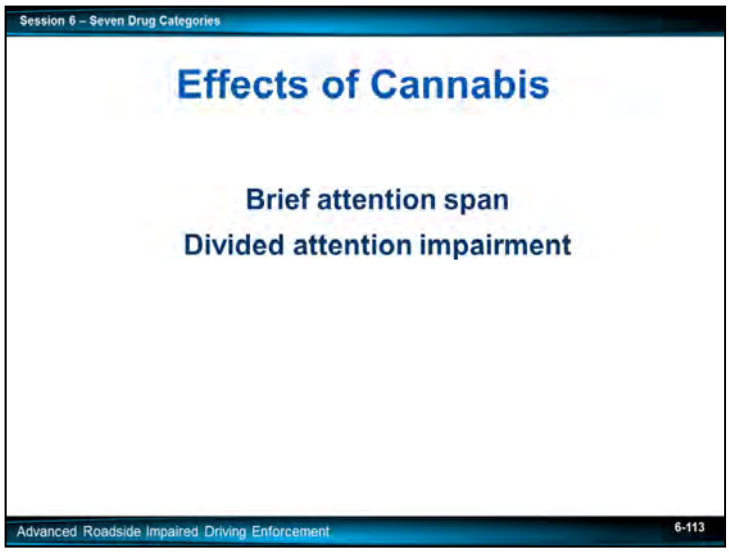
Methods and Signs of Ingestions
Marijuana is usually rolled into cigarettes and smoked.

Since these cigarettes lack a filter, small bits and pieces of marijuana debris may be found stuck between the teeth of the user.

Burn marks may be found on the thumb and index finger.

The user may also use a "water pipe" or "bong" to smoke marijuana.

- By passing the marijuana smoke through the water, the smoke is not only more pure but also cooler



Effects of Cannabis

People under the influence of Cannabis may not to be able to:

- Pay attention
- May have a very brief attention span

The subjective effects can vary considerably, but they will exhibit divided attention impairment.

The consequences of this in the classroom may be obvious, but the consequences when driving can be fatal.

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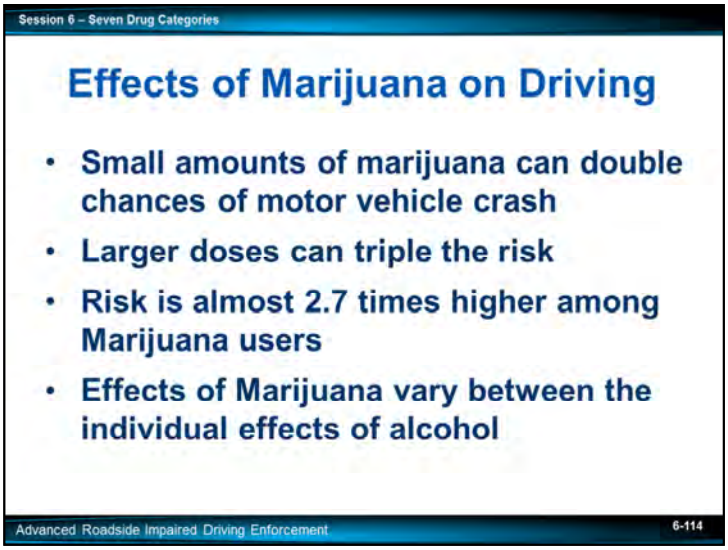
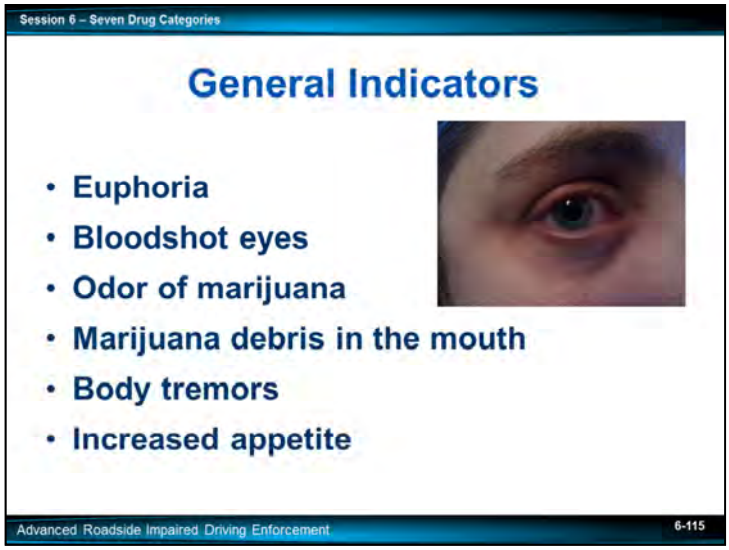


According to a study by the British Medical Journal (2005), even small amounts of marijuana can double the chances of a driver's involvement in a motor vehicle crash and larger doses can more than triple the risk.

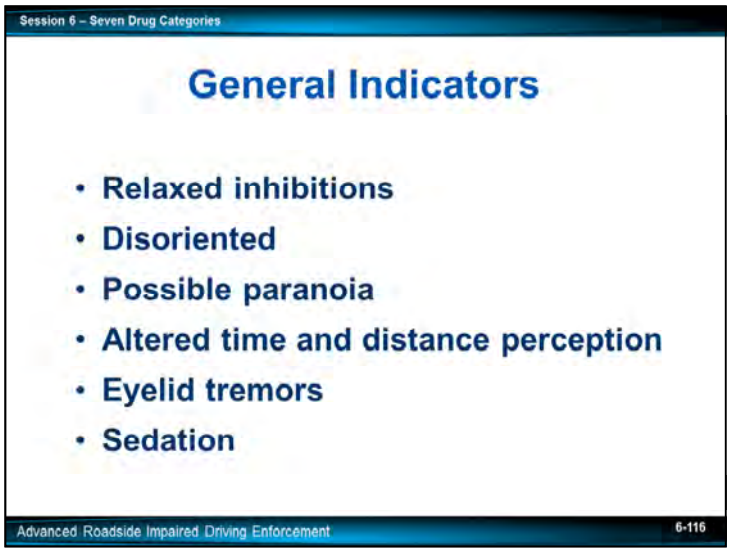
According to the Columbia University School of Public Health, the risk of an automobile crash is almost 2.7 times higher among marijuana users than non-users. The more marijuana smoked in terms of frequency and potency, the greater likelihood of a crash.

A study published by the National Institute of Health Public Access (2009) showed the effects of marijuana vary more between the individual than the effects of alcohol. The study also revealed laboratory tests and driving studies show, "Cannabis may acutely impair several driving-related skills in a dose-related fashion but the effects between individuals varies more than they do with alcohol because of tolerance, the difference in smoking techniques and different absorption of THC."



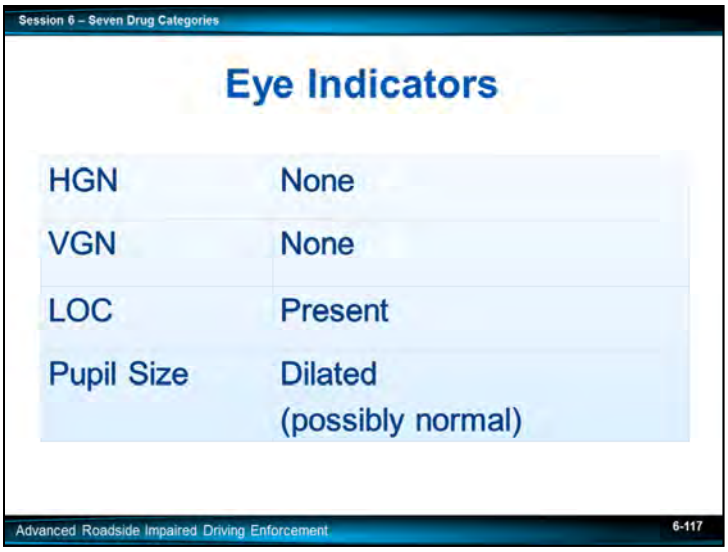
General Indicators

- Euphoria
- Bloodshot eyes
- Odor of marijuana
- Marijuana debris in the mouth
- Body tremors
- Increased appetite

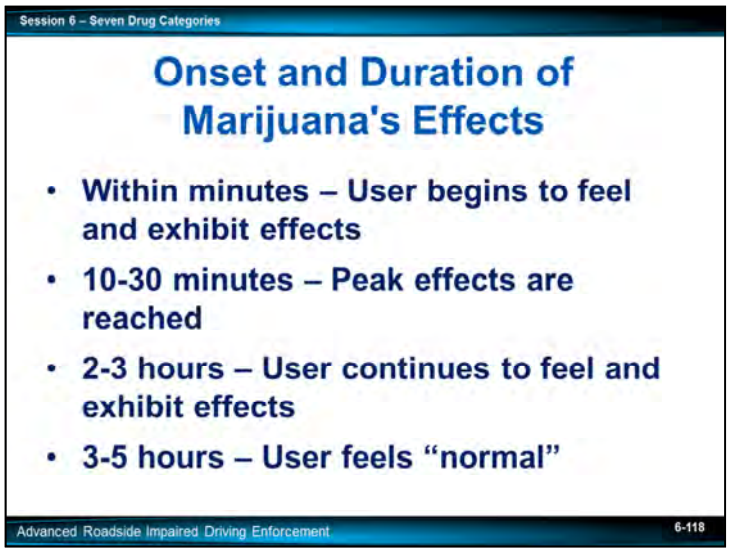


- Relaxed inhibitions
- Disoriented
- Possible paranoia
- Altered time and distance perception
- Eyelid tremors
- Sedation

Cannabis affects the user's ability to estimate time and distance.



Eye Indicators
HGN – None
VGN – None
LOC – Present
Pupil Size – Dilated (Possibly normal)



Duration of Effects
Effects from smoking Cannabis are felt within minutes and reach their peak in 10-30 minutes. Typical marijuana smokers experience a high that lasts approximately two hours. Most behavioral and physiological effects return to baseline within 3-5 hours after drug use, although some residual effects in specific behaviors can last up to 24 hours.
Source: Drugs and Human Fact Sheets, April 2014, DOT HS 809 725

- A 1985 Stanford University study showed pilots had difficulty in holding patterns and in lining up with runways for up to 24 hours after using Marijuana

Depending on the amount smoked and on the concentration of THC in the Marijuana, the person will continue to feel and exhibit the effects for 2–3 hours.

- In 1990, a second Stanford University study showed
  - Marijuana impaired performance at .25, 4, 8, and 24 hours after smoking.
  - While seven of the nine pilots showed some degree of impairment at 24 hours after smoking Cannabis, only one reported any awareness of the drug's effects

Generally, the person will feel "normal" within 3–5 hours after smoking Marijuana.

- The user may be impaired long after the euphoric feelings have ceased

Solicit participants' comments and questions concerning onset and duration factors.
Evidence of marijuana use may be present in blood/urine tests for extended periods after use.

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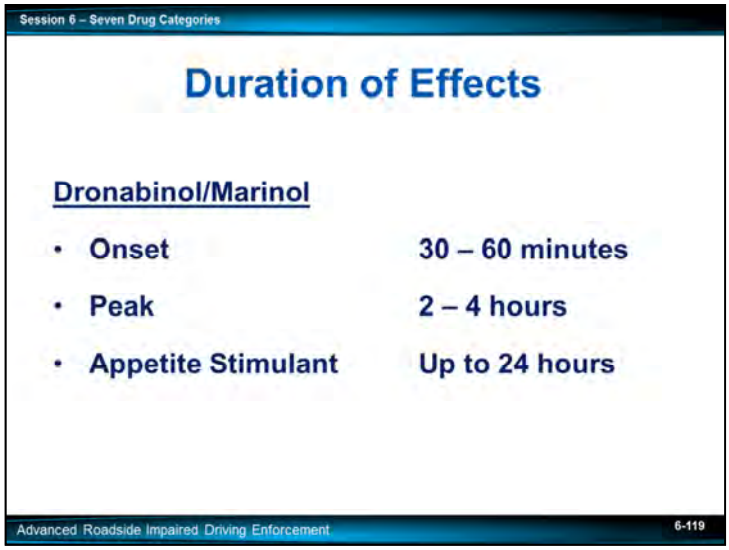

Dronabinol has an onset of 30 minutes to 1 hour with peak effects occurring between 2 and 4 hours. It can stimulate appetite for up to 24 hours. **(Depends on substance consumed)**

Duration of Effects

Other Forms of Cannabis

• Onset	Immediate
• Peak	Varies*
• Duration	Varies*

Overdose signs and symptoms of Cannabis may include, but are not limited to:

- Paranoia
- Fatigue

Generally speaking, Cannabis impairment will not be confused with any other medical condition as noted in the other drug categories.

However, a person diagnosed with an attention deficit disorder may mimic a Cannabis user's inability or unwillingness to pay attention.

Session 6 – Seven Drug Categories

Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted	Normal**	Dilated***

**Soma, Quaaludes, and some Antidepressants usually dilate pupils*
***Normal (average range) but may be dilated*
****Dilated, may be normal (average range)*

Advanced Roadside Impaired Driving Enforcement 6-122

Complete the Matrix Chart for the Cannabis Category
Go over the completed ARIDE drug matrix with the participants. Ensure the participants have completed their matrix and understand the indicators for each drug category.
A completed matrix is at the end of this session and can be copied and distributed to the participants after discussion.
Remind participants their ARIDE matrix is not as detailed as the DRE drug matrix and should not be construed as such.

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B. <u>Officer Safety</u>

Police officers will, at times, encounter individuals with mental illness or intellectual/developmental disabilities. These individuals may exhibit signs and symptoms very similar to those of an individual impaired by drugs and/or alcohol. These individuals may also be experiencing coexisting conditions of mental illness and drug impairment. It is important for officers to make every effort to prevent violent interactions using an array of tools and resources necessary for positive, successful outcomes. Using a strategic approach to interactions with individuals with suspected mental health problems or intellectual/developmental disabilities can ensure office safety.

The International Association of Chiefs of Police (IACP) has a resource entitled, "Improving Officer Response to Persons with Mental Illness and Other Disabilities" that can be accessed at www.theiacp.org. Other recommended web sites and links for further information that may beneficial for DREs and other police officers include www.samhsa.gov, www.nami.org, www.citinterational.org, www.mentalhealthfirstaid.org/cs, www.ncmhr.org, or www.nasmhpd.org/index.aspx.

Discuss the importance of officer safety when dealing with drug-impaired subjects.

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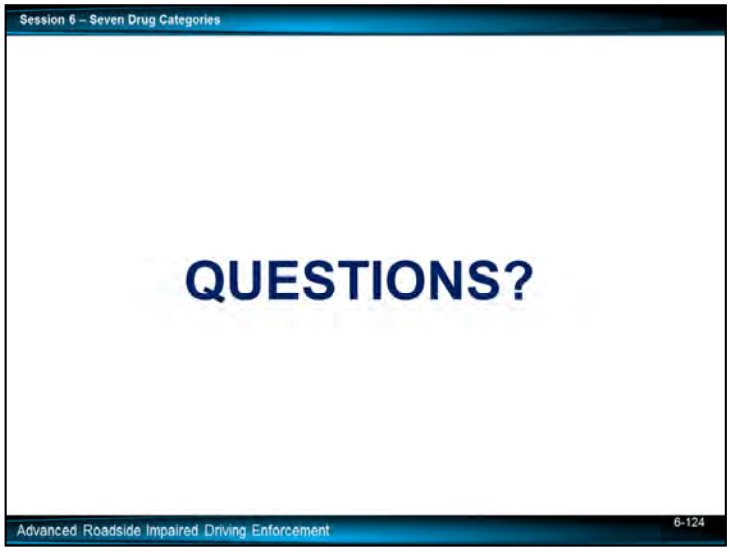
Session 6 – Seven Drug Categories
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
6-124

Drug Category Matrix

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

Drug Category Matrix

	CNS Depressant	CNS Stimulant	Hallucinogen	Dissociative Anesthetic	Narcotic Analgesic	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted	Normal**	Dilated***

***Soma, Quaaludes, and possibly some Antidepressants usually dilate pupils**
****Normal (average range) but may be dilated**
*****Dilated, may be normal (average range)**

