

Advanced Roadside Impaired Driving Enforcement (ARIDE)

R5/13 Edition

Participant Manual



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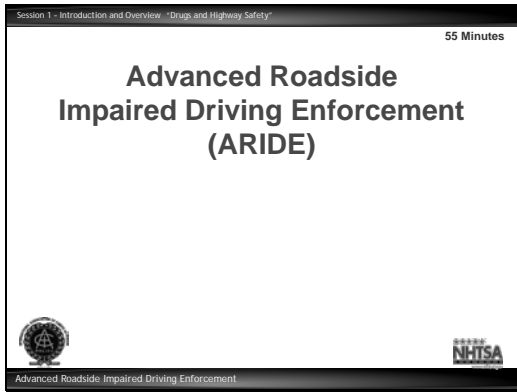
Evan Graham, Royal Canadian Mounted Police

Bill O'Leary, National Highway Traffic Safety Administration

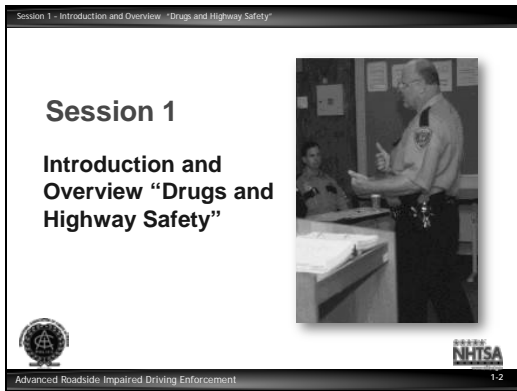
Doug Paquette, New York State Police

ARIDE Participant Manual – Session 1

Advanced Roadside Impaired Driving Enforcement (ARIDE)



Notes: _____



Notes: _____

Welcoming Remarks

Introductions – Representatives of Host Agencies and Other Dignitaries

Faculty Introductions

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

Housekeeping

- Paperwork
- Mandatory attendance
- Breaks
- Facility
- Interruptions
 - All electronic devices off



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Notes: _____

Paperwork

Attendance

Breaks



Facility

Interruptions

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

Participant Introductions

- Name
- Agency
- Affiliation
- Experience





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Notes: _____

Session 1 – Introduction and Overview: “Drug and Highway Safety”

Learning Objectives

- Explain course goals and objectives
- Define the term “drug”
- Highlight US drug problem issues
- Describe impaired driving programs
- Underscore connection to DECP
- Emphasize roles of the DRE

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Notes: _____

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 Program (DECP).
- Define the term drug in the context of traffic safety and impaired driving enforcement as referenced in the DECP.

Content Segments

- Describe the course to the class
Goal of the course
- What is a drug?
- Statistics and research
 - US and other countries
 - General alcohol and drug use
 - Prevalence of impaired driving
- Impaired driving enforcement programs
- Roles and responsibilities of the DRE


Learning Activities

- Instructor-Led Presentation
- Instructor-Led Presentation
- Instructor-Led Presentation
- Instructor-Led Presentation
- Instructor-Led Presentation

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

Important Note

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



Advanced Roadside Impaired Driving Enforcement 1-6

Notes: _____

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

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


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

Based on that premise, the ARIDE course was developed with the following goals in mind.

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

Overall 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, traffic fatalities and serious injuries.



Advanced Roadside Impaired Driving Enforcement 1-7

Notes: _____

A. 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.
- Enable them to effectively work with law enforcement in order to reduce the number of impaired driving incidents, serious injury, and fatal crashes.

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

Background: High Visibility Enforcement Efforts

- Left prosecutors behind in technology advances and training
- Overloaded criminal court system
- Delivered poorly developed cases for prosecution
- Drove criminal justice professionals to understand impaired driving detection process



Advanced Roadside Impaired Driving Enforcement 1-8

Notes: _____

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:


1. Prosecutors
2. Toxicologists
3. Probation and Parole Officers

They must also understand the impaired driving detection process in order to support enforcement efforts, which will increase the probability of successful prosecution and adjudication.

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

Overall Course Objectives

- Properly administer and articulate the SFSTs
- Describe the relationship of drugs to impaired driving incidents
- Observe, identify and articulate the observable signs of drug impairment



Advanced Roadside Impaired Driving Enforcement 1-9

Notes: _____


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

- Demonstrate, articulate, and properly administer the SFSTs 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.

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

Overall Course Objectives (Cont.)

- 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



Advanced Roadside Impaired Driving Enforcement 1-10

Notes: _____


- 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.

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

Course Sessions

- Introduction and overview of drugs and highway safety
- SFST update and proficiency exam
- Drugs in the human body
- Observations of eyes and other sobriety tests
- Drug categories and combinations
- Legal issues in impaired driver

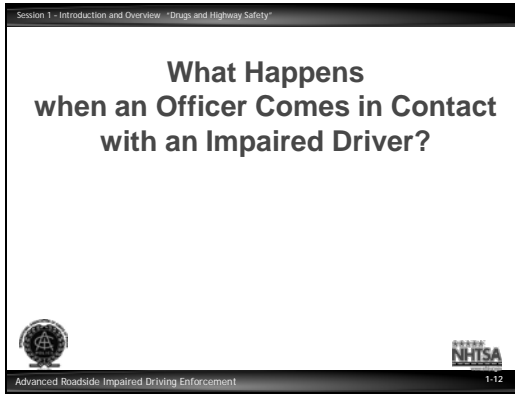


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Notes: _____

1. Introduction and Overview of Drugs and Highway Safety
2. SFST Update and Review
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
9. Legal Issues Associated with Impaired Driving

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

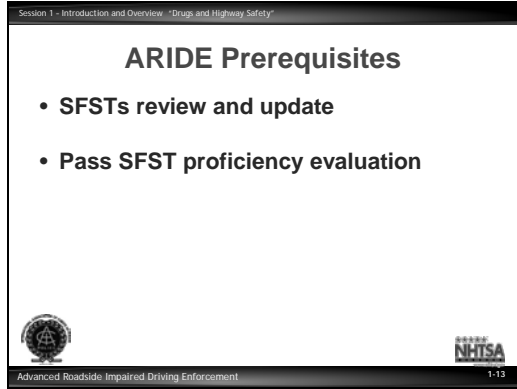


Notes: _____

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

The officer:

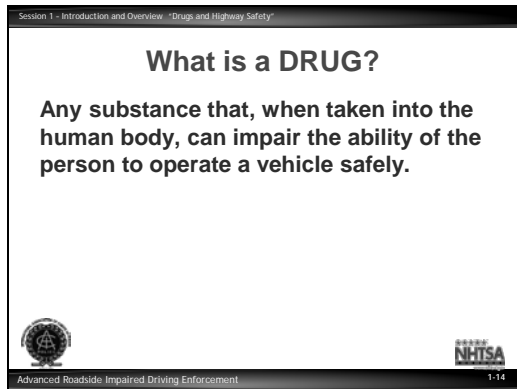
- Is unfamiliar with the indicators of drug impairment, therefore does nothing with the subject.
- Recognizes there is something wrong with the driver, but does not know how to address the issue.
- Allows subject to continue on their way.
- Drives the subject home or allows the subject to ride home with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



Notes: _____

In order for the participant to utilize the information presented in this course, NHTSA will require a prerequisite:

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



Notes: _____

B. What Is a Drug?

There are many definitions for the word drug:

Charles Leviathan's text, *Drugs, Behavior and Modern Society*, offers a general definition: "a chemical substance that, when taken into the body, alters the structures or functioning of the body in some way, excluding those nutrients considered to be related to normal functioning."

NHTSA's impaired driving training programs require a more specific definition since the ultimate goal is to decrease impaired driving incidents, serious injury, and fatal crashes.


For the purpose of this course and subsequent courses (DEC):

A drug is defined as any substance that, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

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

2012 National Survey Drug Use and Health (NSDUH)

- 131 million (52%) people consider themselves drinkers
- 6.7% consider themselves heavy drinkers
- 22.6 million people (8.9%) have used illicit drugs in the past month



Advanced Roadside Impaired Driving Enforcement 1-15

Notes: _____

C. Statistics and Research

Alcohol and Drug Use

Social drinking is considered acceptable in many societies.

It is important to understand the use of alcohol in the context of society, since it is related to the enforcement and adjudication of DWI offenses.

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

- 131 million (52%) people consider themselves drinkers
- 6.7% of this group describe themselves as heavy drinkers.
- 22.6 million people or 8.9% of the population have used illicit drugs in the past month.

2003 Research Survey



- Although these statistics are significant, it is reasonable to assume that 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.

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

(NSDUH) Self-Reported Drug Use

- 17.4 million consider themselves current marijuana users
- 60% only use marijuana
- 17% use marijuana in combination with other drugs
- 77% of current illicit drug users also use marijuana

Advanced Roadside Impaired Driving Enforcement 1-16

Notes: _____

The following summarizes the usage information as reported by the NSDUH Survey 2012:



- 17.4 million people consider themselves current marijuana user
- 60% only use marijuana
- 17% use marijuana in combination with other drugs
- 77% of current illicit drug users also use marijuana.

NSDUH provides additional details on drugs used in a manner other than prescription:

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

Types of Drugs Commonly Used

- Cocaine 2.3 M
- Hallucinogens 1.0 M
- Psychotherapeutics 6.3 M
- Pain Relievers 4.7 M
- Tranquilizers 1.8 M
- Stimulants 1.2 M
- Sedatives 0.3 M

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Notes: _____

<u>Type</u>	<u># of Users</u>
Cocaine	2.3 Million
Hallucinogens	1.0 Million
Psychotherapeutics	6.3 Million
Pain Relievers	4.7 Million
Tranquilizers	1.8 Million
Stimulants	1.2 Million
Sedatives	0.3 Million

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

Driving Under the Influence

- Males are twice as likely as females to drive under the influence of alcohol
- 13.6% (32M) of people reported that they had driven at least once in the last year under the influence of alcohol
- 5% (11M) of people reported that they drove under the influence of illicit drugs during the last year



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Notes: _____

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

The surveys tell us:

1. Males are twice as likely as females to drive under the influence of alcohol.
2. Overall, 13.6% or more than 32 million people reported that they had driven at least once in the last year under the influence of alcohol.

That further translated into approximately 30% of minors (16-20 years of age) and 29% of those between the ages of 21 and 25 years.