ARIDE Drug Category Matrix

	Depressants	Stimulants	Hallucinogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present (High Dose)	None	None	Present	None	Present (High Dose)	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal*	Dilated	Dilated	Normal	Constricted	Normal**	Dilated***
General Indicators	Wide variety of emotional behavior Disoriented Sluggish Thick, slurred speech Drunk-like behavior Droopy eyelids **Relaxed inhibitions** Uncoordinated Drowsiness Unsteady/ staggering walk	Restlessness Body tremors Excited Euphoria Talkative Exaggerated reflexes Anxiety Grinding teeth (bruxism) Redness to nasal area Runny nose Increased alertness Dry mouth Irritability Eyelid and leg tremors Insomnia	Hallucinations Paranoia Nausea Perspiring Dazed appearance Flashbacks Body tremors Uncoordinated Poor perception of time and distance Disoriented Memory loss Synesthesia Difficulty with speech	Perspiring Blank stare Cyclic behavior Chemical odor Incomplete verbal responses Warm to the touch Slurred and repetitive speech Hallucinations Confusion Possibly violent Difficulty with speech Disoriented Early angle of nystagmus Non-communicative Sensory distortions	Droopy eyelids “On the Nod” Drowsiness Depressed reflexes Dry mouth Slow, low, raspy speech Euphoria Puncture marks Itching Nausea Slowed breathing	Confusion Flushed face Intense headaches Bloodshot/watery eyes Lack of muscle control Odor of inhaled substance Non-communicative Disoriented Slow, thick, slurred speech Possible nausea Residue of substance around mouth/nose	Euphoria Bloodshot eyes Odor of marijuana Marijuana debris in mouth Body tremors Increased appetite Relaxed inhibitions Disoriented Possible paranoia Altered time/ distance perception Eyelid tremors Sedation

*Soma, Quaaludes and certain antidepressants may dilate

**Normal but may be dilated

***Dilated by may be normal

Revised: 02/2018

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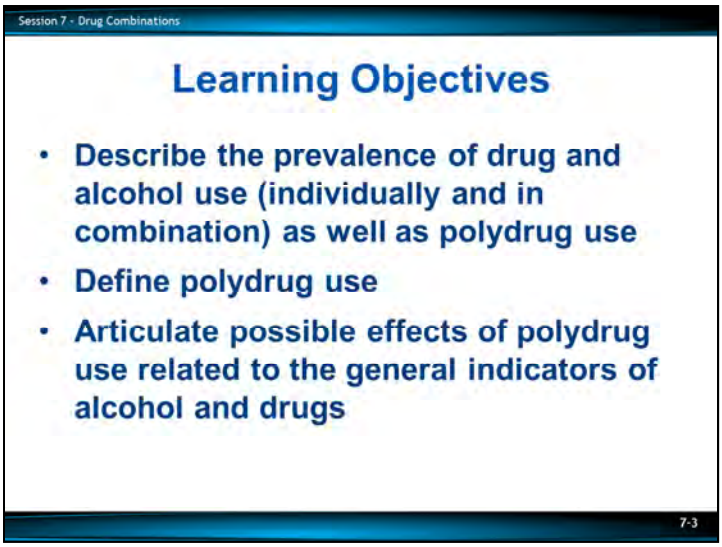
Advanced Roadside Impaired Driving Enforcement

Session 7 – The Effects of Drug Combinations

February 2018

Session 7 - Drug Combinations
30 Minutes
Session 7
The Effects of Drug Combinations
TSI
NHTSA
7-2



Briefly review the objectives, content, and activities of this Session.

Upon successful completion of this Session the participant will be able to:

- Describe the prevalence of drug and alcohol use (individually and in combination) as well as polydrug use
- Define polydrug use
- Articulate possible effects of polydrug use related to the general indicators of alcohol and drugs

CONTENT SEGMENTS

A. Prevalence of drug and alcohol use
B. Define polydrug use
C. Potential effects of polydrug
D. Types of drug combinations
E. Combinations including alcohol

LEARNING ACTIVITIES

Instructor-Led Presentation

A. <u>Prevalence of Drug and Alcohol Use</u>

- In 2016, approximately 6.2 million people aged 12 years or older used psychotherapeutic drugs non-medically in the past year

Source: National Survey on Drug Use and Health (NSDUH, 2016)

- The exact number of prescription-drug users in the U.S. is unknown. However, it is estimated 52 million people have used prescription drugs non-medically in their lifetime

Source: NIDA, 2013

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

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

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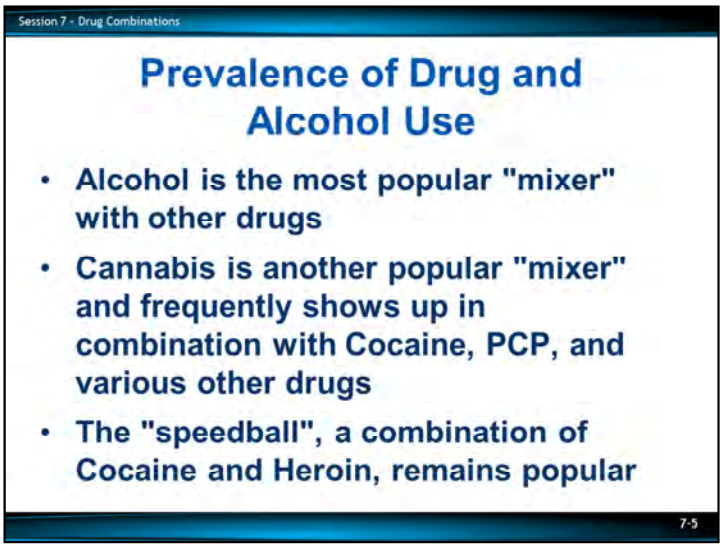

- Research has shown alcohol is the most popular "mixer" with other drugs
- Cannabis is another popular "mixer" and frequently shows up in combination with Cocaine, Dissociative Anesthetics, and various other drugs
- The "speedball", a combination of Cocaine and Heroin, remains popular

Law enforcement officers should not be surprised to encounter virtually any possible combination of drugs.

Law enforcement officers may find more polydrug users than single drug users. This means if the law enforcement officer is to do a good job at interpreting the results of observations, they must understand the basic mechanisms of drug interaction.

This session will help the participant understand the effects of polydrug use.

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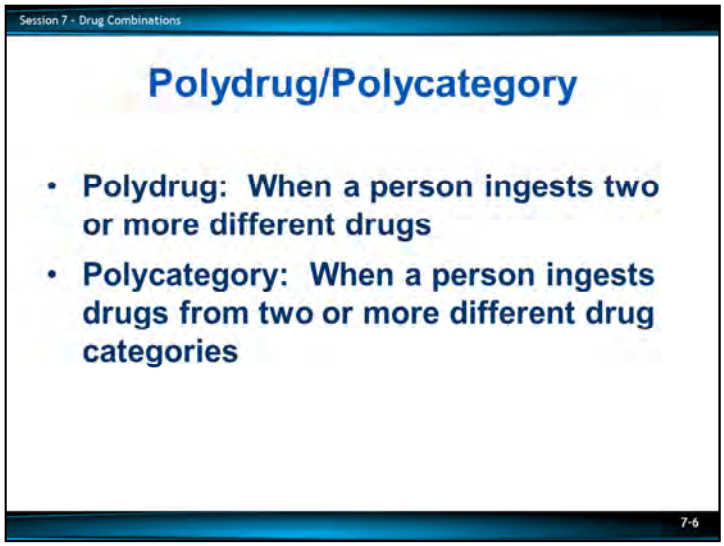

B. <u>Define Polydrug Use</u>

Polydrug Use: When a person ingests two or more different drugs.
Polycategory Use: When a person ingests drugs from two or more drug categories
Point out each drug works independently and the body may exhibit a combination of these effects. Explain the difference between category and drug.

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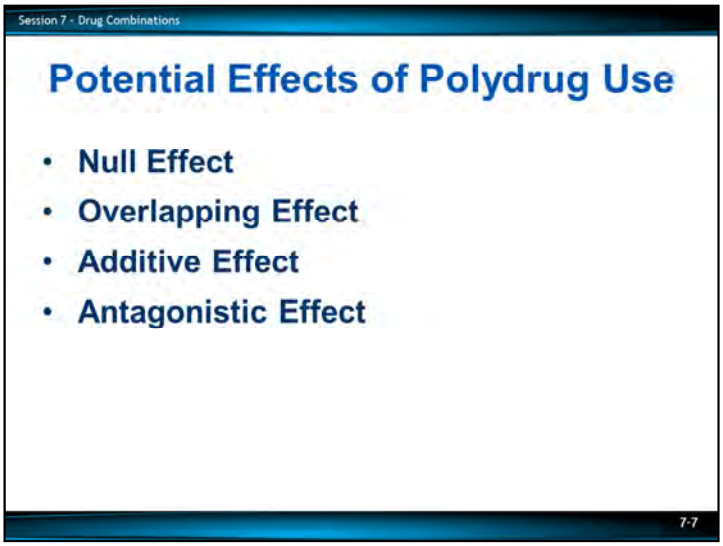

C. <u>Potential Effects of Polydrug Use</u>

Four types of combined effects can, and generally will, occur when two or more drugs are used together:

- Null Effect
- Overlapping Effect
- Additive Effect
- Antagonistic Effect

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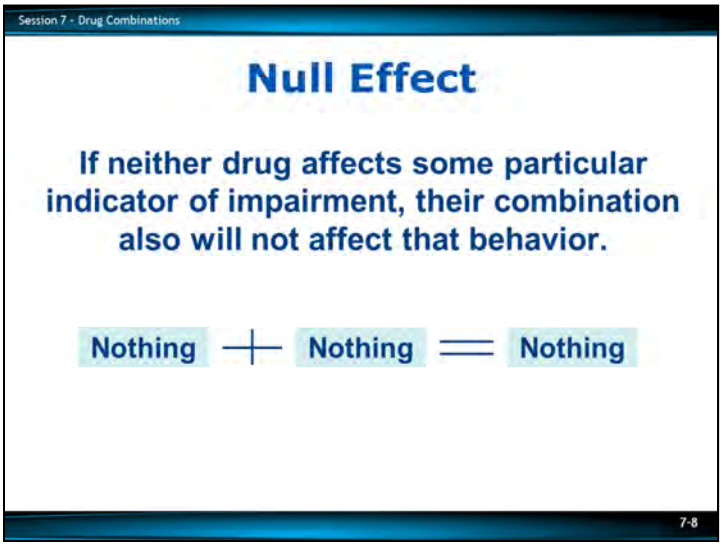

D. <u>Types of Drug Combinations</u>

Null Effect
The simplest way to explain the null effect is using the phrase: "zero plus zero equals zero" or "nothing plus nothing equals nothing."

When a subject consumes one drug which does not cause Horizontal Gaze Nystagmus (HGN) and they also ingest another drug which does not cause HGN, then the officer should not expect to see HGN.

Another example of the null effect is the pupil size of a suspect who was under the influence of Dissociative Anesthetic and a Central Nervous System (CNS) Depressant.

Dissociative Anesthetics do not affect pupil size and neither do CNS Depressants. The combination of these drugs should not affect the size of the pupils.

If neither drug affects some particular indicator of impairment, then their combination also will not affect that indicator.
Give examples of NULL Effect. Stimulants and Narcotic Analgesics do not affect Lack of Convergence (LOC).

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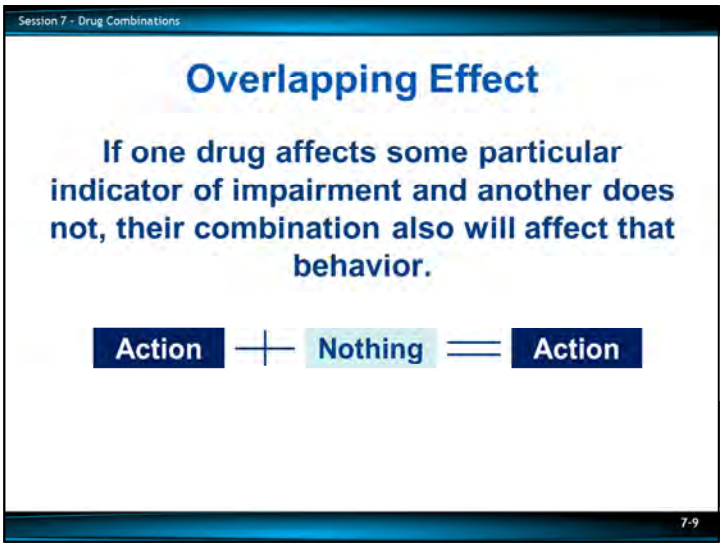
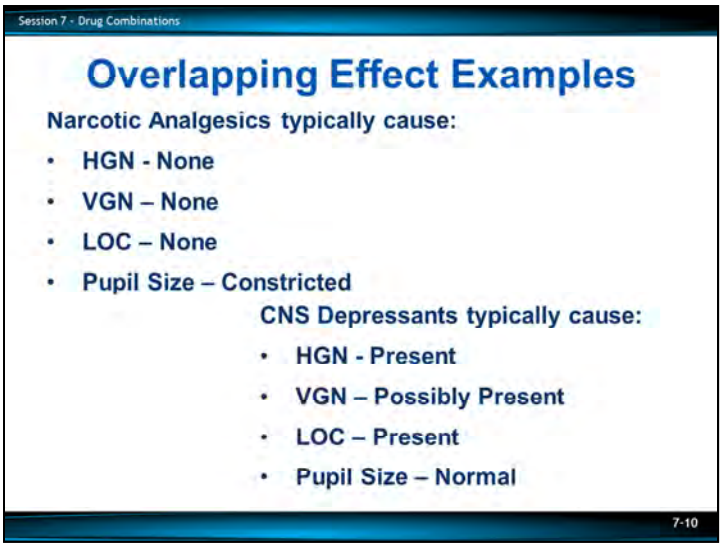


Overlapping Effect

The overlapping effect comes into play when one drug does affect an indicator of impairment and the other drug has no effect on that indicator (action plus nothing equals action).



Examples:
Narcotic Analgesics typically cause:

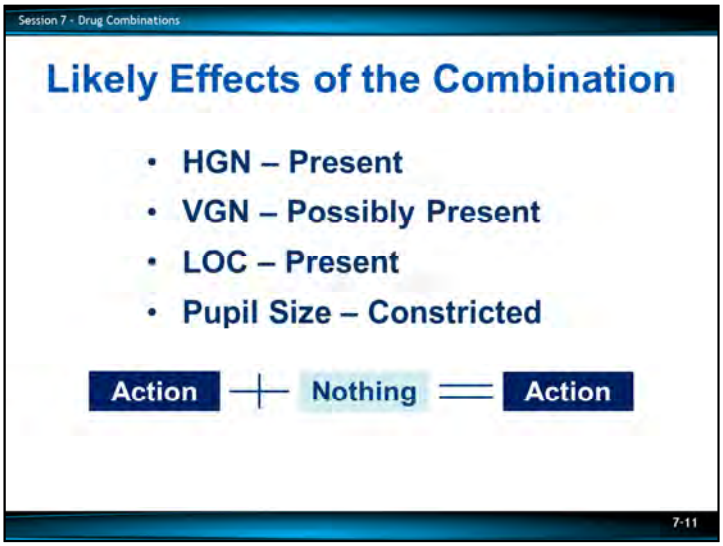
- HGN - None
- Vertical Gaze Nystagmus (VGN) – None
- LOC – None
- Pupil Size – Constricted

CNS Depressants typically cause:

- HGN - Present
- VGN – Possibly Present

VGN is present in high doses.

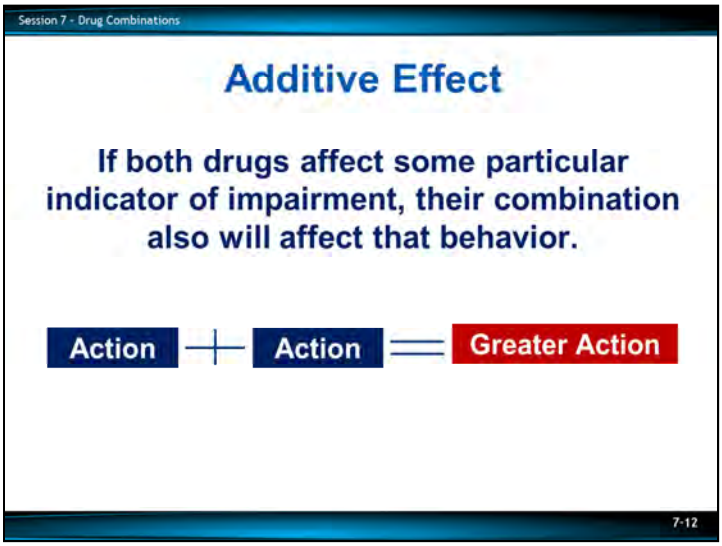
- LOC – Present
- Pupil Size – Normal



The specific combination of a CNS Depressant and Narcotic Analgesic can present four different overlapping effects:

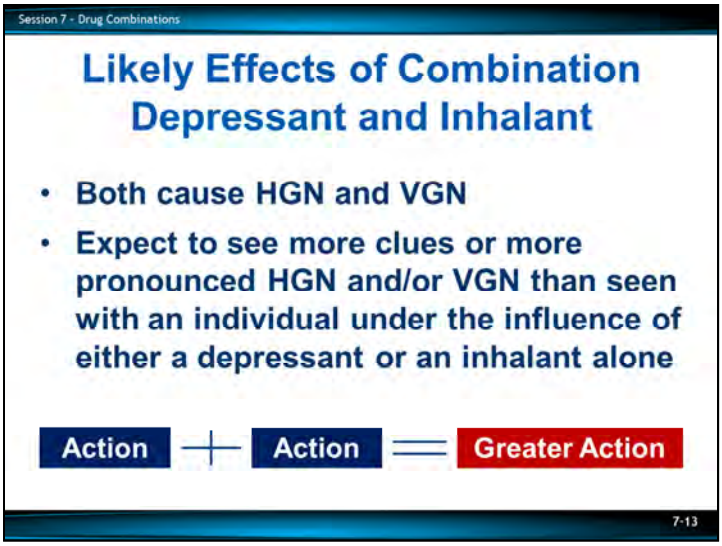
- HGN – Present
- VGN – Possibly Present
- LOC – Present
- Pupil Size – Constricted

Action plus nothing equals action.



Additive Effect
The additive effect occurs when two drugs affect the same indicator in the same way.

In other words, the effects "add together" or reinforce each other to produce a greater effect than one of the drugs could produce individually (action plus action equals greater action).



If an officer observes general indicators related to a Depressant and an Inhalant:

- Both cause HGN and VGN
- We might expect to see more clues or more pronounced HGN and/or VGN than we might see with an individual under the influence of either a Depressant or an Inhalant alone

The simplest way to explain the additive effect is to say "action plus action equals greater action."

One thing we can't say for certain is how much the two drugs will reinforce each other.

Sometimes the reinforced effect is as simple as "one plus one equals two," while other drug combinations may produce a combined effect which is greater than the individual combinations of the two drugs "one plus one equals five."

For the purpose of this course, we use the term additive effect to cover all situations where two drugs impact an indicator in the same way.

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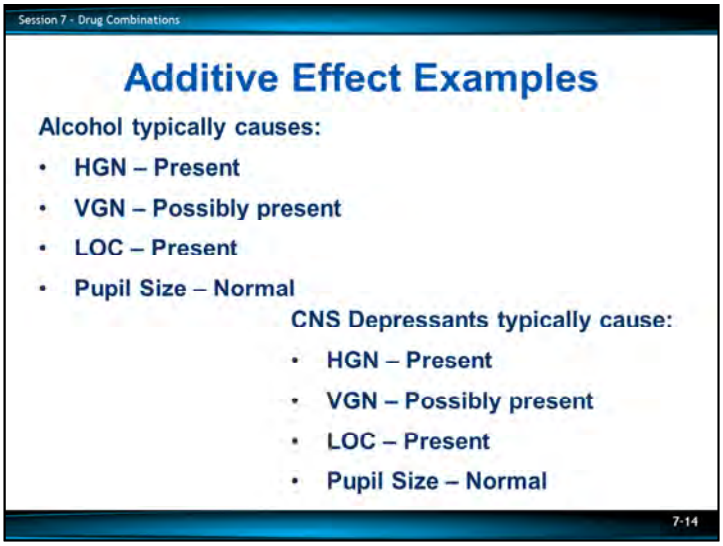
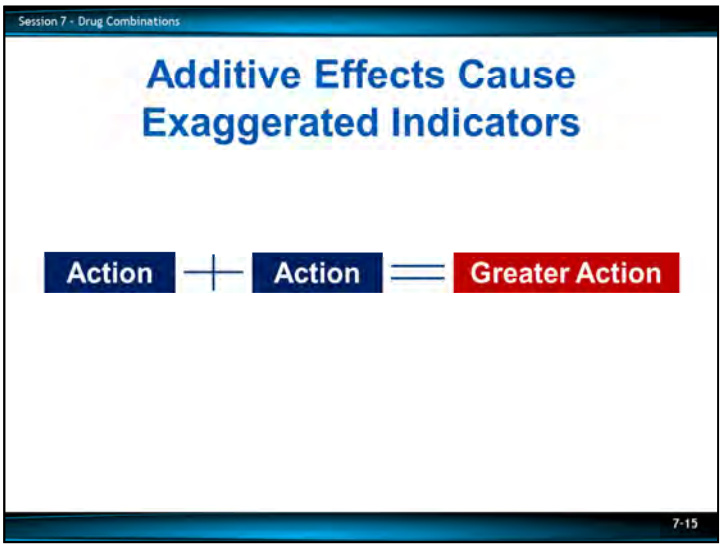


Alcohol typically causes:

- HGN – Present
- VGN – Possibly present
- LOC – Present
- Pupil Size – Normal

CNS Depressants typically cause:

- HGN – Present
- VGN – Possibly present
- LOC – Present
- Pupil Size – Normal

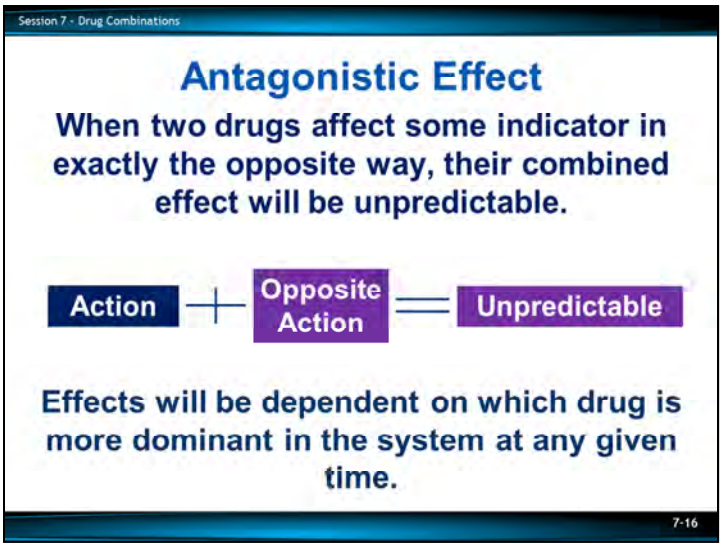


The additive effects may cause the indicators to be exaggerated.

Action + Action = Greater Action

Pupils may be dilated. What you see with HGN usually will not be consistent with the blood alcohol concentration (BAC).

VGN usually will not be present unless it's a high dose for that individual. The combination may allow the VGN to be observed at a low BAC.



Antagonistic Effect
An antagonistic effect occurs when two drugs affect an indicator in exactly the opposite ways.

For example:

- Stimulant use results in dilated pupils while Narcotic Analgesics cause the pupils to be constricted
- An officer may observe normal, constricted, or dilated pupils due to the antagonistic effect

When we deal with an antagonistic effect, we cannot always predict the outcome effect. The effects you will see will be dependent on which drug is more dominant in the system at any given time.
Example:

- If the Stimulant is the psychoactive drug in the system, the pupils may be dilated
- If the Narcotic Analgesic is more psychoactive drug, the pupils may be constricted
- If the drugs are acting on the system in an equal manner you may see normal pupils

”Action plus opposite action will be unpredictable”
Explain or give an example of Stimulant and Narcotic Analgesic. A person may have taken an Oxycontin tablet before smoking crack.

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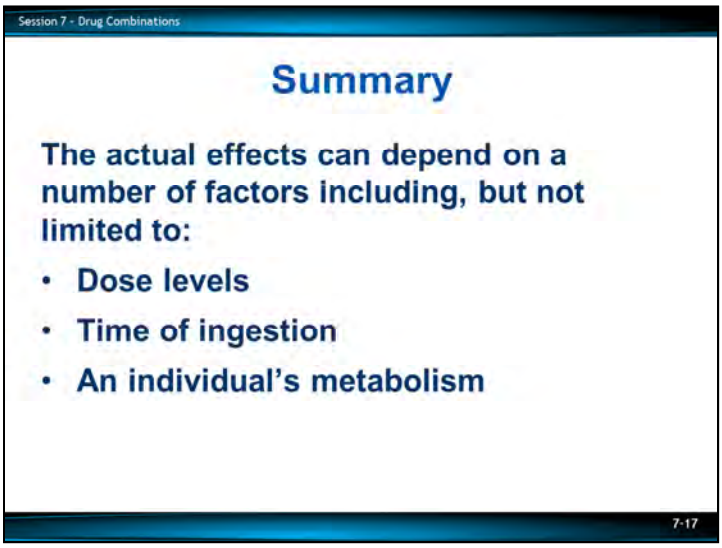


Summary

The actual effects can depend on a number of factors including, but not limited to:

- Dose levels
- Time of ingestion
- A subject's metabolism

E. <u>Combinations Including Alcohol</u>

In order to illustrate the possible effects of drug combinations, the following examples will show a cumulative drug symptomatology matrix for two different drug combinations.

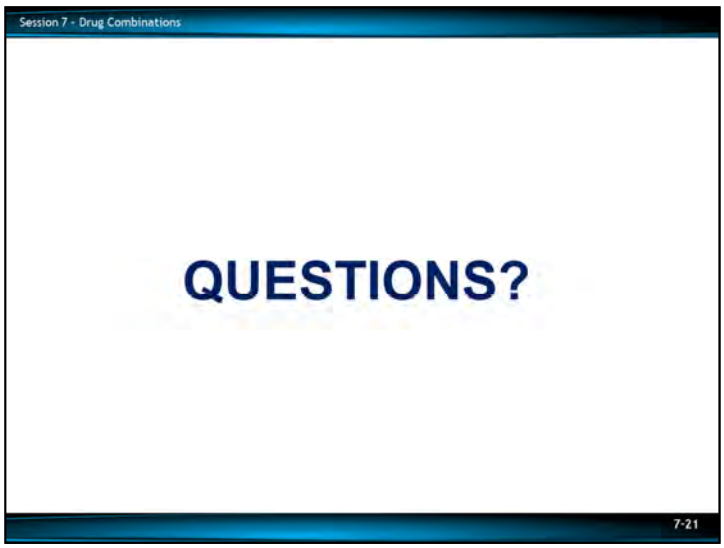
Combination Dissociative Anesthetic and Narcotic Analgesic

Impairment Indicator	Effect due to Dissociative Anesthetic	Effect due to Narcotic Analgesic	Type of Combined Effect	What we will see
HGN	Present	None	Overlapping	Present
VGN	Present	None	Overlapping	Present
LOC	Present	None	Overlapping	Present
Pupil size	Present	Constricted	Overlapping	Constricted

Remind participants "Normal" refers to the Drug Recognition Expert (DRE) average range.

Combination
Cannabis and Stimulant

Impairment Indicator	Effect due to Cannabis	Effect due to Stimulant	Type of Combined Effect	What we will see
HGN	None	None	Null	None
VGN	None	None	Null	None
LOC	Present	None	Overlapping	Present
Pupil size	Dilated or Normal	Dilated	Overlapping	Dilated


Session 7 - Drug Combinations
QUESTIONS?
7-21

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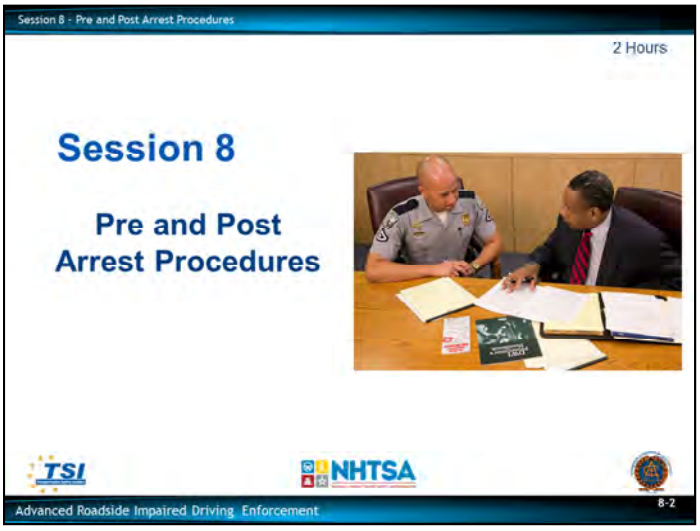
Advanced Roadside Impaired Driving Enforcement

Session 8 – Pre and Post Arrest Procedures

February 2018


Session 8 - Pre and Post Arrest Procedures
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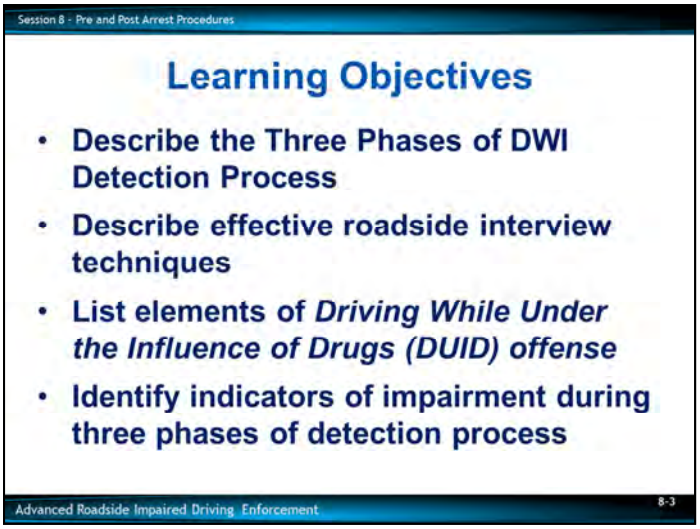
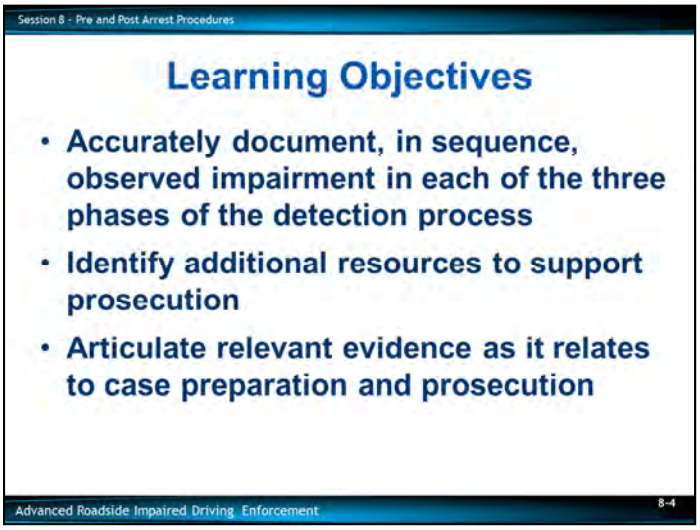


Briefly review the objectives, content, and activities of this session.

Upon completion of this session, participants will be able to:

- Describe the three phases of the DWI detection process: Vehicle in Motion, Personal Contact, and Pre-Arrest Screening
- Describe effective roadside interview techniques
- List the elements of Driving While Under the Influence of Drugs (DUID) offense
- Identify the indicators of impairment observed during the three phases of the detection process



- Accurately document, in the proper event sequence order, observed impairment in each of the three phases of the detection process

- Identify additional resources to support prosecution

- Articulate relevant evidence as it relates to case preparation and prosecution

<u>CONTENT SEGMENTS</u>

A. What is DWI Detection?
B. Three phases of the detection process
C. Effective roadside interview techniques
D. Identifying and documenting observed indicators of impairment
E. Case studies and scenarios
F. Case preparation and prosecution

<u>LEARNING ACTIVITIES</u>

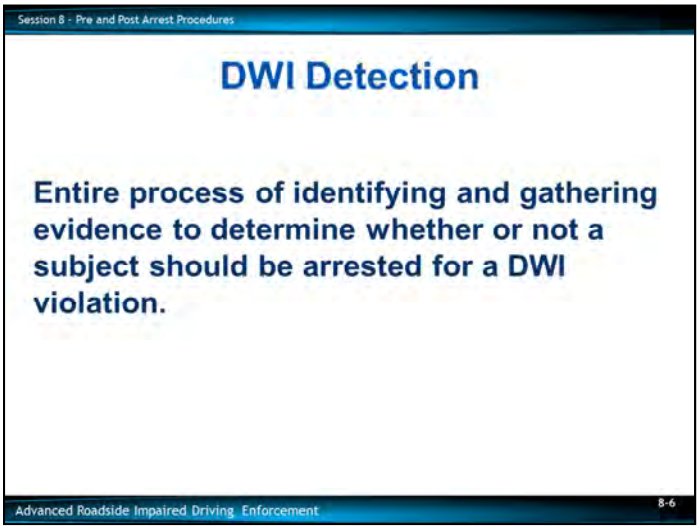
Instructor-Led Presentation
Student Practice Session
Student Practical Exercise

Although this course is designed to make the participant aware of impairment of drugs, alcohol, or a combination of drugs and alcohol, the mission is also to reinforce skills which were taught in previous courses dealing with:

- Active Observation
- Effective Documentation
- Articulation
- Courtroom Testimony

This refers to the DWI Detection and Standardized Field Sobriety Testing (SFST) Curriculum.

To effectively gather and present the collective evidence as part of a DWI arrest and prosecution, the law enforcement officer, prosecutor, and other supporting professionals must consider information in terms of the totality of the evidence.



A. <u>What is DWI Detection?</u>

DWI detection will be defined as: "The entire process of identifying and gathering evidence to determine whether or not a subject should be arrested for a DWI violation."
Highlight situations locally and nationally resulting in poor enforcement activities. Increase in fatal crashes, etc.