5% (11m) of people reported that they drove under the influence of illicit drugs during the last year



Notes: _____

D. Impaired Driving Enforcement Programs

IACP/NHTSA supports:

- Training
- Enforcement
- Prosecution
- Adjudication

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

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

- Standardized Field Sobriety Testing
- Advanced Roadside Impaired Driving Enforcement
- Drug Evaluation and Classification (DEC) Program
- Prosecuting the Drugged Driver
- Lethal Weapon
- Protecting Lives, Saving Futures



Notes: _____

The DWI Detection and Standardized Field Sobriety Testing (SFST) Practitioner course provides:

- The cornerstone for a system of impaired driving training and enforcement.
- Proficiency in the SFST skills provides a foundation for this course, as well as the Drug Evaluation and Classification Program (DECP).
- The SFST program should be part of all alcohol and drug impaired driving enforcement initiatives.

DWI Detection and Standardized Field Sobriety Testing

The SFST Battery is a set of tests that include the following:

- Horizontal Gaze Nystagmus
- Walk and Turn
- One Leg Stand


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

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

Foundations of ARIDE

- **DWI Detection Process**
 - Phase One: Vehicle in Motion
 - Phase Two: Personnel Contact
 - Phase Three: Pre-arrest Screening

- **SFST Test Battery**
 - Horizontal Gaze Nystagmus
 - Walk and Turn
 - One Leg Stand



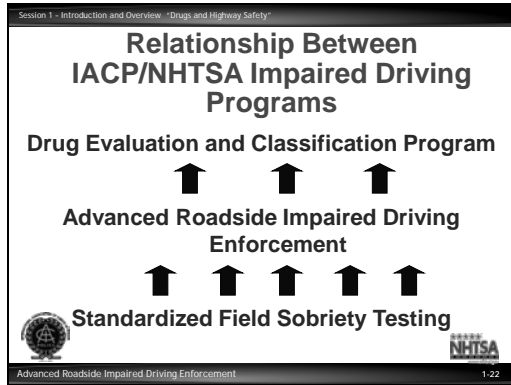
Advanced Roadside Impaired Driving Enforcement 1-21

Notes: _____

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

- Vehicle in motion
- Personal contact
- Pre-arrest screening

The SFST test battery serves as the foundation for impaired driving enforcement. It is critical that these tests be performed and interpreted properly.



Notes: _____

Drug Evaluation and Classification Program

The ultimate goal of the DEC Program is:

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

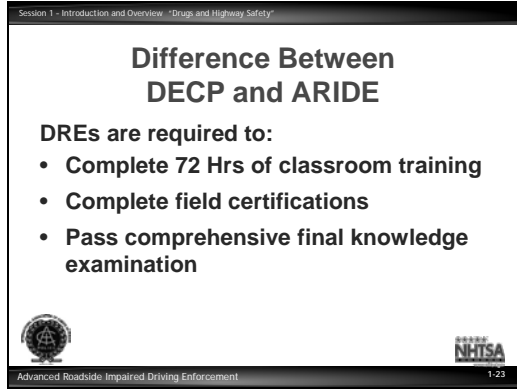
The DRE officer is trained to:

- Conduct a detailed evaluation, consisting of twelve steps (12), 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 Drug Recognition Expert or Drug Recognition Evaluator (DRE).

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 officer 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.

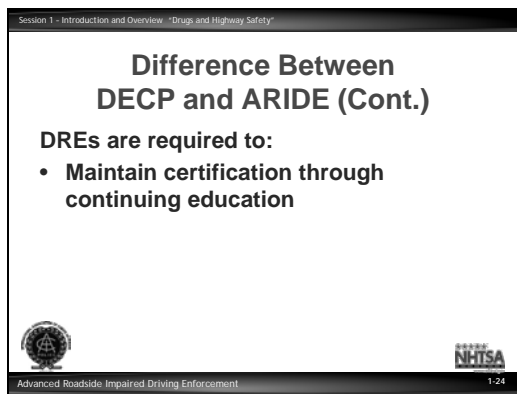


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Roles and Responsibilities of a Drug Recognition Expert

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.



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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 state coordinators may place other standards on each DRE that is specific to that state.

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

Bridging the Gap

- ARIDE training will allow the participant to build on SFST skills and knowledge
- ARIDE will provide the participant with information which will assist them to identify the drug impaired driver
- ARIDE is designed to support the DEC Program



Advanced Roadside Impaired Driving Enforcement 1-25

Notes: _____

The ARIDE Course


The ARIDE program 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.

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

Bridging the Gap (Cont.)

- ARIDE training will allow the participant to build on SFST skills and knowledge
- ARIDE will provide the participant with information which will assist them to identify the drug impaired driver
- ARIDE is designed to support the DEC Program



Advanced Roadside Impaired Driving Enforcement 1-26

Notes: _____

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.

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

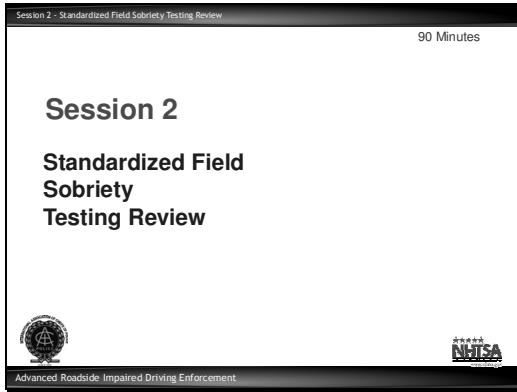
QUESTIONS?



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Notes: _____

ARIDE Participant Manual – Session 2 Standardized Field Sobriety Testing Review





Notes: _____

Session 2 – Standardized Field Sobriety Testing Review

Learning Objectives

- Describe how to apply results of selected SFST validation studies
- Describe administrative procedures for the eye examinations
- Define nystagmus and distinguish between the different types
- Describe and administer the SFSTs
- Document SFST indicators and clues
- Identify SFST limitations

Advanced Roadside Impaired Driving Enforcement 2-2

Notes: _____

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

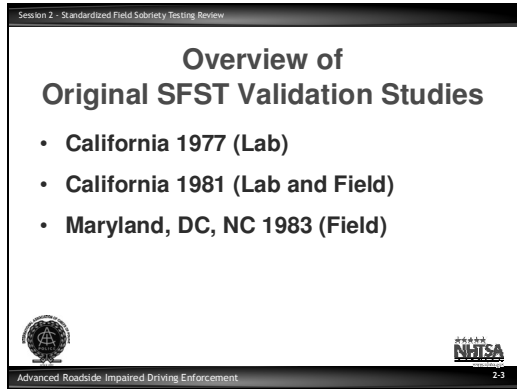
- Understand the results of selected SFST validation studies.
- Define and describe the Standardized Field Sobriety Tests (SFSTs).
- Define nystagmus and distinguish between the different types.
- Describe and properly administer the three SFSTs.
- Recognize, document and articulate the indicators and clues of the three SFSTs.
- Identify the limitations of the three SFSTs

Content Segments

- SFST Validation Studies
- Overview of Selected Types of Nystagmus Standardized Field Sobriety Tests
- Horizontal Gaze Nystagmus
- Practice HGN
- Walk-and-Turn
- Practice Walk-and-Turn
- One-Leg Stand
- Practice One-Leg Stand

Learning Activities

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



Notes: _____

A. Overview of the SFST Validation Studies

For many years law enforcement officers have utilized field sobriety tests to determine a subject’s impairment due to alcohol.

The performance of the subject on those field sobriety tests was used by the officer to develop probable cause for arrest and as evidence in court.

NOTE: This may not seem important, but officers are seeing this in court as a defense strategy.

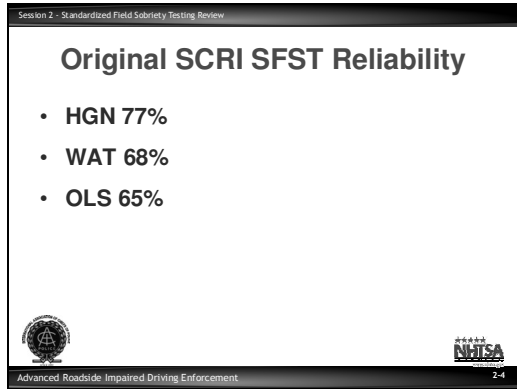
A wide variety of field sobriety tests were being used by officers throughout the country. There was a need to develop a battery of standardized, validated tests. NHTSA sponsored several research projects conducted through a contract with the Southern California Research Institute (SCRI). SCRI published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

- California 1977 (Lab)
- California 1981 (Lab and Field)
- Maryland, DC, NC 1983 (Field)

Primary distinction (Validated at 0.10 BAC)

The recommended battery included the following SFSTs:

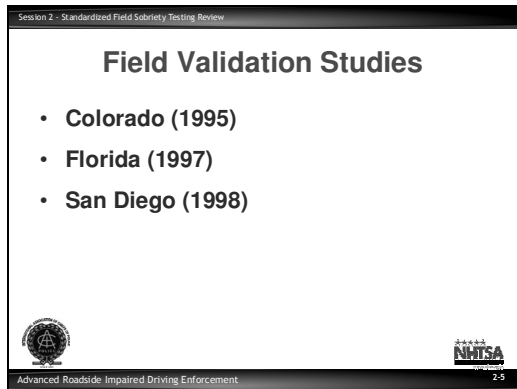
- Horizontal Gaze Nystagmus (HGN)
- Walk-and-Turn (WAT)
- One-Leg Stand (OLS)



Notes: _____

Southern California Research Institute (SCRI) SCRI analyzed the laboratory test data and determined that:

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



Notes: _____

Additional research studies conducted to assess the performance of the 3-test battery by SFST-experienced personnel.

Three SFST field validation studies were:


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

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

Session 2 - Standardized Field Sobriety Testing Review

Difference in Results

- Conducted in the field with officers experienced in DWI detection and SFST
- Colorado - 93%
- Florida – 95% at 0.08% BAC
- San Diego – 91% at 0.08% BAC
 - HGN “Most Reliable” field sobriety test



Advanced Roadside Impaired Driving Enforcement 2-6

Notes: _____

The results of this study indicated that correct arrests decisions were made:

- 93% of the time based on the 3-test battery (HGN, WAT, OLS)
- The Florida SFST Field Validation study was the first study to evaluate the SFSTs in their ability to detect drivers at or above a 0.08 BAC.
- Correct decisions to arrest were made 95% of the time based on the 3-test battery (HGN, WAT, OLS).

The San Diego SFST validation field study was undertaken because of the nationwide trend towards lowering the BAC limits to 0.08.