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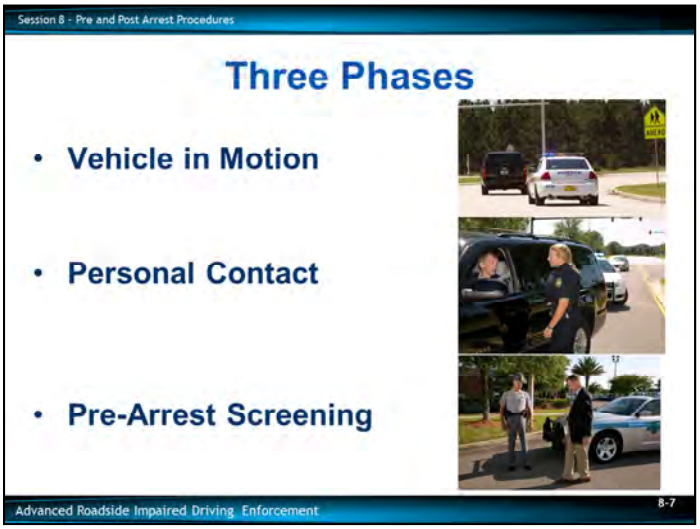
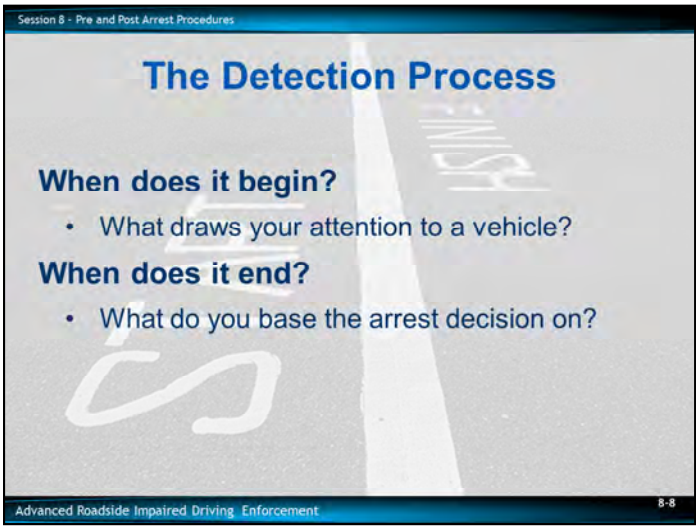


B. <u>Three Phases of the Detection Process</u>

We will look at the collection and articulation of evidence in terms of the three phases of DWI detection.

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



When does it begin?

- When the law enforcement officer's attention is first drawn to a vehicle

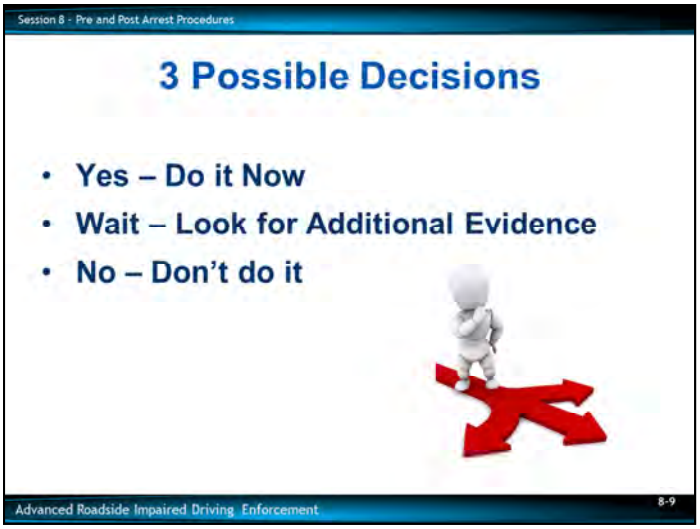
Ask class, What are some examples of things that would draw your attention to a vehicle?
Refer to the National Highway Traffic Safety Administration (NHTSA) Driving cues.

The detection process ends when the officer decides there is or is not sufficient probable cause to arrest the suspect for DWI.

The officer's attention may be drawn to a particular vehicle or individual for a variety of reasons.
DWI arrests can be initiated through any contact with motorist.

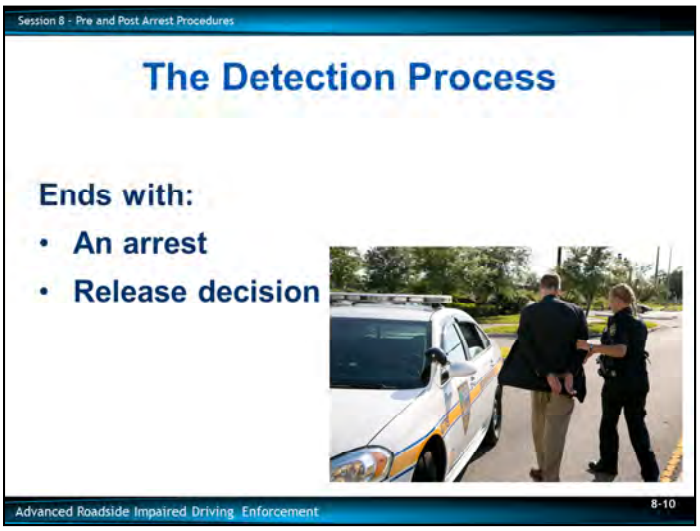
The precipitating event may be a loud noise, an equipment or moving violation, unusual but not necessarily illegal behavior, or almost anything else.
Most vehicle stops do not begin with suspicion of DWI.

Initial detection may or may not carry with it a suspicion the driver is impaired.



The detection process:

- Yes - Do it now
- Wait - Look for additional evidence
- No - Don't do it



The detection process ends with:
- An arrest
- Release decision

That decision should ideally be based on the totality of the evidence collected throughout each of the three phases.
When the totality of the evidence is available.

However, situations and circumstances may vary in a manner that could preclude the completion of all three phases. Examples of these circumstances would be:
- Police pursuits
- Motorist assists
- Vehicle crashes
- Traffic direction
- Sobriety checkpoints

Law enforcement officers should not leap to the arrest/no arrest decision, but rather proceed carefully through each of the three phases when possible.

This process helps to identify all the available evidence needed to make an arrest decision.

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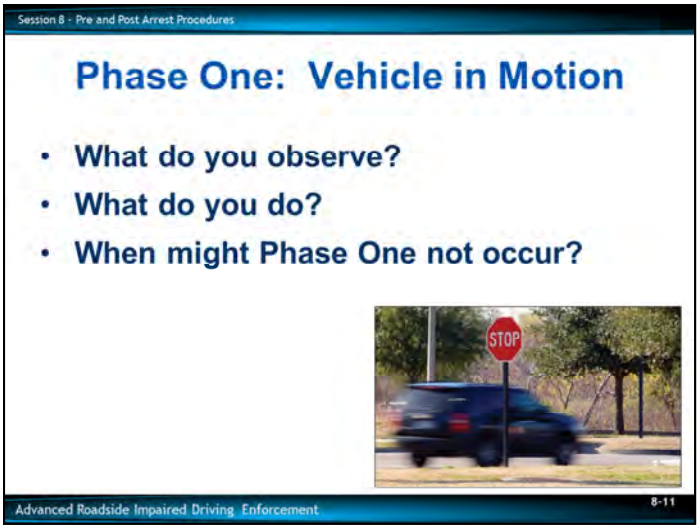

Phase One: Vehicle in Motion
In Phase One, you usually observe the driver operating the vehicle.
- What do you observe?
- What do you do?

The DWI detection process does not always Include all three phases. Sometimes DWI detection occurs when Phase One is absent, such as, cases in which you have no opportunity to observe the vehicle in motion.
Ask class to identify other examples of incidences where the officer does not observe Phase One.
Examples include:
- Crashes
- Sobriety checkpoint
- Motorist assistance

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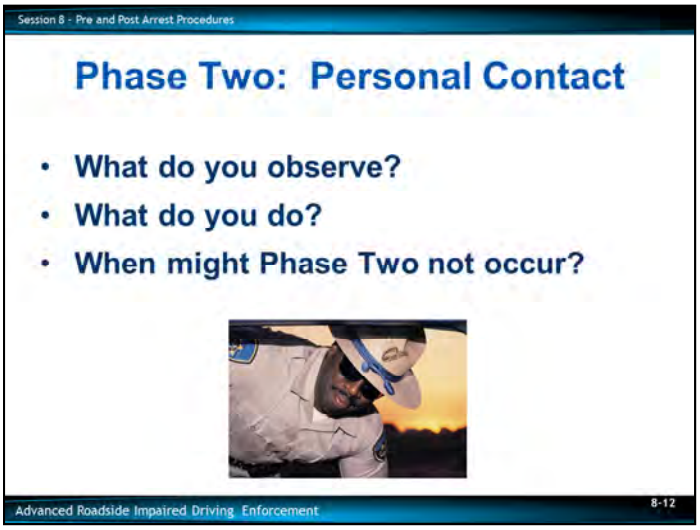

Phase Two: Personal Contact
In Phase Two, after you have stopped the vehicle, there usually is an opportunity to observe and speak with the driver face-to-face.

- What do you observe?
- What do you do?

Give examples of interviewing techniques: dividing the driver's attention by asking for more than one document, asking interrupting questions, etc.

Sometimes there are situations when Phase Two does not occur.
Ask class if they think of examples where phase two may not be present.
Example:

- Crashes where a driver is transported to a hospital and significant time passes before contact is made by the investigating officer

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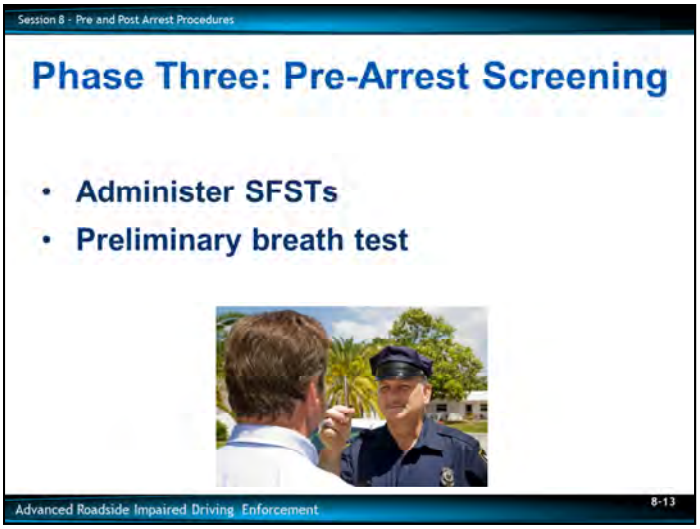
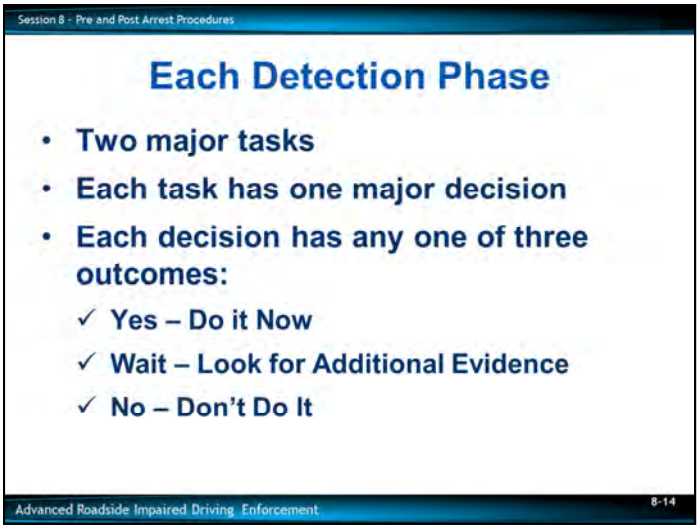


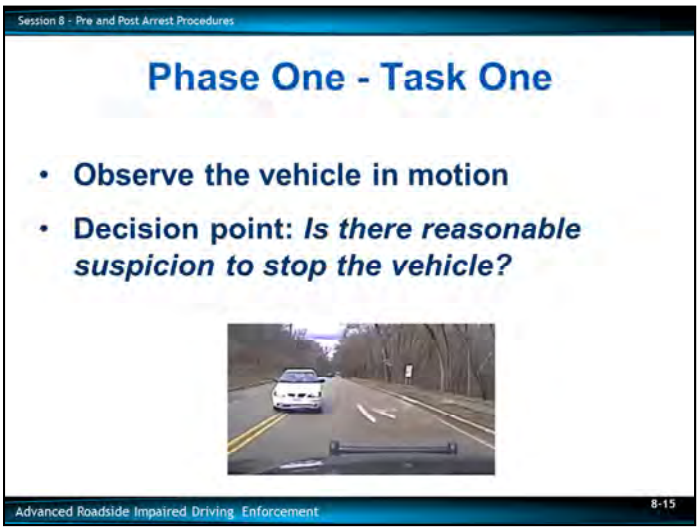
Phase Three: Pre-Arrest Screening
In Phase Three, you usually have an opportunity to administer the SFSTs to the driver to evaluate whether there is any degree of impairment.

You may, depending upon your agency policies and State laws, administer a preliminary breath test in addition to SFSTs to verify alcohol is or is not the cause or a contributing factor of the impairment.



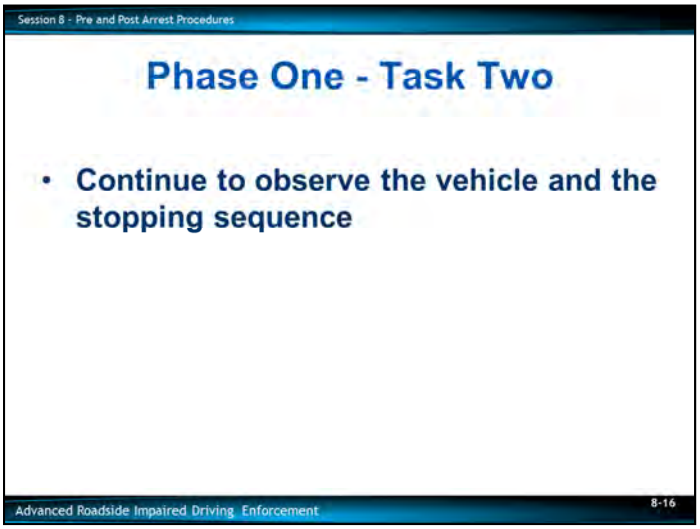
Each detection phase usually involves two major tasks and one major decision. Each of the major decisions can have any one of three different outcomes:

- Yes – Do it Now
- Wait – Look for Additional Evidence
- No – Don't Do It



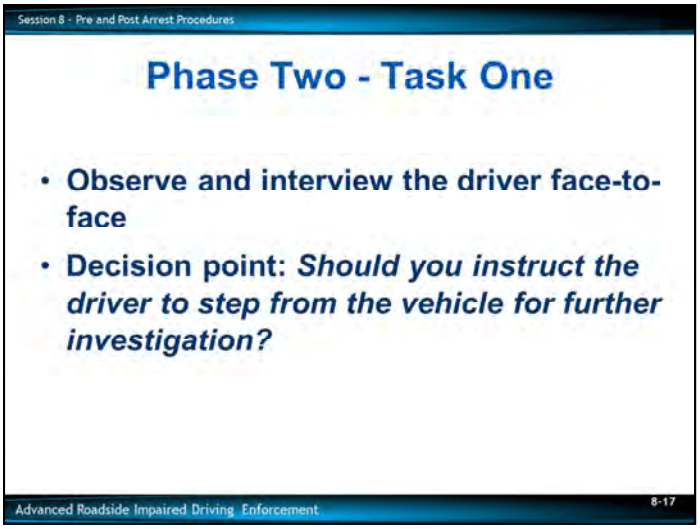
Phase One:

- Task One – Observe the vehicle in motion
- Decision Point: Is there reasonable suspicion to stop the vehicle?



Phase One:

- Task Two – Continue to observe the vehicle and the stopping sequence

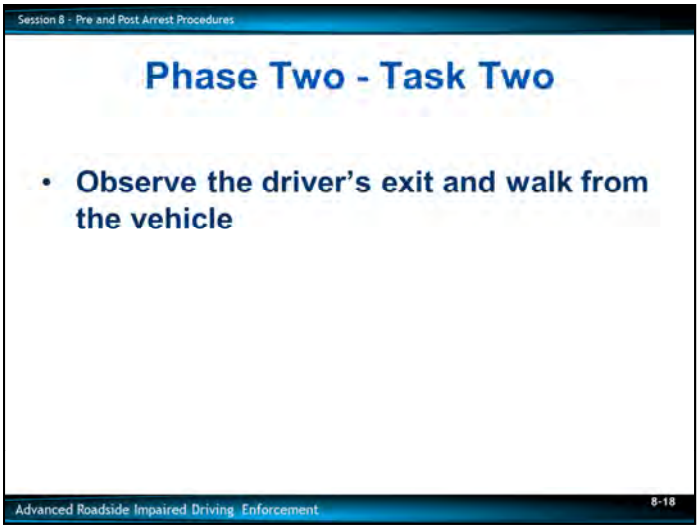


Phase Two:

- Task One – Observe and interview the driver face-to-face

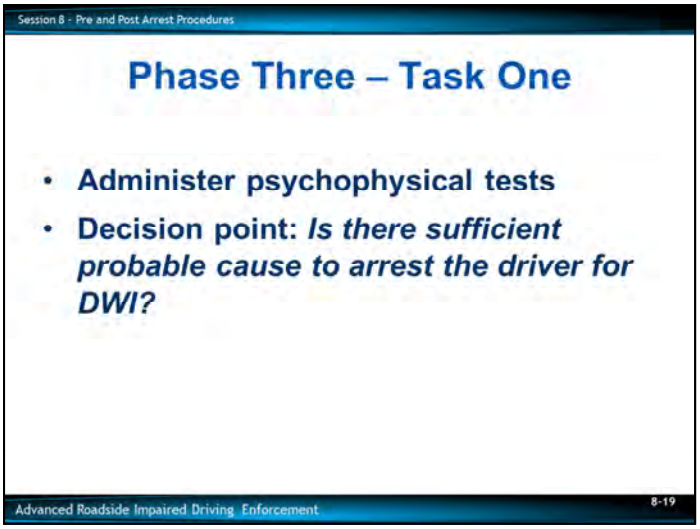
Officer should follow their departmental policy governing traffic stops and investigations.

- Decision Point: Should you instruct the driver to step from the vehicle for further investigation?

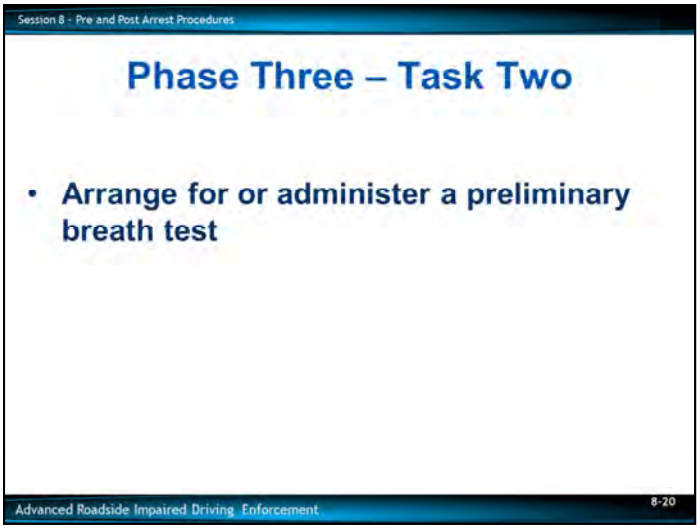


Phase Two:

- Task Two – Observe the driver's exit and walk from the vehicle



Phase Three:
Give examples of what should be used:
SFST (including VGN), MRB, LOC, Pupil size observation.
Task One – Administer psychophysical tests
Decision Point: Is there sufficient probable cause to arrest the driver for DWI?



Phase Three:

Task Two - Arrange for or administer a preliminary breath test

- Do the results indicate an alcohol-DWI or a drug-DWI?
  - SFST (Horizontal Gaze Nystagmus (HGN), VGN, Walk and Turn (WAT), One Leg Stand (OLS))
  - Other Tests/Observations (MRB, LOC, Pupil size)

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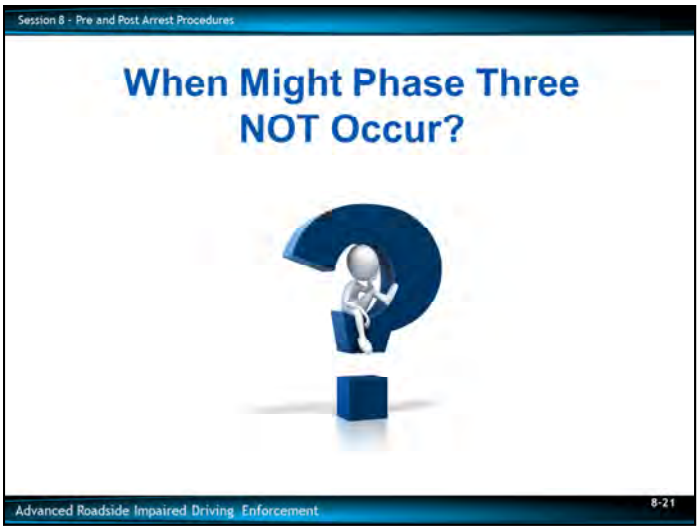


Ask class for examples where phase three may not occur.

Sometimes there are situations when Phase Three does not occur.

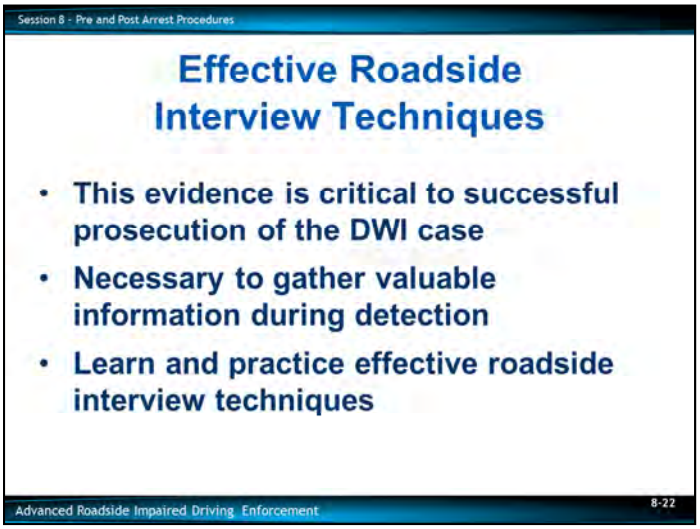
- There are cases in which you would not or could not administer SFSTs to the driver

This decision is made by the officer.

Ask Participants for examples.

Examples include:

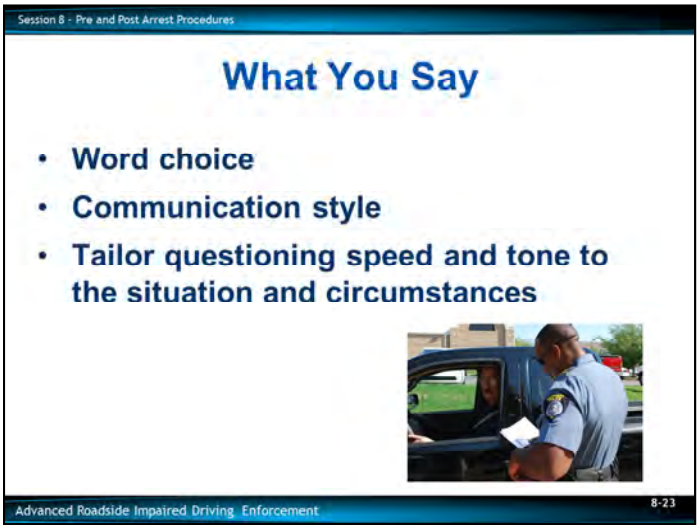
- Driver is impaired to the point they are unable to safely complete the tests
- Injured to the extent they are unable to complete the tests
- Refuses to submit to tests
- Circumstances or other conditions that do not allow for the safe administration of SFSTs



C. <u>Effective Roadside Interview Techniques</u>

This evidence is critical to successful prosecution of the DWI case.

In order for the law enforcement officer to gather valuable information during the detection process, they must learn and practice effective roadside interview techniques.



What you say : Word choice, communication style

- Example: crash or accident

Ask Participants for some examples of appropriate word choices?

You should tailor your word choices to the situation or circumstances that exist at the time.

Communication style

- Example: The rate of the questioning, tone of your voice

You should tailor the speed and tone of questioning to the situation and circumstances at the time.

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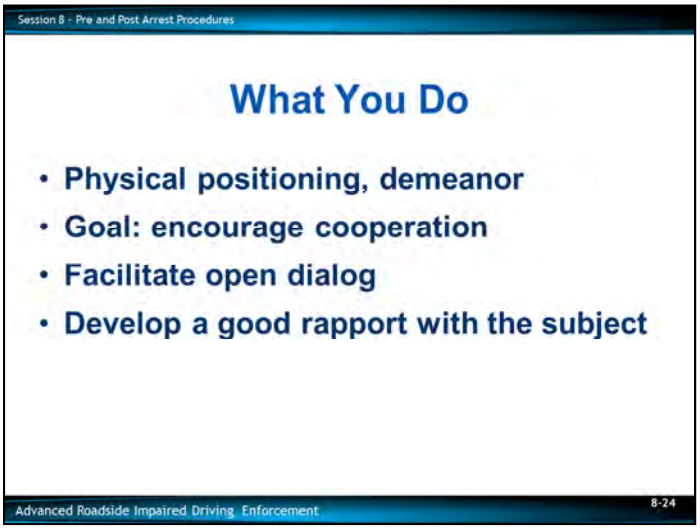

What you do: Physical positioning, demeanor

- Physical Positioning example: Keeping officer safety in mind, avoid an over bearing posture or stance

Ask class to indicate some overbearing positions. Remember: The goal is to encourage cooperation.

- Demeanor example: maintain professionalism, facilitate open dialog

Ask questions that will place them at ease. Allow them to talk about themselves. Develop a good rapport with the subject.

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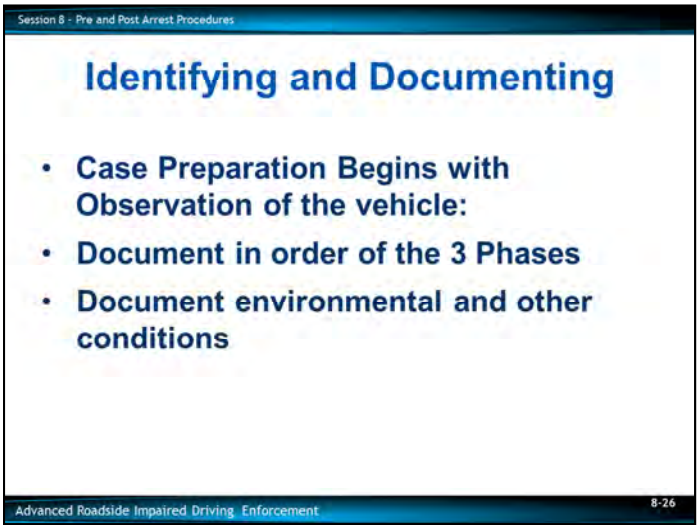
What you see : Bloodshot eyes, clothing, paraphernalia, etc.
What you smell: Alcoholic beverage, chemical odors, marijuana, etc.
What you hear : Slurred speech, unusual and/or inappropriate statements, drug lingo, etc.



D. <u>Identifying and Documenting Observed Indicators of Impairment</u>

During the detection process, many different situations arise which can affect the identification and documentation of your observations.

It is the law enforcement officer's responsibility to conduct a thorough and complete investigation.

Since case preparation begins with the observation of the vehicle, absent extraordinary conditions, short cuts in the three phases of detection process should not occur.

Officers should follow up on all observations that indicate impairment to determine whether impairment is present and if that impairment is due to alcohol, drugs, or a combination of both.

During Phase Two of the detection process, a driver may offer a reason for their behavior or physical appearance.
Ask for examples from personal experiences.
Examples:

- The reason they were weaving was because they were adjusting the radio
- The reason their eyes are glassy is because they worked a double shift

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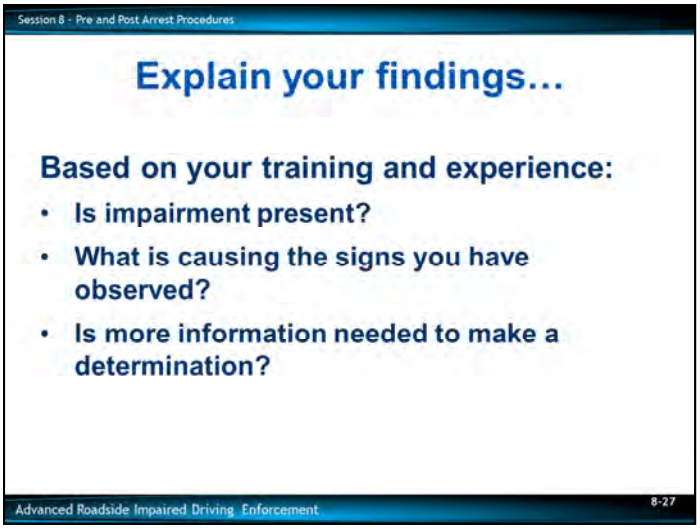
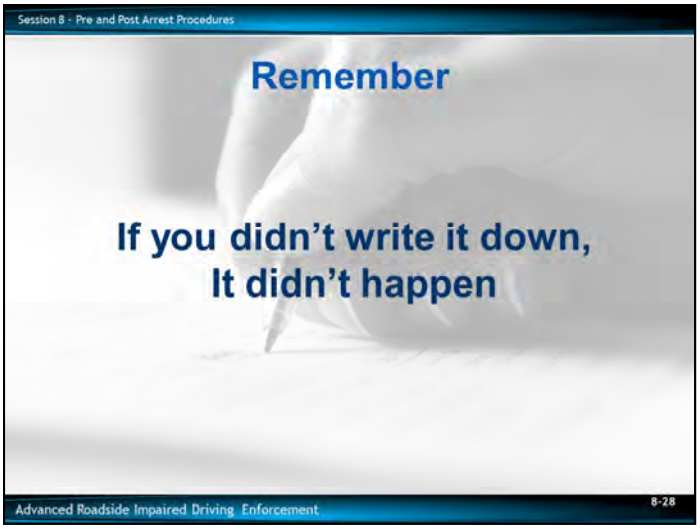


At this point you should draw on your training and experience to determine:

- If impairment is present
- What is causing the signs you have observed
- Is more information needed to make a determination



Remember: If you don't record the evidence, it didn't happen.

This determination, similar to the decision to arrest, is rarely based on one observation or factor. Rather these decisions are usually based on the totality of the circumstances.

The signs, symptoms, and general indicators discussed during this course are meant to assist law enforcement officers in recognizing impairment based on alcohol, drugs, or a combination of both. ***EMPHASIZE: ARIDE training enhances their knowledge about drug-impaired driving, but there is more to learn in order to classify a drug category or categories as the cause of that impairment. Whenever possible, a DRE should be summoned to assist with a drugged-driving investigation to help gather additional evidence to identify the likely drug category(ies) involved.***

Additionally, it is intended to assist criminal justice professionals with understanding impairment based on alcohol, drugs, or a combination of both.

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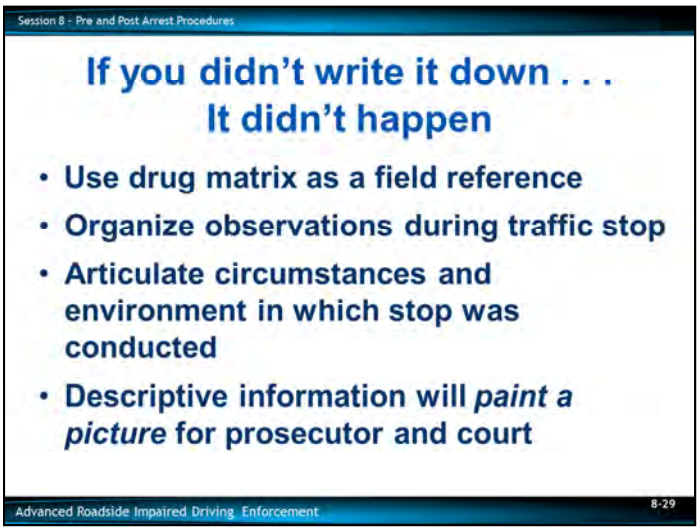

The information presented as part of this course is not intended nor meant to equip the officer with the knowledge or ability to categorize the impairment observed with a specific drug category.

In an effort to help the participant learn what types of observations may be important as part of the detection process, we have included a matrix which lists many common indicators of impairment. ***This refers to the matrix provided in this course.***

It is suggested officers use this matrix or another documentation tool as a field reference. ***There is a DRE matrix, however this matrix contains information outside the scope of this training course.***

The matrix will help the officer to organize their observations during the traffic stop.

In addition to documenting the indicators, the officer should take care to articulate the circumstances and environment in which the stop was conducted. This descriptive information will *paint a picture* for the prosecutor and the court, thereby presenting the evidence in an effective fashion.