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 3-test battery (HGN, WAT, OLS) at the 0.08 BAC level and above.

Session 2 - Standardized Field Sobriety Testing Review

Correct Arrest Decision

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

- Decides to arrest an individual and that individual tested above the illegal per se limit
- Decides to release an individual who is below the illegal per se limit



Advanced Roadside Impaired Driving Enforcement 2-7

Notes: _____

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 an individual and that individual tested above the illegal per se limit.
- Decides to release an individual who is below the illegal per se limit.

Session 2 - Standardized Field Sobriety Testing Review

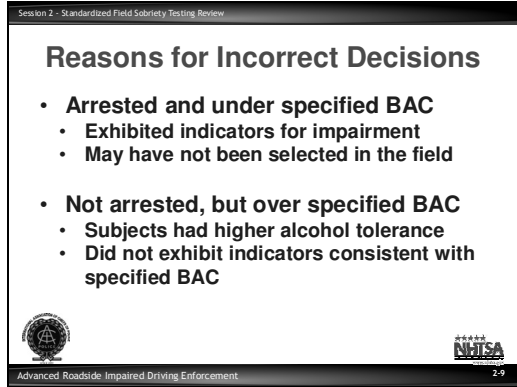
Correct Decision

	Arrested Subject	Did Not Arrest Subject
Above Illegal Per Se Limit	I Officer decided to arrest the subject <u>and</u> their BAC was <u>above</u> the illegal per se limit	II Officer decided <u>not</u> to arrest the subject and their BAC was <u>above</u> the illegal per se limit
Below Illegal Per Se Limit	III Officer decided to arrest the subject <u>but</u> their BAC was <u>below</u> the illegal per se limit	IV Officer decided <u>not</u> to arrest the subject and their BAC was <u>below</u> the illegal per se limit

Advanced Roadside Impaired Driving Enforcement  2-8

Notes: _____

- There are four quadrants, each representing a different decision.
- The quadrants (I and IV), shaded in gray, represent a correct arrest decision.
- The remaining individuals, incorrect arrest decisions, fall into two other categories.



Notes: _____

The first group was not arrested, but tested above the illegal per se limit, (quadrant II).

The reason for no arrest decision:

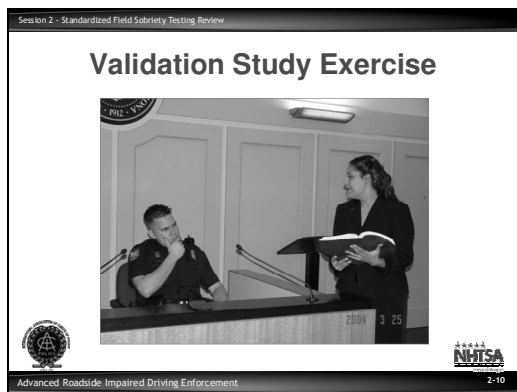
- (Approximately 33%) of these individuals were considered alcohol-tolerant and performed well on the SFSTs even though their BACs were above the illegal per se limit.

The members of second group were arrested, but their BAC was below the illegal per se limit. Many states stipulate in their statute that a driver is considered DWI if they are:

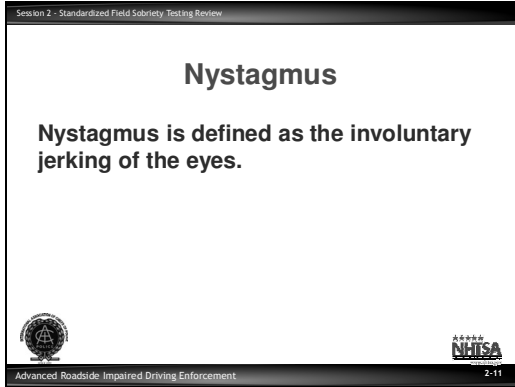
- Above the illegal per se limit.
- Lacking the normal use of their mental or physical faculties.

Even though the arrests in quadrant III may be 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.

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. Note: If you do not know the answer to a defense question you can say, "I DON'T KNOW." Do not testify to something you are not sure of.



Notes: _____



Notes: _____

Nystagmus is the involuntary jerking of the eyes.

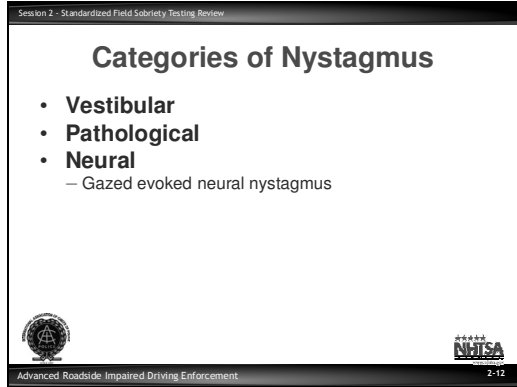
Horizontal Gaze Nystagmus is defined as the involuntary jerking of the eyes, as the eyes gaze to the side.

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 horizontal and vertical gaze nystagmus are important tools in impaired driving enforcement.

Alcohol and certain other drugs have been shown, through research, to cause horizontal and vertical gaze nystagmus, which is visible without the aid of specialized instrumentation.



Notes: _____

B. Overview of Selected Types of Nystagmus

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

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

Neural Nystagmus. Caused by some disturbance to the neural system.

There are over 40 different types of nystagmus.



This type of nystagmus occurs when the eye focuses on an object as they gaze towards the side.

Alcohol and/or specific types of drugs can cause these three types of nystagmus to be visible to the officer during the proper administration of the HGN and VGN tests.

Session 2 - Standardized Field Sobriety Testing Review

Gaze Nystagmus

- **Resting Nystagmus**
 - Occurs as the eyes gaze straight ahead
- **Horizontal Gaze Nystagmus (HGN)**
 - Occurs as the eyes move to the side
 - Useful in determining alcohol influence as well as some drug categories
- **Vertical Gaze Nystagmus (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



Advanced Roadside Impaired Driving Enforcement 2-13

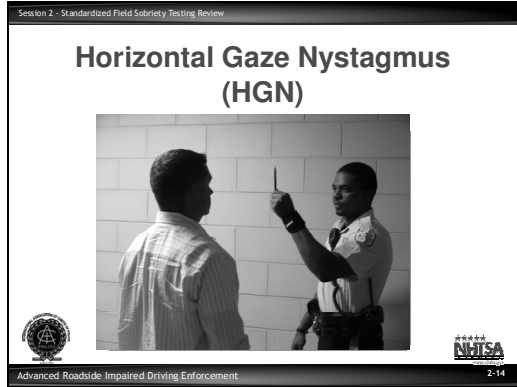
Notes: _____

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 problem, or may indicate a high level of Dissociative Anesthetic usage. 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:

- Horizontal gaze nystagmus (HGN)
- Vertical gaze nystagmus (VGN)



Notes: _____

C. Horizontal Gaze Nystagmus

Horizontal Gaze Nystagmus is defined as the involuntary jerking of the eyes as they gaze toward the side.

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

HGN becomes observable:


- When a subject is impaired by alcohol
- As the subject's BAC increases the jerking will appear sooner.
- When an individual 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.

Session 2 - Standardized Field Sobriety Testing Review

Administrative Procedures:

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



Advanced Roadside Impaired Driving Enforcement

NHTSA

2-15

Notes: _____

Initiating the HGN Test. Begin the test by positioning the subject in a manner that is 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 stimulus.

Ask the subject to:

- Remove glasses. (Note if subject wears contacts, especially colored contacts);
- Place feet together;
- Put hands at their side;
- Look straight ahead;
- Keep head still; and
- Follow stimulus with eyes only.

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."

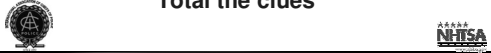
Session 2 - Standardized Field Sobriety Testing Review

Administrative Procedures (Cont.)

Beginning with subject's left eye check:

- Equal pupil size, resting nystagmus, equal tracking.
- Lack of smooth pursuit
- Distinct and Sustained nystagmus at maximum deviation.
- Onset of nystagmus prior to 45 degrees.

Total the clues



Advanced Roadside Impaired Driving Enforcement 2-16

Notes: _____

Position the stimulus approximately 12 to 15 inches from the face in front of the suspect's nose and hold it slightly above eye level.

- 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.

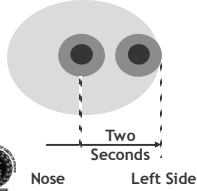
Check both eyes for equal tracking by making a rapid horizontal pass across both eyes.

- The speed of the stimulus should be approximately the same speed as checking for 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.

Session 2 - Standardized Field Sobriety Testing Review

Three Clues of Horizontal Gaze Nystagmus

1. Lack of Smooth Pursuit



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

Advanced Roadside Impaired Driving Enforcement

NHTSA

2-17

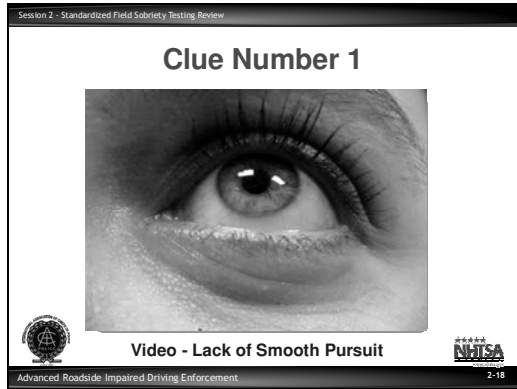
Notes: _____

Lack of Smooth Pursuit (LSP)

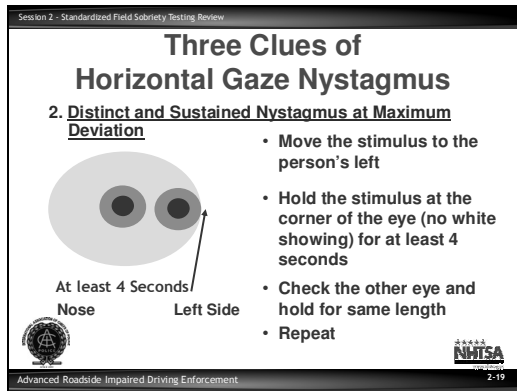
- LOSP occurs when the eyes jerk or bounce as they follow a smoothly moving stimulus.
- Check the subject's left eye first.
- Move the stimulus smoothly, at a speed that requires approximately two seconds to bring the subject's eye as far to the side as it can go.
- Carefully watch the subject's left 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 shoulder on the left side.
- Approximately two seconds to get back to the center then.
- Approximately two seconds to move from the center of the subject's face to the shoulder on 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 manner to best observe the eyes in motion.