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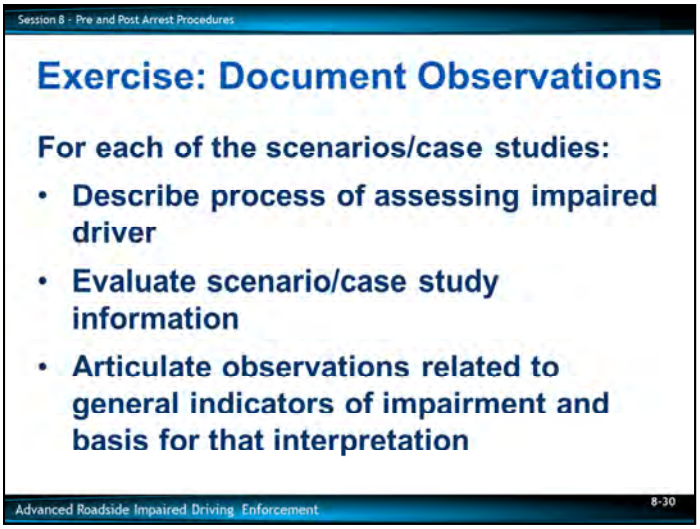

E. <u>Case Studies and Scenarios</u>

Drugged driver case scenarios are located at the end of this Session and are in the Participant Manual. Have the participants review each scenario and apply what they have learned to identify the evidence to be articulated to a DRE in each scenario. Go through each scenario in class. Emphasize this will help them to recognize and articulate evidence of drug impairment both at trial and to a DRE if one is available. Ensure participants know the proper procedure for summoning a DRE to assist in their investigation.

Practical Exercise: During this exercise, apply the information learned during this course in order to effectively document observations offered in the written scenarios and case studies.

Complete the following for each of the scenarios/case studies provided in the class:

- Describe the process of assessing the impaired driver in the context of the traffic safety related scenario/case study

- Evaluate scenario/case study information: How to analyze information/observations and articulate important evidence related to drug impairment

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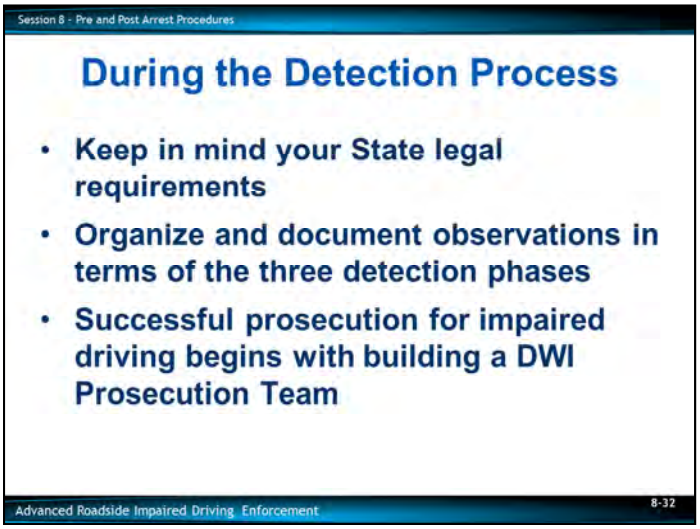
F. <u>Case Preparation and Prosecution</u>

Case preparation begins with the first observations of the vehicle during Phase One of the detection process.

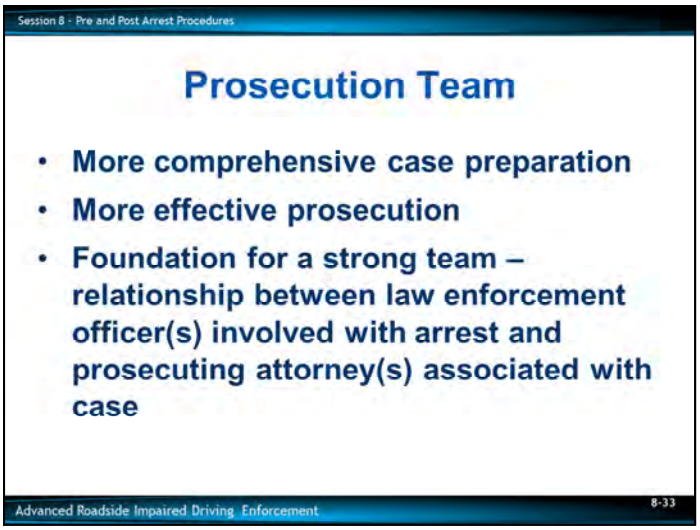
Although State DWI/DUID statutes are different and the legal requirements necessary to prove each element of the offense differs from State to State, the detection process remains the same. Therefore, regardless of what the statute requires, it is important law enforcement officers understand both the elements of the State statutes and what evidence the prosecution needs to prove each element.



During the detection process, it is critical officers keep in mind the legal requirements of their State. It is equally important the officer organize and document their observations in terms of the three detection phases. By doing this, you will assist the prosecutor in case preparation and presentation in court.

A successful prosecution for impaired driving begins with building a DWI Prosecution Team.

The most important part of this process is to remember that is does not matter who leads the effort.



The most significant benefit of the team is more comprehensive case preparation and a more effective prosecution.

- What does that mean – DWI Prosecution Team?
- Who is on that team?
- Why isn't the officer's word and observations enough?
- Doesn't this mean more work?
- How does this help me do my job?

The foundation for a strong DWI Prosecution team is the relationship between the law enforcement officer(s) involved with the arrest and the prosecuting attorney(s) associated with the case.

Effective communication and a clear understanding of each group's objectives and expectations is essential to the success of the DWI prosecution team.

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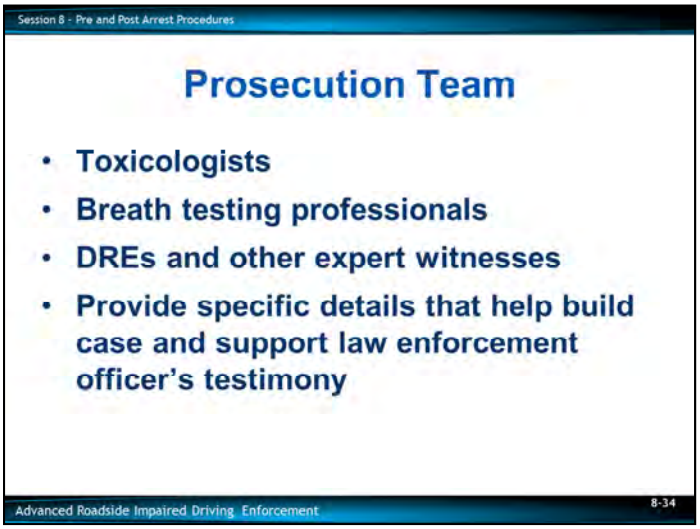
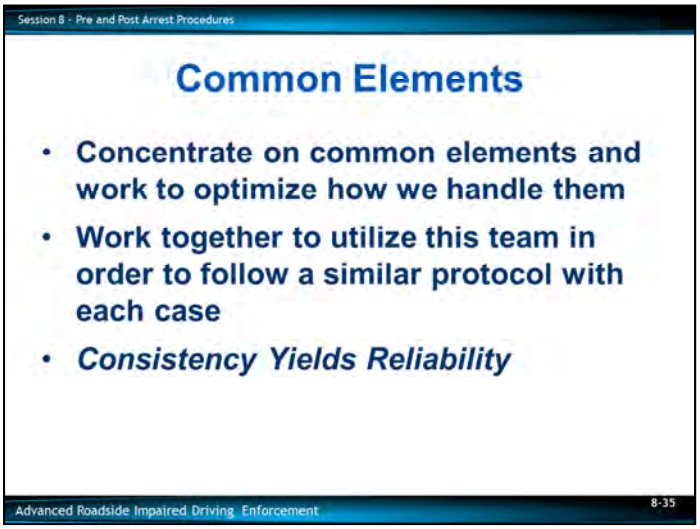


Additionally, toxicologists, breath testing professionals, DREs, and other expert witnesses provide specific details that help build the case as well as support the law enforcement officer's testimony during the trial.

We often forget about the other potential members of the team who are not directly part of the case preparation.

This section will use the word "process" to describe the sequence of activities and actions which take place during a DWI traffic stop, arrest, and prosecution. This word is not used by accident. It is important for the participants in this course to begin to view DWI enforcement and prosecution as a process which can be continually improved and refined.



It is rational to believe that every DWI traffic stop, arrest, and prosecution are different, but it is also reasonable to assume there are common elements each time an officer encounters an impaired driver and a prosecutor prepares a DWI case.

If we can concentrate on common elements and work to optimize how we handle them, then we can be better prepared for court and common defense strategies and challenges.

We must work together to utilize this team in order to follow a similar protocol with each case.

Remember, **Consistency Yields Reliability.**

Throughout this course, we have discussed information in terms of the three phases of DWI detection process.

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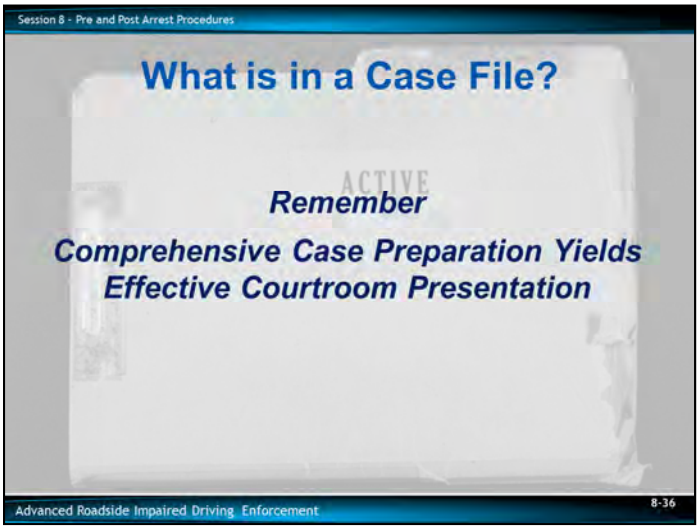

What is a Case File?

- All Observations
- All Evidence
- Potential Witness List
- Chemical Test Results
- Photos, Diagrams, Scene Sketch
- Other

Remember: Comprehensive Case Preparation Yields Effective Courtroom Presentation

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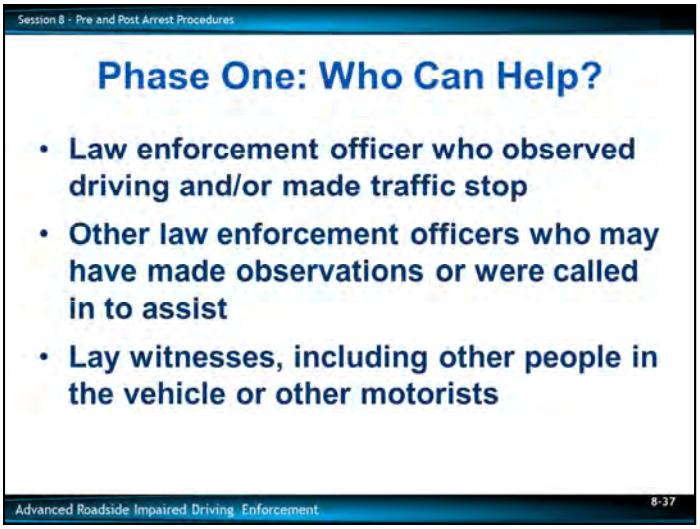

Phase One: Vehicle in Motion
(Observation of the suspect's driving)
Preparation for trial begins with the first observation of the vehicle in motion, which is usually the first point of attack.

In some cases, the reasonable suspicion for the traffic stop may not be associated with driving behavior consistent with the impairment, for example an equipment violation. Therefore, all observations during the vehicle in motion phase should be noted in order to illustrate the environment to the court later.

Potential team members involved at this point may include:
- Law enforcement officer who observed the driving and/or made the traffic stop
- Other law enforcement officers who may have made observations or were called in to assist
- Lay witnesses, including other people in the vehicle or other motorists

Law enforcement officers should note every observation made regarding driving. This includes observations before and after you activate your emergency equipment.

If there is a crash involved, the officer probably will not actually observe driving. Therefore, witnesses to the crash should be noted to prove State-specific statutory requirements.

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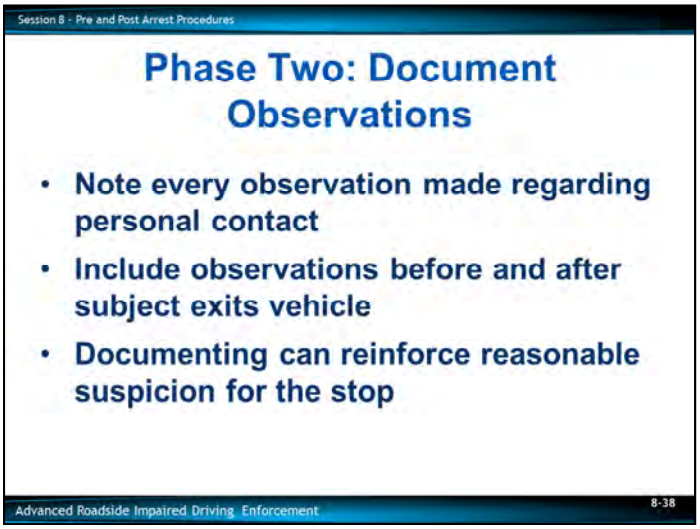

Phase Two: Personal Contact
(Observations of the suspect after the stop)
Preparation for trial continues with the traffic stop. Observations made before and after the suspect exits the vehicle should be documented. Example:

- Odor of alcohol
- Slurred speech
- Red glassy eyes
- Inappropriate responses
- Using the vehicle for support during exit and/or while walking
- Accurate documentation is essential due to the length of time cases are adjudicated

Potential team members involved at this point may include:

- Law enforcement officer(s) who observed the subjects following the traffic stop
- Other law enforcement officers who may have made observations or were called in to assist
- Lay witnesses, including other people in the vehicle or other motorist

Law enforcement officers should note every observation made regarding personal contact. This includes your observations before and after the subject exits the vehicle.

Documenting and articulating these observations can reinforce the reasonable suspicion for the stop.

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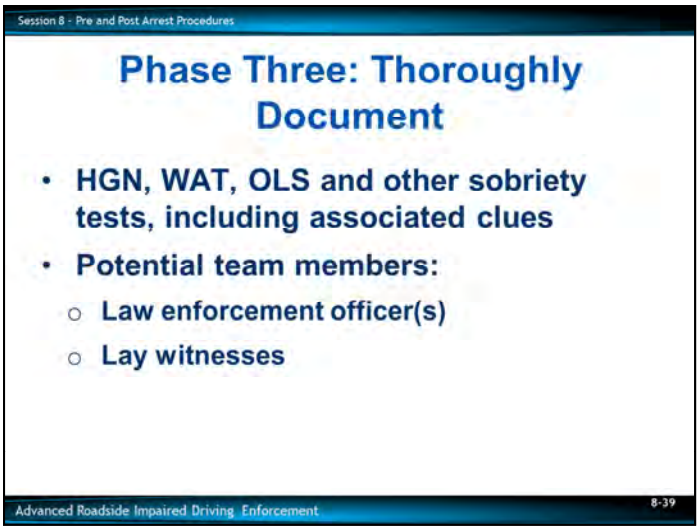

Phase Three: Pre-Arrest Screening
(Observations of the suspect while performing all sobriety tests)
Preparation for trial continues with the officer conducting pre-arrest screening. Observations made during HGN, WAT, OLS and other sobriety tests, including the associated clues, must be thoroughly documented. Example: During the WAT Test, the suspect may not count their steps out loud while walking. This is considered an observation. The suspect may start walking before being instructed to do so. This is considered a clue.

Potential team members involved at this point may include:
- Law enforcement officer(s) who conducts the field sobriety tests
- Lay witnesses including other people in the vehicle or at the scene

Law enforcement officers should note every observation made regarding pre-arrest screening.

This includes observations before, during and after the field sobriety tests. Recording and articulating these observations can reinforce the reasonable suspicion for the arrest.

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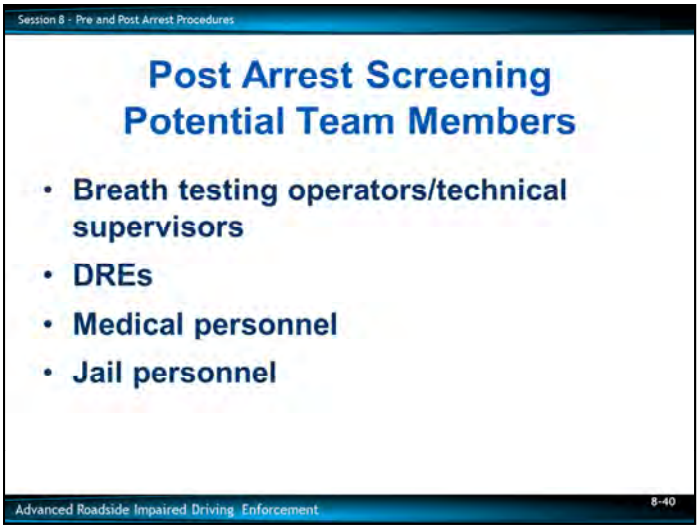

Post Arrest Screening

During post arrest screening the team will potentially include:

- Breath testing operators/technical supervisors
- DREs
- Medical personnel
- Jail personnel

DREs should be utilized whenever available. The officer should document what DRE was contacted, when they were contacted, and when they arrived for the evaluation.