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



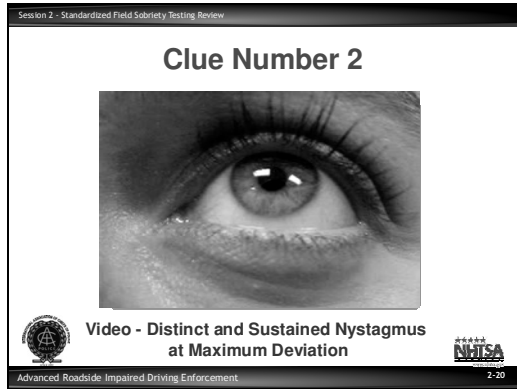
Notes: _____



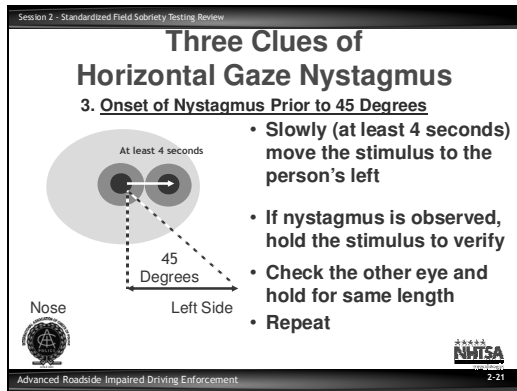
Notes: _____

Distinct and Sustained Nystagmus at Maximum Deviation

- At extreme lateral gaze, also known as the endpoint or maximum deviation, the nystagmus is distinct and sustained when the stimulus is held for a minimum of 4 seconds.
- Start again with the individual’s left eye.
- Move the stimulus to the individual’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 and not 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 individual’s face and check the right eye.
- Repeat the procedure until each eye has been checked twice.



Notes: _____




Notes: _____

Onset of Nystagmus Prior to 45 degrees

- Start again with the individual'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 is distinct and sustained (i.e. continuous).
- Move the stimulus all the way to the left, back across the individual's face and check the right eye.
- Repeat the procedure until each eye has been checked twice.

Session 2 - Standardized Field Sobriety Testing Review

Clue Number 3



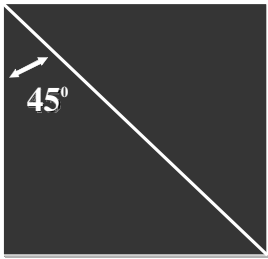
Video - Onset of Nystagmus
Prior to 45 Degrees

Advanced Roadside Impaired Driving Enforcement **NHTSA** 2-22

Notes: _____

Session 2 - Standardized Field Sobriety Testing Review

45 Degree Template




Advanced Roadside Impaired Driving Enforcement **NHTSA** 2-24

Notes: _____

Session 2 - Standardized Field Sobriety Testing Review

Three Clues of Horizontal Gaze Nystagmus:

- Lack of smooth pursuit
- Distinct and Sustained nystagmus at maximum deviation
- Onset of nystagmus prior to 45 degrees



Advanced Roadside Impaired Driving Enforcement **NHTSA** 2-25

Notes: _____


Three Clues of Horizontal Gaze Nystagmus

- Lack of smooth pursuit
- Distinct and Sustained nystagmus at maximum deviation
- Onset of nystagmus prior to 45 degrees

Session 2 - Standardized Field Sobriety Testing Review

Horizontal Gaze Nystagmus Indications

- Six maximum clues
- Maximum three clues per eye
- 77% accurate detecting subjects ≥ 0.10 BAC



Advanced Roadside Impaired Driving Enforcement 2-26



Notes: _____

HGN Test Criterion. 4 or more clues indicates BAC at or above 0.10 - 77% reliable (1977 original SCRI study) sponsored by NHTSA.

Session 2 - Standardized Field Sobriety Testing Review

Vertical Nystagmus

- Move the stimulus vertically
- Raise the stimulus until the individual's eyes are elevated as far as possible and hold for at least four seconds
- Repeat

Advanced Roadside Impaired Driving Enforcement 2-27


Notes: _____

Vertical Nystagmus

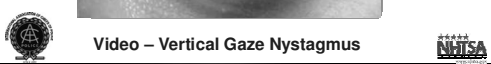
- Start with the stimulus approximately 12-15 inches from the face in front of the nose.
- Elevate the stimulus up until the eyes cannot elevate further.
- Hold the stimulus in that position for a minimum 4 seconds.
- If vertical nystagmus is present it must be distinct and sustained (i.e. continuous).

Session 2 - Standardized Field Sobriety Testing Review

Vertical Gaze Nystagmus



Video - Vertical Gaze Nystagmus



Advanced Roadside Impaired Driving Enforcement 2-28


Notes: _____

Session 2 - Standardized Field Sobriety Testing Review

Test Interpretation

Three clues in each eye:

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



Advanced Roadside Impaired Driving Enforcement

NHTSA

2-29

Notes: _____

D. Practice HGN

Test Interpretation

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

- Lack of Smooth Pursuit
- Present
- Not present
- If present, it accounts for 2 clues, one in each eye
- Distinct and sustained nystagmus at maximum deviation
- Present
- Not present
- If present, it accounts for 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.



This jerking must be distinct and sustained.

- Present
- Not present
- If present, it accounts for 2 clues, one in each eye

Session 2 - Standardized Field Sobriety Testing Review

Documenting HGN Clues

- When applicable always document clues of impairment as you conduct the roadside tests
- Keep officer safety in mind during documentation
- Use forms that follow NHTSA/IACP manuals

Advanced Roadside Impaired Driving Enforcement 2-30

Notes: _____

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 that the subject's BAC is at or above 0.08. If two or three clues are observed, it is likely that the subject's BAC is at or above 0.04 but under 0.08.

When applicable you should always document the clues of impairment as you are conducting the roadside tests. Make sure that 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 NHTSA/IACP manuals, they may be used. Listed in your manual is only one example that could be used.

Session 2 - Standardized Field Sobriety Testing Review

The HGN Test Demonstrated

Advanced Roadside Impaired Driving Enforcement 2-31

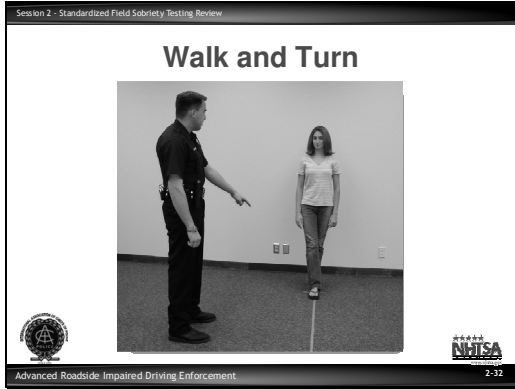
Notes: _____

Horizontal Gaze Nystagmus (HGN)

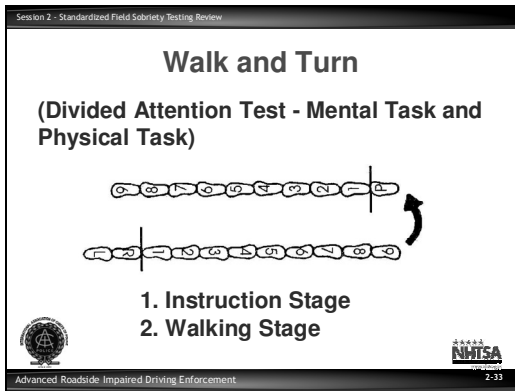
Clue #1 – Lack of smooth pursuit.

Clue #2 – Distinct and sustained Nystagmus at maximum deviation.

Clue #3 – Angle of Onset.



Notes: _____



Notes: _____

E. Walk and Turn Test

The Walk-and-Turn (WAT) test is divided into two stages:

- Instruction Stage
- Walking Stage

Instruction Stage

- Stand heel-to-toe with arms at their sides.
- Divided attention, listening to and remembering instructions.

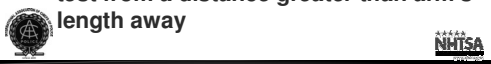
Walking Stage

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

Session 2 – Standardized Field Sobriety Testing Review

Safety Precautions

- Keep subject to your left during demonstrations
- Never turn back on suspect
- Be aware of surroundings
- Left-handed officers should demonstrate the test in this manner. Officers may opt to demonstrate the test from a distance greater than arm's length away

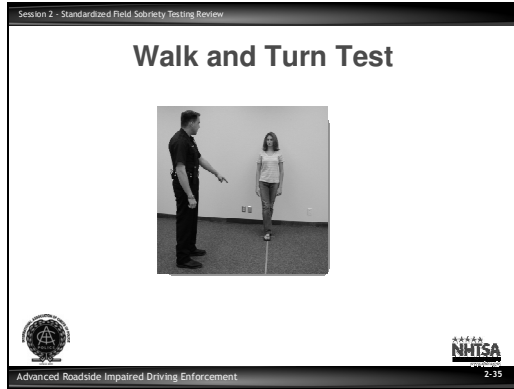


Advanced Roadside Impaired Driving Enforcement 2-34

Notes: _____

Officer safety precautions

- Keep subject on your left during demonstration
- Never turn your back on a suspect
- Be aware of surroundings
- Left-handed officers should demonstrate the test in this manner. Officers may opt to demonstrate the test from a distance greater than arm's length away.



Notes: _____

Walk and Turn is the second divided attention test administered during the drug influence evaluation.

The test is administered the same way that we have used it for Standardized Field Sobriety Testing purposes.

- Monitor the practice and offer coaching and constructive criticism, as appropriate.
- Review of Walk and Turn administrative procedures.

The test has two stages: the instructions stage and the walking stage.

- During the instructions 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 that the subject must maintain during the instructions 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.

Session 2 - Standardized Field Sobriety Testing Review

Walk and Turn Test Diagram

Walk And Turn Test

Describe Turn

Cannot keep balance _____
Starts too soon _____

	1st Nine	2nd Nine
Stops Walking		
Misses Heel-Toe		
Steps Off Line		
Raises Arms		
Actual Steps Taken		

Cannot Do Test (explain)

Advanced Roadside Impaired Driving Enforcement 2-36


Notes: _____

- The subject must be told to watch his or her feet while walking, and to count the steps out loud.
- The subject must be told to keep their arms at the sides at all times.
- 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.

Session 2 - Standardized Field Sobriety Testing Review

Walk and Turn Test Clues

1. Can't balance during instructions (breaks heel/toe)
2. Starts too soon
3. Stops while walking
4. Doesn't touch heel to toe



Advanced Roadside Impaired Driving Enforcement 2-37

Notes: _____

Look for the following clues each time the Walk-and-Turn test is administered. Cannot keep balance while listening to the instructions.

- Record this clue if the individual does not maintain the heel-to-toe position throughout the instructions.
- Do not record this clue if the suspect sways or uses the arms to balance but maintains the heel-to-toe position.

Note: Feet must actually break apart.


2. Starts too soon, before the instructions are finished.
 - Since you specifically instructed the suspect not to start walking "until I tell you to begin," record this clue if the individual starts walking before told to do so.
3. Stops while walking.
 - a. The individual pauses for several seconds. Do not record this clue if the individual is merely walking slowly.
4. Does not touch heel-to-toe. The individual leaves a space of more than one-half inch between the heel and toe on any step.

Session 2 - Standardized Field Sobriety Testing Review

Walk and Turn Test Clues (Cont.)

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

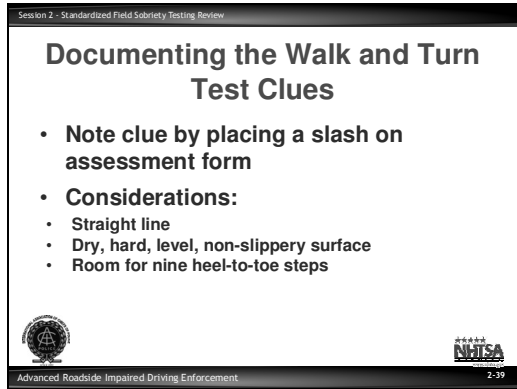
Note: If subject can't complete the test, record clues that were observed, and note why test was not completed



Advanced Roadside Impaired Driving Enforcement 2-38

Notes: _____

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



Notes: _____

Documenting the Walk and Turn Clues

Each clue is noted by placing a slash in the appropriate place on the assessment form.

For example: If the individual raised their arms twice and stepped off the line three times, they would be considered to have demonstrated “two” clues.

It is a good practice to use an assessment form that documents the administrative procedures.

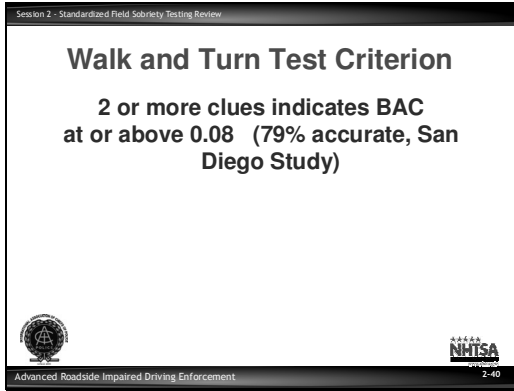
Considerations

Walk-and-Turn 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 individuals to complete nine heel-to-toe steps.

Notes:

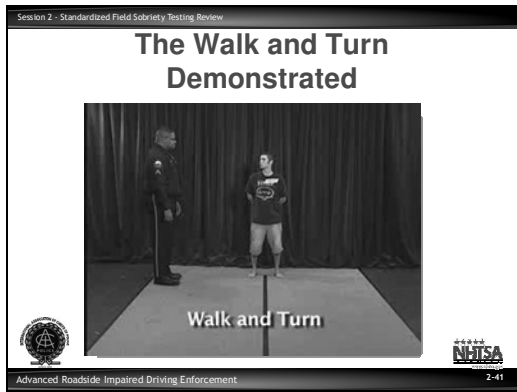
- However, recent field validation studies have indicated that varying environmental conditions have not affected a subject’s ability to perform this test.
- The original research indicated that subject’s over 65 years of age may have difficulty performing this test.
- Individuals wearing heels more than 2 inches high should be given the opportunity to remove their shoes.

****PRACTICAL EXERCISE****

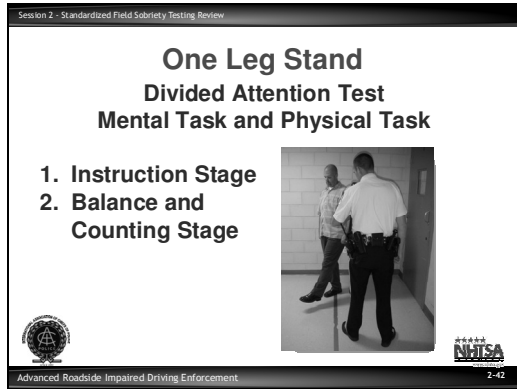


Notes: _____

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% (San Diego Study) of your subjects.



Notes: _____



Notes: _____

F. One Leg Stand

The One-Leg Stand (OLS) test is divided into two stages:

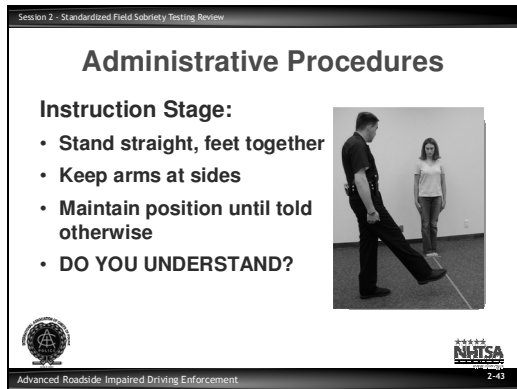
- Instructional stage
- Balancing and counting

Instructional Stage:

- Balancing and Counting
- Listening to instructions

The Balancing Stage:

- Balancing
- Short-term memory



Notes: _____

Administrative Procedures

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



Session 2 – Standardized Field Sobriety Testing Review

Administrative Procedures (Cont.)

Balance and Counting Stage:

- Raise one leg, either leg
- Keep raised foot approximately six inches off the ground, foot parallel to the ground
- Keep both legs straight
- Keep eyes on elevated foot
- Count out loud in the following manner: 1001, 1002, 1003, and so on, until told to stop.

Note: It is important for the officer to time 30 seconds for the test

Advanced Roadside Impaired Driving Enforcement 2-41

Notes: _____

Instructions for the Balancing 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 instructions stage and the balance and counting stage.
- During the instructions stage, the subject must stand with the feet together, arms at the side, facing the examiner.
- Demonstrate the stance that the “subject” is required to maintain.
- The subject must be told that they will have to raise either leg approximately 6 inches off the ground, with the right leg held straight and the raised foot parallel to the ground.
- The examiner must demonstrate the one-leg stance.
- Emphasize that the subject must maintain the foot elevation throughout the test.
- If the subject lowers his/her foot, he/she should be instructed to raise it.
- The subject must be told that they must look at the elevated foot during the test.
- Emphasize that 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 that they will have to count out loud in the following manner: “one thousand one, one thousand two, one thousand three” and so on until told to stop.
- After giving the instructions, the examiner should ask the “subject” if they understand.
- Note: If the subject puts the foot down, remind the subject to pick the foot up again and continue counting from the point at which the foot touched.

Session 2 - Standardized Field Sobriety Testing Review

One Leg Stand Test Evaluation

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

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



Advanced Roadside Impaired Driving Enforcement 2-45

Notes: _____

Test Evaluation


Look for the following clues each time the One-Leg Stand test is administered:

- Puts foot down
- Uses arms to balance
- Sways while balancing
- Hopping

Session 2 - Standardized Field Sobriety Testing Review

One Leg Stand Test Documentation and Considerations

- Note clues with slash on assessment form
- Consider subjects may have injuries
- Have subject remove shoes with heels over two inches



Advanced Roadside Impaired Driving Enforcement 2-46

Notes: _____

Documentation

Each clue is noted by placing a slash in the appropriate place on the assessment form.

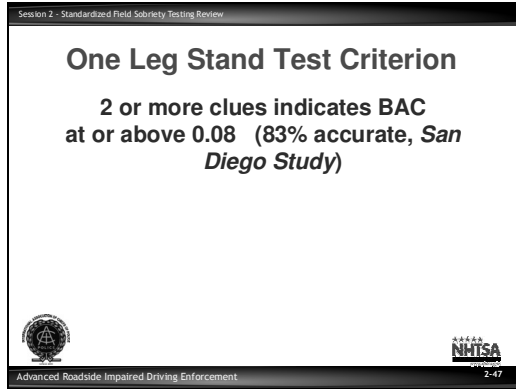
For example, if the individual used their arms twice and swayed three times, they would be considered to have demonstrated “two” clues. It is a good practice to use an assessment form that documents the administrative procedures.

Considerations

Some people may have difficulty with the One Leg Stand test even when not impaired.

Persons with injuries to their legs and/or hips or inner ear disorders may have difficulty with this test.

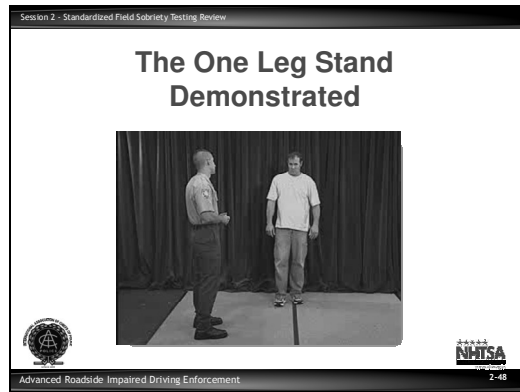
Individuals wearing shoes more than 2 inches high should be given the opportunity to remove them.



Notes: _____

One-Leg-Stand Test Criterion

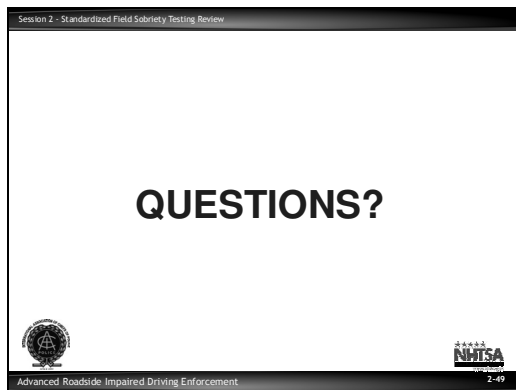
Based on recent research, if an individual shows two or more clues or fails to complete the One Leg Stand, there is a good chance the BAC is at or above 0.08. Using that criterion, you will accurately classify 83% (*San Diego Study*) of the people you test as to whether their BAC's are at or above 0.08.