If a DRE is not available at the time of arrest, they may still be useful at trial to bridge the gap between the observations made by the arresting officer and any biological test results.

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Pre-Trial Preparation
For this reason, it remains essential to document, in detail, all observations including those made after arrest.

As preparation for trial begins the team may include:

- Local prosecutor: When possible, at a minimum, the local prosecutor and the arresting officers should meet to discuss the details of the case and determine potential prosecution strategies

- Toxicologist or representative from the appropriate state or contract lab: The toxicologist in a Drug Evaluation and Classification (DEC) State can be used to corroborate the testimony of the DRE and to bridge the gap between the observations of the arresting officer and the lab report

- DRE Officer/DRE State Coordinator: The DRE/DRE State Coordinator may be able to assist in identifying additional DRE resources

- Traffic Safety Resource Prosecutor (TSRP) (If available): If your state has a TSRP they can be utilized as a resource to assist both prosecutors and law enforcement

- International Association of Chiefs of Police (IACP) DEC Program Coordinator

- National Highway Traffic Safety Administration (NHTSA)/National Association of Prosecutor Coordinators (NAPC) Prosecutor Fellow

- National Traffic Law Center (NTLC)

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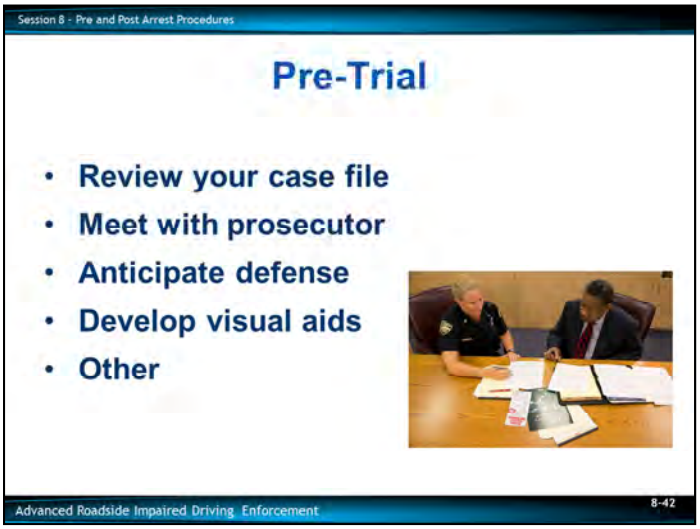

As preparation for trial begins, remember to:

- Review your case file
- Meet with the prosecutor
- Anticipate the defense
- Develop visual aids
- Other

Visual Aids:

- Pictures or video
- Location of stop
- Appearance of defendant
- Performance on SFST
- Charts or diagrams
- Officer's training and experience
- Factual concepts
- Elements

Briefly discuss the importance and relevance of each of visual aid examples listed.

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At trial, it is imperative the prosecutor, arresting officer, DRE (if applicable), toxicologist and any other witness avoid using legal, law enforcement, or medical-specific language. The use of plain English assists the judge, jury, and others who are involved in the case to understand the specifics of all testimony.

The team must work together to illustrate the entire process. Visual aids should be used to illustrate the location of the stop, physical appearance of defendant, and/or performance on the field sobriety tests.

Visual aids may also assist in explaining the officers training and experience, factual concepts, and/or the legal elements of the offense.

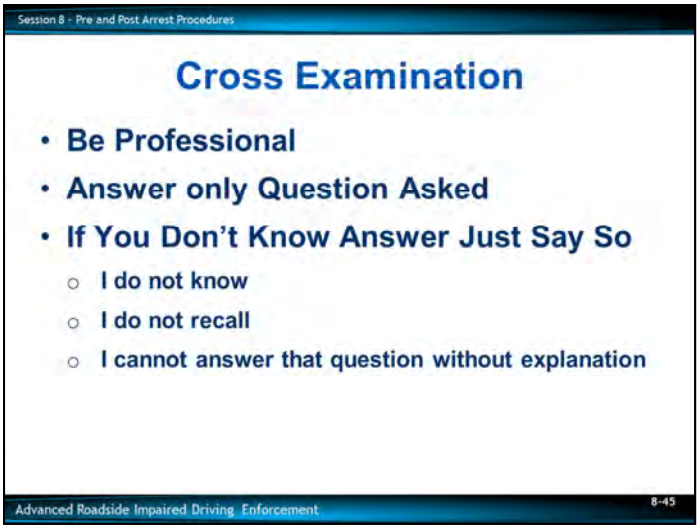
Remember, visual aids engage the judge/jury and increase retention of information.

From the time of the traffic stop, through post arrest screening, and until after the case is adjudicated the team must remain consistent.

The prosecutor may be added to the team at any time. Ideally, the prosecutor would be on board immediately, especially in the case of serious injury or fatal crashes.

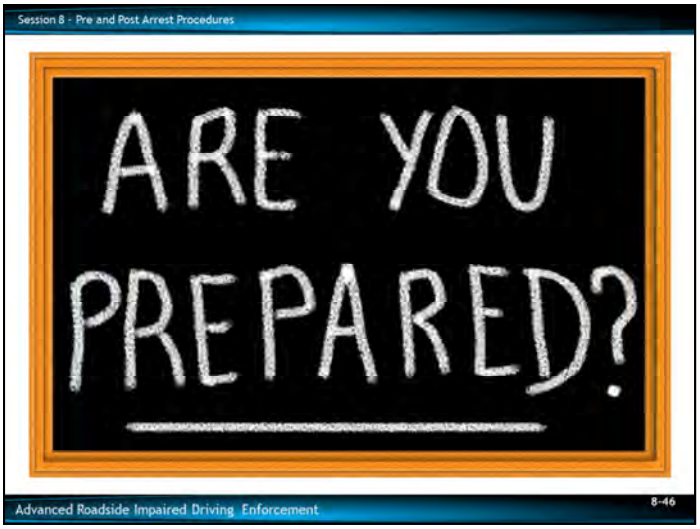
Other items to remember for direct examination:

- Listen Carefully to Question
- Think Before You Answer
- Ask for Clarity if Needed
- Relate Training and Experience
- Talk to Your Audience

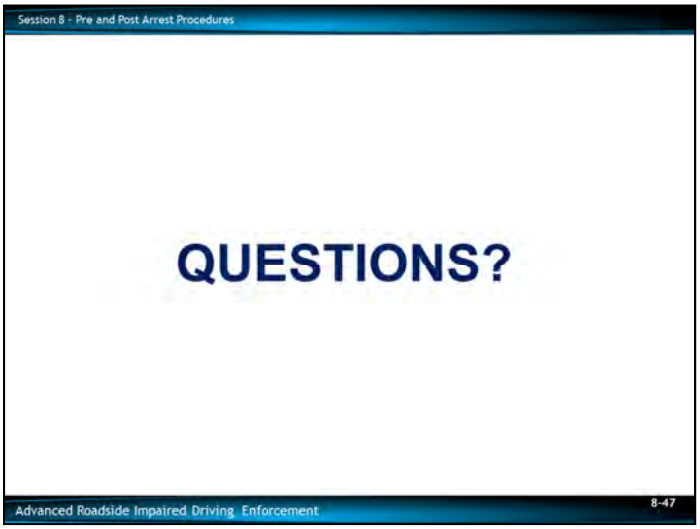


Cross Examination

- Be professional
- Answer only question asked
- If you don't know the answer, just say so:
  - I do not know
  - I do not recall
  - I cannot answer that question without explanation



Remember: There is no substitute for preparation.


Session 8 - Pre and Post Arrest Procedures
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
8-47

Scenario #1

Ambience: night, dark and clear, 60 degrees

You respond to a crash scene where you contact a subject who tells you that he fell asleep while driving. Your investigation shows that the driver was not injured but was speeding and failed to negotiate a curve. When you ask the subject his name he tells you but then he continues telling you that his name is wrong on his enrollment papers at the local gym because he is adopted. He continues by telling you that he has never met his birth parents but was going to use their name for a while but has since changed his mind so the name on his driver's license is correct but the address isn't. He further advises that he is in the process of moving because he doesn't like the neighbors and that they are always watching him. He tells you that he doesn't know where he will move to, but probably in with his parents.

You notice that the subject seems to be fidgeting, restless and can't stand still. His speech is clear, but quick and off topic. His pupils look big. You ask the subject to do SFSTs and he agrees. There were no clues detected for HGN or VGN and LOC was not present. When completing the WAT test, his movements were stiff and his steps are very quick and punctuated by slamming the heel of the front foot into the toe of the back foot. Two clues were observed; starts too soon and an improper turn. On the OLS test, he counted to 1042 in 30 seconds, displayed leg and body tremors, and put his foot down twice while attempting to balance. The subject had difficulty performing the MRB Test. He estimated 30 seconds in 22 seconds, and swayed quickly side to side.

The subject denies any drug use at first but later tells you he did take something for his sore throat the day before. You notice again that he can't stand still and ask why. He tells you that he is afraid of the police because he watches Cops on TV and that Chicago PD used to be his favorite show. He further advises that he watches Breaking Bad reruns now because that's a better show but he can't watch it now because he is moving and had his cable turned off. He also tells you he is moving because his neighbors watch him all the time and one of them may have been following him when he wrecked.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

_____

Scenario #2

Ambience: night, dark with street lights, 60 degrees with light rain

You stop a young lady for failing to obey a traffic control device at 0115 hours. When you contact her you see that her pupils look big. She responds to your questions, but slowly. You determine that she lives in the area, and you ask her if she knows that she failed to stop at the red light. She tells you no, she didn't see it, and looks at you with a glare. She is wearing shorts and a tank top and you notice that she has goose bumps on her arms. As you talk to her, she asks you repeatedly to turn off your patrol vehicle overhead lights. Every time she hears radio traffic from your portable radio, she looks at you glaringly and complains about your flashing lights. She then tells you that she can't stay in the car and she gets out.

You ask her why she can't stay in the car and she tells you it's because there are things crawling around in the car. You observe nothing in the car. You ask her to do SFSTs and she agrees. No HGN, VGN or a LOC is observed. You do observe three clues on the WAT test; starts too soon, incorrect number of steps and uses arms for balance. On the OLS test, she tells you that there are things crawling around on the ground and doesn't want to do the test. The subject did complete the MRB test, but swayed badly side to side and front to back. She estimated 30 seconds in 15 seconds.

She continues to complain about the lights from your patrol vehicle, which are not on, and continues to describe things crawling around in her car. She advises that she is not under a care of a doctor and not taking any medication. However, she does admit being at a concert earlier in the evening and may have taken something a friend gave her to help her enjoy the music better.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

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Scenario #3

Ambience: afternoon light; 75 degrees and overcast

You observe a vehicle speeding and while you are behind it, you notice that it is traveling straight, but on the center divider line. You contact the driver and find him wearing a light jacket over a sweat shirt even though it is a warm afternoon. During the contact the subject answers your questions, but appears to be acting very tired. When you inquire about his demeanor, the subject advises that he works nights and didn't get much sleep the day before. He denies taking any medication or drugs.

As you talk with the subject you notice that he has small smears of blood on his hands and small blood stains on his pants. You ask about them and he tells you that he scratched the top off a scab and it bled. You also notice that his voice is soft, low and raspy. You note that the subject is continuously licking his lips and has a dry mouth.

You notice that the subject's pupils are very small. You ask him to do SFSTs and he agrees, but wants to know why. You tell him that you want to make sure he is okay to drive since he is claiming to be tired. Upon completion of the SFSTs you have observed no clues of HGN and the subject did not have a LOC. You did observe two clues on the WAT; stops while walking and incorrect number of steps. The subject's movements are very slow and deliberate. Two clues were observed during the OLS test; uses arms to balance and puts foot down. You also note that he counted to 21 at the end of 30 seconds. On the MRB test, the subject was swaying front to back, and estimated the passage of 30 seconds in 42 seconds.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

_____

Scenario #4

Ambience: afternoon light, 80 degrees, bright and sunny

You observe a van with a defective brake light and a roll of carpet in the back sticking out that is not properly secured. While you are behind the vehicle you notice some lane weaving and you initiate a traffic stop. After activating your emergency lights you notice that the driver is slow to pull over.

You contact the driver of the vehicle and confirm that he is a carpet installer and has just completed one job and is on his way to the next. He is wearing jeans and a work shirt with carpet adhesive spots on it. You can smell a chemical odor coming from the van as you stand at the window. When you ask him about the smell he tells you it is the adhesive. You ask the driver why it took him so long to stop. He tells you he didn't see you, and that he doesn't normally drive this van, and that the mirrors aren't adjusted properly.

When you ask the subject for his license, registration and proof of insurance he gives you his license, but forgets the other documents. You remind him and he starts to look again, but forgets what he is doing when you ask him where he is going. He pauses and then gives you the full address. You notice that his speech is slurred and hard to understand at times.

You ask the driver to do SFSTs and he agrees. After he gets out of the vehicle you see that he has a significant amount of adhesive on his clothes and hands. You ask him about it and he says he spilled the can at this last job. He tells you that he used an industrial cleaner to clean it up and the cleaner gave him a headache.

During the SFSTs, you observed six clues of HGN. You observed eight clues for the WAT, and four clues for the OLS. Several times he nearly fell and used the side of his van to steady himself during the OLS test. On the MRB test the subject swayed side to side and front to back by approximately 2 inches. He also estimated 30 seconds in 38 seconds. You also noted that the subject had a LOC.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

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Scenario #5

Ambience: early morning, daylight; 45 degrees with a light mist, almost fog

You are dispatched to a one vehicle crash where the driver ran off the roadway and into a ditch on a relatively straight, heavily traveled, but well maintained road. As you arrive you are advised that the driver of the vehicle is in the middle of the road trying to hit cars with a board and appears very agitated.

When you arrive you find the alleged female driver standing in the middle of the road wearing only a t-shirt and underpants. She appears agitated and is sweating profusely. She is bleeding slightly from the forehead, but other than that, appears to be uninjured.

You make contact with her and she does not respond to your verbal commands and pays very little attention to you. You see that the palms of both her hands are bloody from the board she is carrying, but she doesn't seem to notice the bleeding. You finally get her attention and ask her name, what she is doing, and what happened. She stares at you, but does not respond to your questions. You tell her to put the board down and she continues to stare at you. You ask her where her clothes are and she tells you that she is hot and didn't need them.

After taking the board away from her, she tells you her name and eventually tells you that she is mad at the cars because no one will stop to help her. After you determine that she is the driver of the vehicle, you ask her to do SFSTs. However, she just looks at you and makes no response. You finally get her to do the HGN test and you observe all six clues plus VGN. You also observe LOC. She agrees to do the WAT test where you observed all eight clues. You notice that her movements are very slow and rigid-like. You observe three clues on the OLS test, and again her movements are slow and rigid-like. On the MRB test the subject did not close her eyes and was very stiff and rigid. She estimated 30 seconds in 48 seconds. Her responses to your questions were delayed, and she had to concentrate very hard to complete them.

EMS advises you that they are going to transport the subject to the hospital. She becomes obviously annoyed, starts yelling, and is visibly upset, and transported to the local hospital.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

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Scenario #6

Ambience: late evening, dark; 40 degrees and raining

You stop a vehicle for failing to maintain a single lane of travel. You contact the driver and find that there are several people in the car, and the driver is talking on a cell phone. You have to instruct her to end her call when you make your contact with her. You ask the driver for her license and registration and she provides them, but she asks you twice what you have asked for. You can see her pupils are large and her eyes appear to be red and bloodshot. She doesn't seem to be overly concerned about being stopped, and does not give you her full attention. She is easily distracted by her passengers who are laughing, making various comments, and asking you irrelevant questions.

You ask the subject to exit the vehicle and ask her additional questions. She responds appropriately, but laughs several times, and several looks back at the car between each question. At one point she turns away from you and waves to the passengers in the vehicle and makes faces at them.

She denies any alcohol or drug use. You ask her to perform SFSTs and she agrees and tells you that she hasn't been drinking. During the SFSTs you observe no clues of HGN or VGN. However, you do observe a LOC. You also notice that her pupils still appear to be large and bloodshot. During the WAT test the subject displays four clues; uses arms for balance, misses heel-to-toe, stops while walking, and she made an improper turn. Several times she stopped and asked questions about the test and asked what she was supposed to do. During the OLS test, she swayed while she balanced and you observed that her pant legs and her shirt were trembling indicating body tremors. During the tests she laughed out loud numerous times. After completing them, she asked if her passengers could do the same tests. On the MRB test she had a side to side and front to back sway of about 3 inches. She estimated the passage of 30 seconds in 38 seconds and had noticeable eyelid tremors. During the tests you observed a marijuana-like odor coming from her clothing.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

_____

Scenario #7

Ambience: morning light; 65 degrees and overcast

You are working speed enforcement in a school zone when you stop a vehicle for traveling 50 mph in a 25 mph zone. You contact the driver and she tells you that she is taking her children to school and is running late. You notice that her speech is slurred, and her pupils appear to be very small. She has a great deal of difficulty finding her license. As she goes through her purse you see a plastic container with several pills in it. You ask her if she is taking any medication and she tells you that they are vitamins, and some pills that her doctor gave her for pain.