Notes: _____

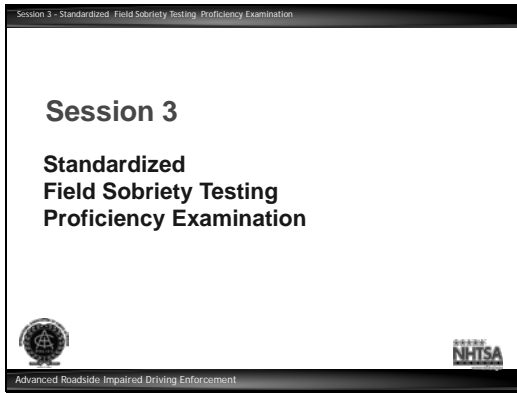
PRACTICAL EXERCISES

G. Practice One Leg Stand

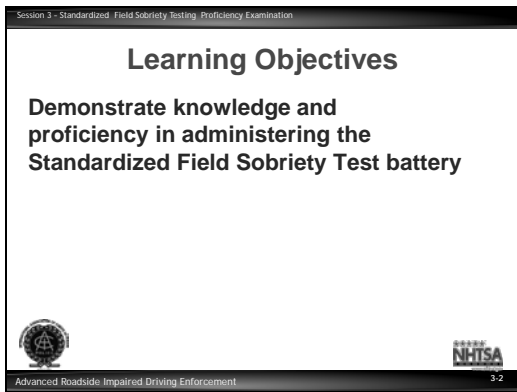


Notes: _____

ARIDE Participant Manual – Session 3 Standardized Field Sobriety Testing Proficiency Examination



Notes: _____



Notes: _____



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

- Demonstrate knowledge and proficiency in administering the SFST battery.

Session 3 - Standardized Field Sobriety Testing - Proficiency Examination

SFST Proficiency

- The student will be given two chances to successfully complete the proficiency examination
- If the student does not pass the proficiency on their second attempt they will not be allowed to continue with the training



Advanced Roadside Impaired Driving Enforcement 3-3

Notes: _____

Explanation for Proficiency

SFST is the foundation of every impaired driving training program that has been developed, researched, and supported for over two decades.

This makes it very important for the participants to be proficient in administering these tests.

NHTSA, 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 the IACP committed to bridging the information gaps between the governing bodies and the agencies applying these techniques in the field.

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



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

Session 3 - Standardized Field Sobriety Testing Proficiency Examination

SFST Proficiency (Cont.)

Remember!!!!

- The participant will be given only two opportunities to do the SFST battery
- The instructor will not assist or coach the participant in any manner during the proficiency examination

Advanced Roadside Impaired Driving Enforcement 3-4

Notes: _____



SFST Proficiency Examination

- The participant will be given only two opportunities to do the SFST battery.
- If the participant fails their first attempt, they will be given the opportunity to practice on their 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.
- Utilize proficiency examination form located in the participant manual and the administrator's 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.

Session 3 - Standardized Field Sobriety Testing Proficiency Examination

SFST Proficiency (Cont.)

- The instructors are here to assist you with the proficiency
- If you are having trouble with the process you will be given ample time to practice

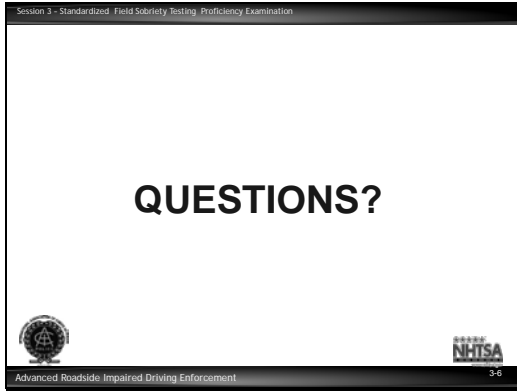



Advanced Roadside Impaired Driving Enforcement 3-5

Notes: _____

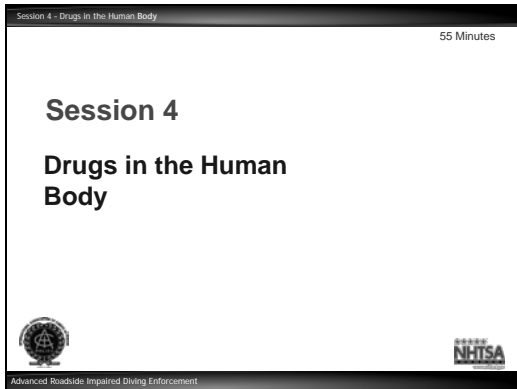
Remember the Instructors are here to assist you with the proficiency.

If the participant is having trouble passing the proficiency examination the participant shall be responsible for seeking out instructors to assist them.

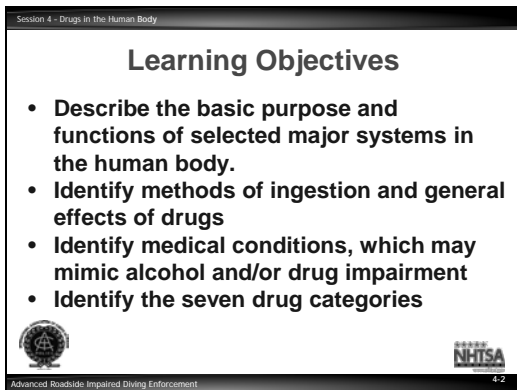


Notes: _____

ARIDE Participant Manual – Session 4 Drugs in the Human Body



Notes: _____



Notes: _____

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 which may mimic alcohol and drug impairment.
- Identify the seven drug categories as referenced in the DECP 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 which 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
- Instructor-Led Presentation
- Instructor-Led Presentation
- Instructor-Led Presentation
- Instructor-Led Presentation

Session 4 - Drugs in the Human Body

Identifying the Effects of Drugs on the Human Body is Dependent in part on:

- Recognizing changes in behavior
- Recognizing observable signs and symptoms related to an impaired individual



Advanced Roadside Impaired Driving Enforcement 4-3

Notes: _____

A. Drugs in the Human Body

This process is dependent, in part, on:


- Recognizing changes in behavior
- Recognizing observable signs and symptoms related to an impaired individual

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.

Session 4 - Drugs in the Human Body

This Session Will...

- Provide 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



Advanced Roadside Impaired Driving Enforcement 4-4

Notes: _____

This session is designed to provide the participant with:


- 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.

Session 4 - Drugs in the Human Body

Pharmacokinetics

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



Advanced Roadside Impaired Driving Enforcement 4-5

Notes: _____

Pharmacokinetics

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


As stated in the objectives, this session will also:

- Explain the different types of drug ingestion.
- Describe medical conditions, which may mimic the signs and symptoms of alcohol and/or drug use.
- Identify the seven drug categories used by the DEC program.
- Introduction of a drug indicator matrix.

Session 4 - Drugs in the Human Body

What is a 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.



Advanced Roadside Impaired Driving Enforcement 4-6

Notes: _____

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

The following provides operational definitions for drug and psychoactive 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.

Session 4 - Drugs in the Human Body

Psychoactive

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

- Perception
- Mood
- Consciousness
- Behavior

Advanced Roadside Impaired Driving Enforcement 4-7

Notes: _____

Psychoactive

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

Session 4 - Drugs in the Human Body

Major Systems of the Human Body

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine

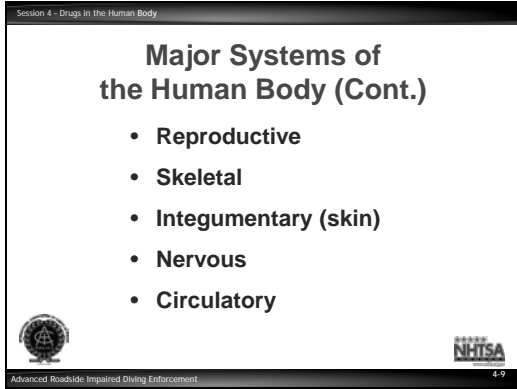
Advanced Roadside Impaired Driving Enforcement 4-8

Notes: _____

B. Introduction of Selected Systems of the Human Body

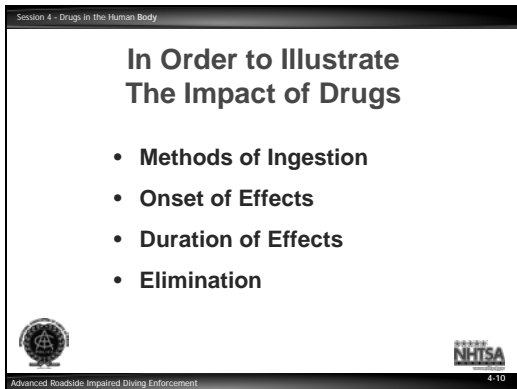
There are ten systems in the human body:

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine



Notes: _____

- Reproductive
- Skeletal
- Integumentary (skin)
- Nervous
- Circulatory

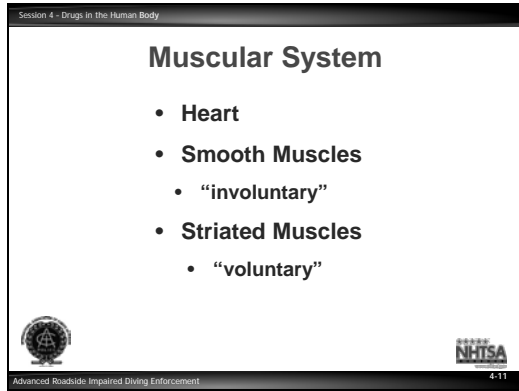


Notes: _____

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

- Ingestion
- Onset
- 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.



Notes: _____

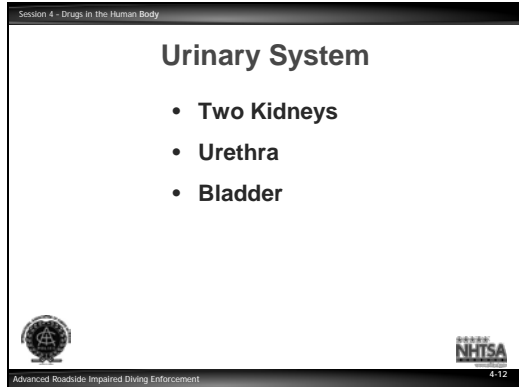
Muscular System

The body has three types of muscles:

- Heart
- Smooth muscles (which control involuntary movements)
- 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, one-leg stand test, as well as during general observations.



Notes: _____

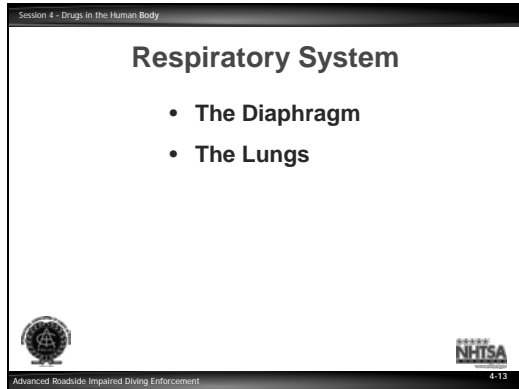
Urinary System

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

It consists of:

- Two kidneys connected by long tubes (urethras) 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 a key role in producing evidence of drug use.



Notes: _____

Respiratory System

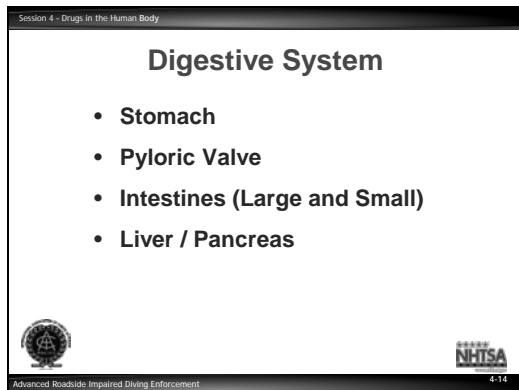
The primary organs of the respiratory system are:

- 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.

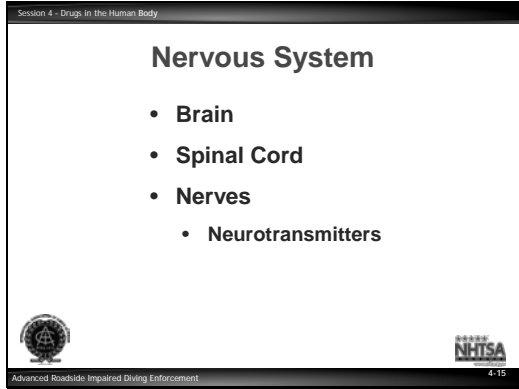


Notes: _____

Digestive System

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

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



Notes: _____

Nervous System

The nervous system serves as the control center for the human body.

It consists of:

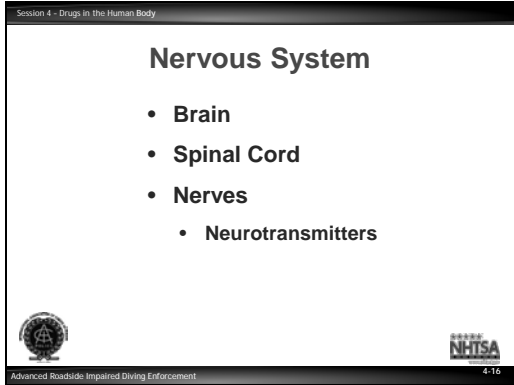
- Brain
- Spinal cord
- Nerves

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

Through sensations of temperature, pressure, pleasure and pain.



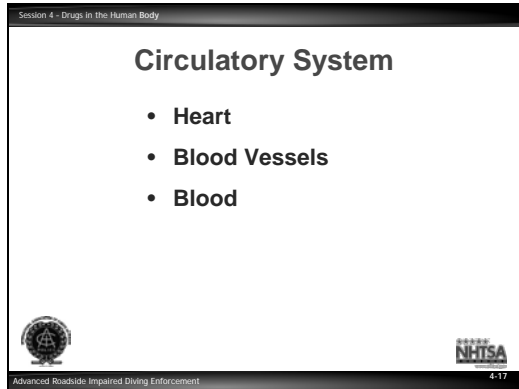
Notes: _____

The nervous system also enables reasoning, memory and emotions.

The central nervous system sends impulses that cause muscles to contract and glands to secrete, and it works with all body systems to integrate all physiological processes so that 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 Central Nervous System (CNS) is one of the body’s major control systems and the brain is the center of that system.



Notes: _____

Circulatory System

The circulatory system consists of

- Heart
- Blood vessels
- Blood

The heart pumps blood throughout the body transporting:

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

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



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

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

Session 4 - Drugs in the Human Body

Brain

- Made up of nerve cells - Neurons
- Neurotransmitters send messages to receptors
- Drugs have influence on how neurons function



Advanced Roadside Impaired Driving Enforcement 4-18

Notes: _____

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 makeup 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.

Session 4 - Drugs in the Human Body

Limbic System of the Brain

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



Advanced Roadside Impaired Driving Enforcement 4-19

Notes: _____

All drugs of abuse, such as nicotine, cocaine, and marijuana, impacts 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.

Session 4 - Drugs in the Human Body

Homeostasis

Homeostasis is any self-regulating process by which a biological or mechanical system maintains stability while adjusting to changing conditions.

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



Advanced Roadside Impaired Driving Enforcement 4-20

Notes: _____

C. Homeostasis

Homeostasis is any self-regulating process by which a biological or mechanical system maintains stability while adjusting to changing conditions.

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.

Session 4 - Drugs in the Human Body

Examples of Homeostasis

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



Advanced Roadside Impaired Driving Enforcement 4-21

Notes: _____

Examples of Homeostasis

- Temperature regulation
 - Mechanically in a room by a thermostat
 - Biologically in the body by a complex system controlled by the hypothalamus in the brain.

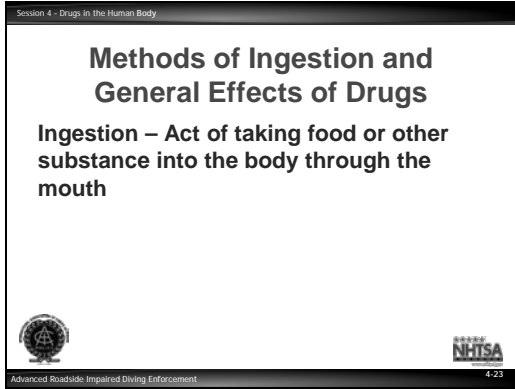
Every organ system plays some role in the maintenance of homeostasis.

- 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 eliminate waste.
- The nervous system integrates the functioning of the other systems; and so on.

When alcohol and/or other drugs are introduced into the body, the resulting interactions can cause the body to:

- Speed up
- Slow down
- Become confused

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

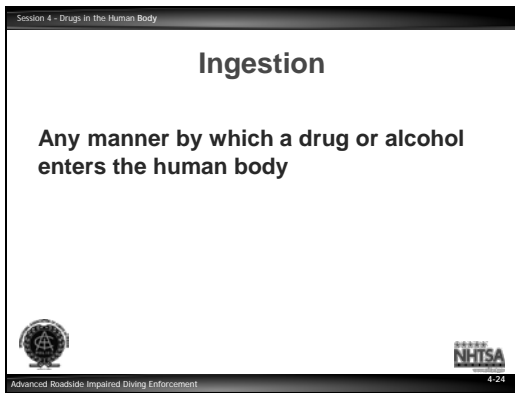


Notes: _____

D. Methods of Ingestion and General Effects of Drugs

In general terms, ingestion is:

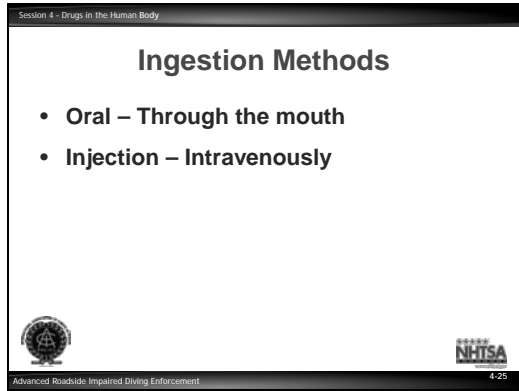
The act of taking food or another substance into the body through the mouth.



Notes: _____

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.



Notes: _____

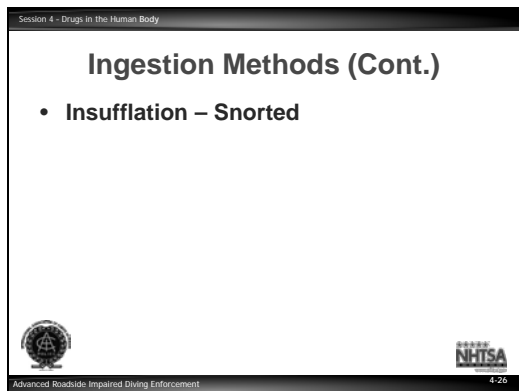
Oral

Oral ingestion is administered through the mouth.

Injection

- Is a common method of administering heroin (narcotic analgesic),
- Is also used to introduce stimulants, hallucinogens, dissociative anesthetics, and other narcotic analgesics into the body.
- CNS depressants can also be injected but this is not common due to the size of the needle required to deliver the substance.

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



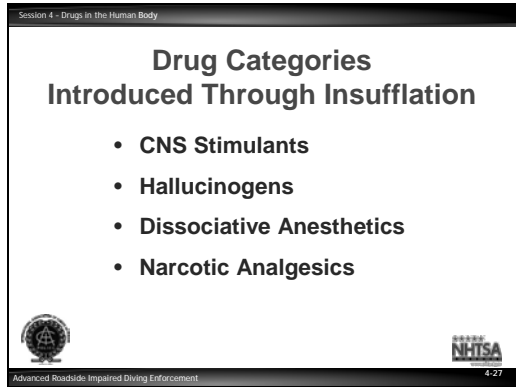
Notes: _____

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 in a water soluble powder so it can be readily absorbed through the mucous membranes.

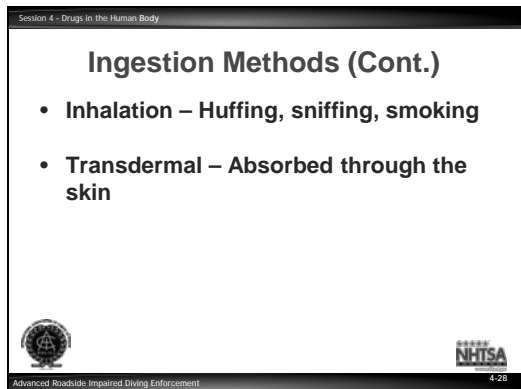
This method is commonly referred to as "snorting".