You ask her more questions about the pills. She tells you that she lifted a box, and hurt her back a few days ago. When questioned further, she states that she took a pill for pain last night before going to bed so she could sleep, and took another one that morning. She tells you that she is just following the advice of her doctor.

You notice that her actions are slow and deliberate and that her speech is thick and slurred at times. You ask her to perform SFSTs and she agrees. Upon completion of the HGN test, you observed six clues of nystagmus. You also noticed that her pupils appeared very small and also observed a LOC. During the WAT test you observed four clues, and then she terminated the test telling you it was hurting her back. After making a brief attempt to perform the OLS test, she immediately dropped her foot and refused to continue the test claiming it bothered her back. She was able to do the MRB test. As she performed the test she swayed noticeably side to side, and she estimated the passage of 30 seconds in 44 seconds.

You asked if she was using any other medications. She advised that she occasionally takes a pill to help her sleep, and may have taken one the night before.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

Specific evidence you would describe to the DRE _____

_____

Scenario #8

Ambience: night, dark; 75 degrees

You observe a vehicle fail to maintain a single lane of travel, make an improper lane change, and fail to yield to oncoming traffic when crossing through an intersection. You also observe that the vehicle's speed is inconsistent, and the vehicle is speeding up and slowing down for no apparent reason. After activating your emergency lights to stop the vehicle, the driver is slow to respond. The driver finally activates his turn signal when pulling to the shoulder of the roadway. When doing so, you notice that the vehicle's windshield wipers come on, and its headlights change from low beam to high beam.

You contact the driver and see that his eyes are bloodshot and watery, and his speech is slurred. He has difficulty finding his license and you finally have to point it out to him. When he hands his license to you he tells you that he is looking for a bathroom and somewhere to eat, and tells you that he is hungry.

He tells you he is from out of town and just left a friend's house, and is "a little lost." He then starts laughing. He forgets to provide you with the vehicle registration and when reminded, he gives you an envelope containing the warranty for his car tires. After several attempts, he produces the requested document. You note a local address on both documents.

You ask him to perform SFSTs and he agrees, but he accuses you of harassing him because he is from out of town. You notice that he has difficulty getting out of the car. During the HGN test, you observe a Lack of Smooth Pursuit in both eyes and Distinct and Sustained Nystagmus at Maximum Deviation. No other HGN clues or VGN are observed. You also observe a LOC and that his pupils appear to be large in size. You observe three clues during the WAT test; cannot keep balance, does not touch heel-to-toe, and an improper turn. You also notice that the subject has difficulty following your instructions. During the OLS test, the subject sways badly, puts his foot down several times, and you stop the test because he is in danger of falling. During the MRB test the subject swayed noticeably from side to side, had eyelid tremors, and estimated the passage of 30 seconds in 36 seconds. You administer a preliminary breath test and the reading is 0.06.

Arrest for DUI-Drugs Yes / No

BAC 0.00

Request the assistance of a DRE after arrest Yes / No

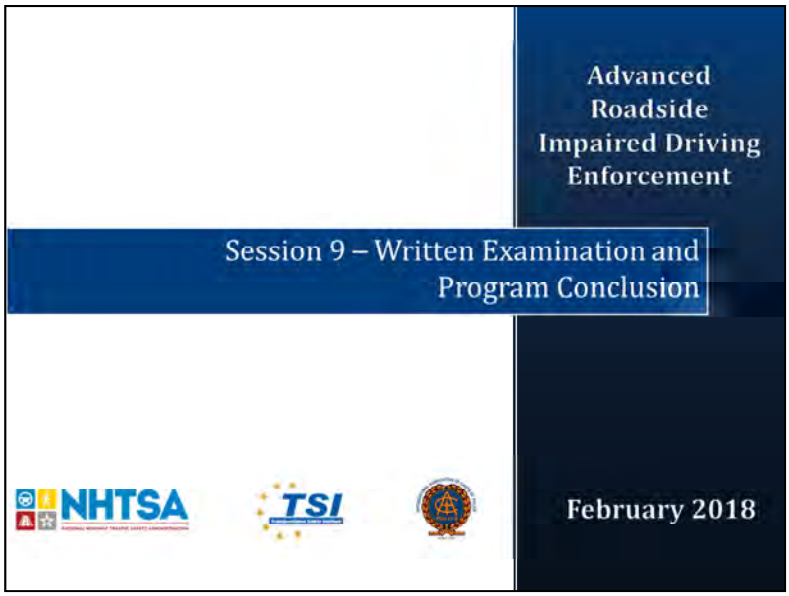
Specific evidence you would describe to the DRE _____

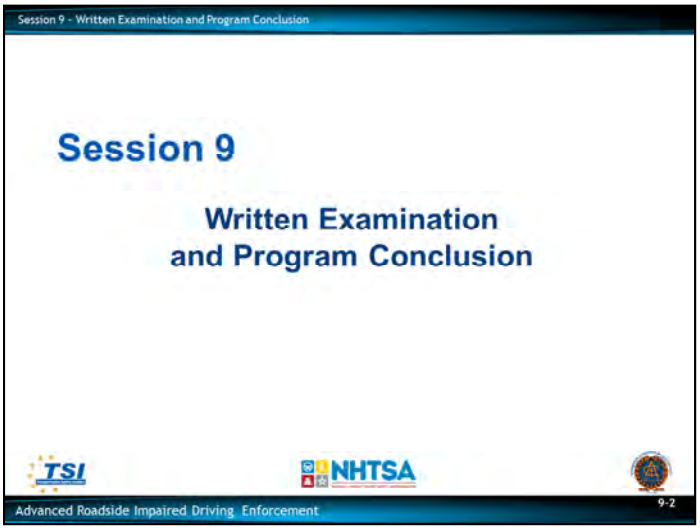
_____

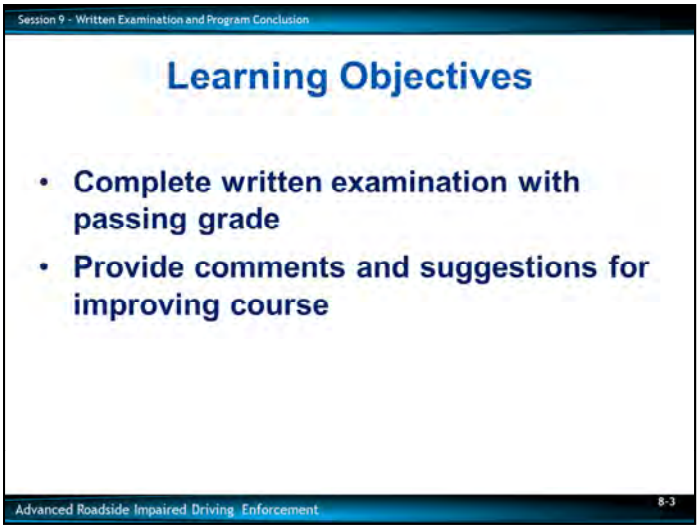
DRUGGED DRIVER CASE SCENARIOS

Answer Key

Scenario #1	CNS Stimulant
Scenario #2	Hallucinogens
Scenario #3	Narcotic Analgesic
Scenario #4	Inhalants
Scenario #5	Dissociative Anesthetics
Scenario #6	Cannabis
Scenario #7	CNS Depressant and Narcotic Analgesic
Scenario #8	CNS Depressant and Cannabis


Advanced
Roadside
Impaired Driving
Enforcement
Session 9 – Written Examination and
Program Conclusion
NHTSA
TSI
February 2018


Session 9 - Written Examination and Program Conclusion
Session 9
Written Examination
and Program Conclusion
TSI
NHTSA
Advanced Roadside Impaired Driving Enforcement
9-2



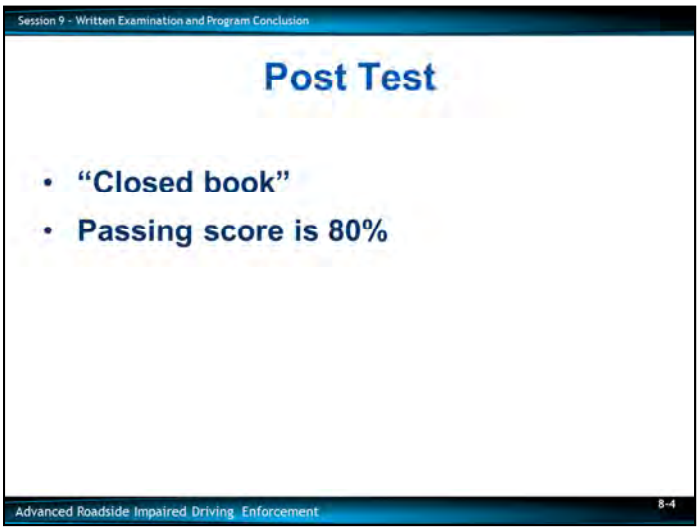
Briefly review the objectives, content and activities of this session.
Upon successfully completing this session the participant will be able to:

- Complete a written examination with a passing grade
- Provide comments and suggestions for improving the course

CONTENT SEGMENTS
A. Post Test
B. Critique
C. Review of Post Test
D. Concluding Remarks
E. Certificates and Dismissal

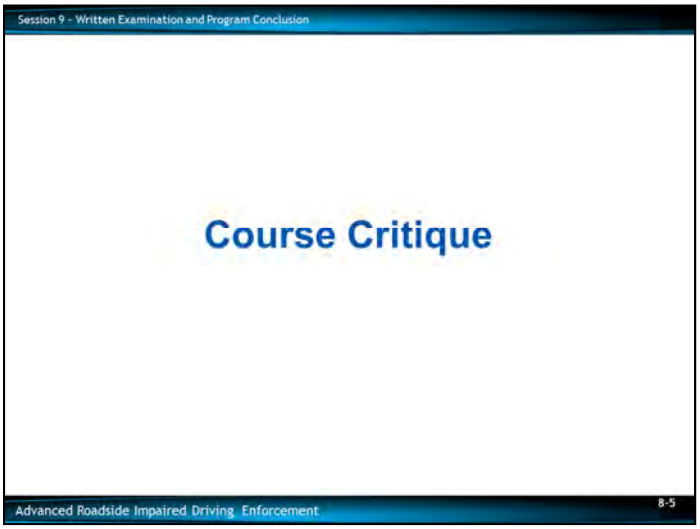
LEARNING ACTIVITIES
Written Participant Examination
Written Participant Critique
Instructor-Led Presentation

Explain participants will take a written test to demonstrate their knowledge of the key topics covered in this course. They should study the manual prior to the test and become familiar with its contents.



A. <u>Post Test</u>

Purpose of the Post Test: to compare with pretest and determine extent of knowledge gained by participants.
"Closed book" test. Passing score is 80%.
Distribute Post Test.
Collect completed Post Tests.
Grade Post Test and redistribute to participants for review.



B. <u>Critique</u>

Purpose of the critique form: To identify possible improvements that can and should be made to this program.
Explain to participants they will be asked to complete -- anonymously -- a critique form. The instructors need their comments and suggestions to help improve the course.
Distribute critique forms.
Collect completed critique forms.

_____

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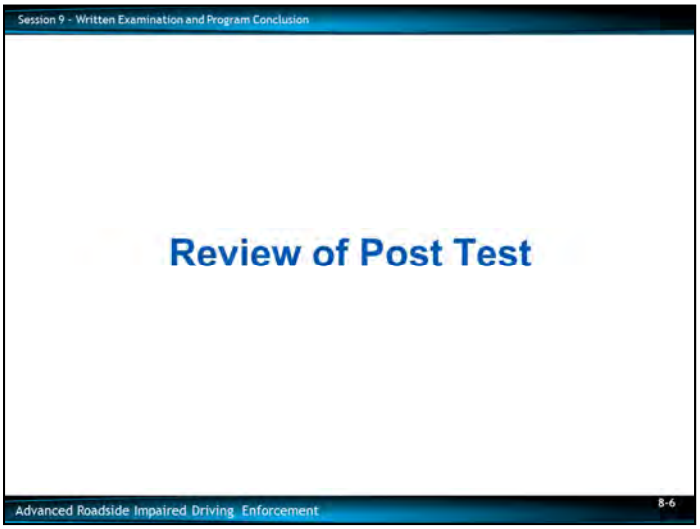
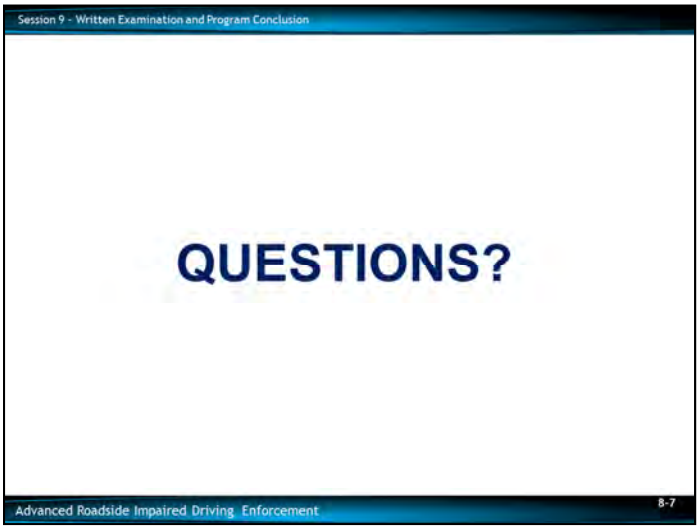


C. <u>Review of Post Test</u>

If passing score is not achieved, participant(s) will be allowed to take "make up" exam.
Read aloud each question on the Post Test and ask participants to supply correct answer.
Correct class responses, as necessary.
Explain correct answers briefly, as necessary.


Session 9 - Written Examination and Program Conclusion
QUESTIONS?
Advanced Roadside Impaired Driving Enforcement
8-7

ARIDE Course Critique

For items 1-6, please select your level of agreement with the following statements. Include any additional information in the space provided.

Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I was prepared for the SFST proficiency requirements associated with this course. Comments:_____ _____	O	O	O	O	O
2. The specific information provided in the seven drug categories (signs and symptoms) was sufficient to effectively understand how different drugs may affect individuals especially while driving. Comments:_____ _____	O	O	O	O	O
3. Based on the classroom content, I feel confident to conduct an effective roadside assessment of a suspected impaired driver. Comments:_____ _____	O	O	O	O	O
4. Based on the classroom content, I feel confident that I can identify general indicators associated with a suspected impaired driver. Comments:_____ _____	O	O	O	O	O
5. Overall, the ARIDE curse provided me with information which is immediately applicable to my job. Comments:_____ _____	O	O	O	O	O
6. Upon completing the course, I can effectively communicate (in writing and in a courtroom setting) my observations associated with a driver who I suspect is impaired by alcohol, drugs, or a combination of both. Comments:_____ _____	O	O	O	O	O

Please rate how helpful each workshop session was for <u>you personally</u>.

Item	Poor	Fair	Good	Very Good	Excellent
Introduction and Overview "Drugs and Highway Safety"	O	O	O	O	O
Standardized Field Sobriety Testing Review	O	O	O	O	O
Standardized Field Sobriety Testing Proficiency Examination	O	O	O	O	O
Drugs in the Human Body	O	O	O	O	O
Observation of the Eyes and Additional Tests for Drug Impairment	O	O	O	O	O
Seven Drug Categories	O	O	O	O	O
The Effects of Drug Combinations	O	O	O	O	O
Pre and Post Arrest Procedures	O	O	O	O	O

Please mark the appropriate word to indicate your agreement or disagreement with each of the following statements.

Item	Agree	Disagree	Not Sure
The program contains some information that is not needed and that should be deleted.	O	O	O
There are some important topics missing from the program that should be added.	O	O	O
The program is too short.	O	O	O
I feel this program has improved my own ability to enforce DWI laws.	O	O	O
The instructors did a good job.	O	O	O
I am very glad I attended the program.	O	O	O
The program is too long.	O	O	O
The instructors should have been better prepared.	O	O	O
I feel fully qualified to use the nystagmus test now.	O	O	O
I feel fully qualified to use the two divided attention tests now.	O	O	O
Too much time was spent practicing with drinking volunteers.	O	O	O
I wish we had more practice with drinking volunteers.	O	O	O

If you absolutely had to delete one session or topic from this course, what would it be?

_____

_____

If you could add one new topic or session to this course, what would it be?

_____

_____

_____

	Poor	Fair	Good	Very Good	Excellent
Please rate the overall quality of the course.	O	O	O	O	O

Please rate your instructors for this course. Rate the instructor(s) by selecting the appropriate response:

Instructor Name	Poor	Below Average	Average	Above Average	Excellent
Comments: _____ _____	O	O	O	O	O
Comments: _____ _____	O	O	O	O	O
Comments: _____ _____	O	O	O	O	O
Comments: _____ _____	O	O	O	O	O
Comments: _____ _____	O	O	O	O	O

Name (optional): _____