Notes: _____

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

- Stimulants
- Hallucinogens
- Dissociative Anesthetics
- Narcotic Analgesics



Notes: _____

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, or smoking.



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

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

Session 4 - Drugs in the Human Body

Transdermal Administration

- Transdermal means that the chemical or drug is absorbed into an individual's system through the skin
- Less common administration
- USE EXTREME CAUTION !!!

Advanced Roadside Impaired Driving Enforcement 4-29

Notes: _____

Transdermal

A less common method of administering drugs. Transdermal means that the chemical or drug is absorbed into an individual's system through the skin.



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.

Session 4 - Drugs in the Human Body

Medical Conditions Which May Mimic Drug Impairment

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

Advanced Roadside Impaired Driving Enforcement 4-30

Notes: _____

E. Medical Conditions Which May Mimic Drug Impairment

There are various medical conditions and injuries that may cause individuals 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

Session 4 - Drugs in the Human Body

Head Trauma

- Disorientation
- Confusion
- Lack of coordination
- Slowed responses
- Speech impairment
- Pupils may be noticeably different sizes, or one eyelid may droop
- Eyes may not track together



Advanced Roadside Impaired Driving Enforcement 4-31

Notes: _____

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
- Other gross indicators of alcohol or drug influence

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 focusing on a stimulus.

Session 4 - Drugs in the Human Body

Stroke

- **Markedly unequal pupil sizes**
- **Paralysis or weakness on one side of the body**
- **Slurred speech, facial droop**
- **Confused, frightened**



Advanced Roadside Impaired Driving Enforcement 4-32

Notes: _____

Stroke

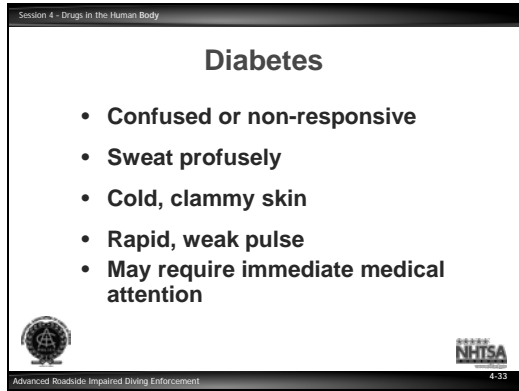
A stroke will usually produce many of the same effects and indicators associated with head trauma.

Stroke victims often will have:

Pupils that are 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, individuals suffering from a stroke will often have a dazed appearance and be confused and/or scared.



Notes: _____

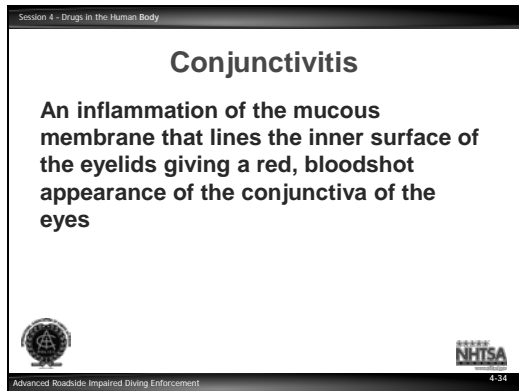
Diabetes

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



Notes: _____

Conjunctivitis

This is an inflammation of the mucous membrane that lines the inner surface of the eyelids giving a red bloodshot appearance to the conjunctiva of the eyes.


At first glance, this may appear similar to the bloodshot conditions associated with impairment by alcohol or cannabis.

This condition may occur in one or both eye and is often referred to as 'pink eye'.

Session 4 - Drugs in the Human Body

Shock

- Occurs when the body is not getting enough blood flow
- Immediate medical attention
 - Cold clammy skin
 - Weak, lethargic
 - Rapid, weak pulse



Advanced Roadside Impaired Driving Enforcement 4-35

Notes: _____

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.

Individuals in shock often will appear dazed, uncoordinated, and non-responsive.

Session 4 - Drugs in the Human Body

Multiple Sclerosis

- May lack coordination
- Exhibit gait ataxia
- Tremors
- Slurred or garbled speech
- May appear alert and responsive to questions



Advanced Roadside Impaired Driving Enforcement 4-36

Notes: _____

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.

Session 4 - Drugs in the Human Body

Other Medical Conditions

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



Advanced Roadside Impaired Driving Enforcement 4-37

Notes: _____

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

Session 4 - Drugs in the Human Body

Behavioral Conditions

- Exercise
- Excitement
- Fear
- Anxiety
- Depression



Advanced Roadside Impaired Driving Enforcement 4-38

Notes: _____

Behavioral Conditions


There are some behavioral conditions that may affect vital signs:

- Exercise
- Excitement
- Fear
- Anxiety
- Depression

Session 4 - Drugs in the Human Body

Seven Drug Categories - Review

1. Central Nervous System Depressants
2. Central Nervous System Stimulants
3. Hallucinogens



Advanced Roadside Impaired Driving Enforcement 4-39

Notes: _____

F. Introduction to the Seven Drug Categories

As a review, the definition of a drug, adopted by the DEC program and this course:


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. The following is a brief description of each category:

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

Session 4 – Drugs in the Human Body

Seven Drug Categories – Review (Cont.)

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



Advanced Roadside Impaired Driving Enforcement 4-40

Notes: _____


- 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 cause the body to respond similar to a stimulant as well as a hallucinogen.
- Narcotic Analgesics. Relieves pain, produces addiction, and withdrawal symptoms. Heroin is an example of a narcotic analgesic.
- Inhalants. Breathable chemicals, which are contained in familiar household items that can be easily purchased. Gold spray paint is an example of an inhalant.
- Cannabis. The most popular widely used and abused illegal drug and is most commonly referred to as marijuana.

Session 4 - Drugs in the Human Body

Drug Indicator Matrix

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN							
VGN							
LOC							
Pupil Size							

Advanced Roadside Impaired Driving Enforcement



4-1

Notes: _____


G. Blank Drug Indicator Matrix

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN							
VGN							
LOC							
Pupil Size							

Session 4 - Drugs in the Human Body

QUESTIONS?

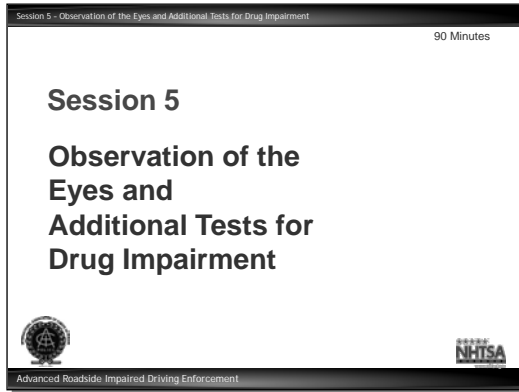
Advanced Roadside Impaired Driving Enforcement



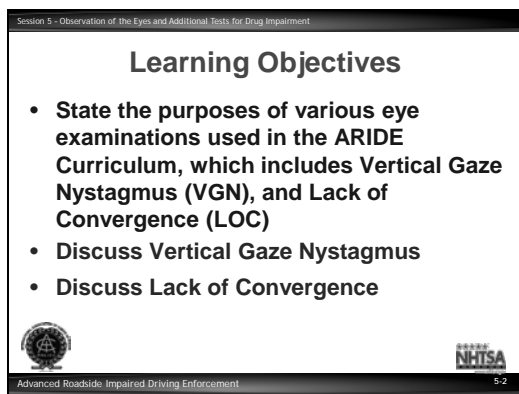
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Notes: _____

Participant Manual ARIDE - Session 5 – Observation of the Eyes and Additional Tests for Drug Impairment



Notes: _____



Notes: _____


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

- State the purposes of various eye examinations used in the ARIDE Curriculum, which includes Vertical Gaze Nystagmus (VGN), and Lack of Convergence (LOC)
- Discuss Vertical Gaze Nystagmus: How to administer properly and describe what the results indicate.
- Discuss Lack of Convergence: How to administer properly and describe what the results indicate.

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

Learning Objectives (Cont.)

- Describe the difference in pupil size
- Discuss Modified Romberg Balance test: How to administer properly and describe what the results indicate
- Explain the relationship between eye examinations and the seven drug categories



Advanced Roadside Impaired Driving Enforcement 5-3

Notes: _____

- Describe the difference in pupil size.
- Discuss Modified Romberg Balance test: How to administer properly and describe what the results indicate.
- Explain the relationship between eye examinations and the seven drug categories.

Content Segments

- Discuss Vertical Gaze Nystagmus
How to administer properly
Describe what the results indicate
Practice VGN
- Describe the difference in pupil size
- Discuss Lack of Convergence
How to administer properly
Describe what the results indicate
Practice LOC
- Modified Romberg Balance test
How to administer properly
Describe what the results indicate
Practice Modified Romberg Balance test
- Relationship between eye examinations and the seven categories
- Frame the discussion for the seven drug categories
- Blank Drug Indicator Matrix


Learning Activities

- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation
- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation
- Participant Practice Session
- Instructor-Led Presentation

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

Vertical Gaze Nystagmus (VGN)

- How to administer properly
- Describe what the results indicate
- Practice VGN



Advanced Roadside Impaired Driving Enforcement 5-4

Notes: _____

A. Discuss Vertical Gaze Nystagmus

Discuss Vertical Gaze Nystagmus


- How to administer properly
- Describe what the results indicate
- Practice VGN

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

Documenting Observations

- HGN / VGN
- Walk and Turn
- One Leg Stand

The information collected at roadside is critical to the entire impaired driving enforcement process



Advanced Roadside Impaired Driving Enforcement 5-5

Notes: _____

Documenting Observations


- HGN / VGN
- Walk and Turn
- One Leg Stand

The information collected at roadside is critical to the entire impaired driving enforcement process.

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

Administration and Interpretation of Additional Roadside Sobriety Tests

- Pupil size observations
- Lack of Convergence (LOC)
- Modified Romberg Balance test



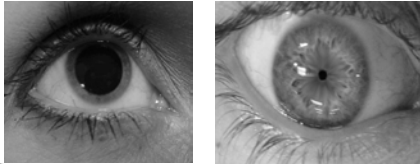

Advanced Roadside Impaired Driving Enforcement 5-6

Notes: _____

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

Pupil Size Observation

The eyes are often referred to as “The windows to the soul”

Advanced Roadside Impaired Driving Enforcement 5-7

Notes: _____

B. Describe the Difference in Pupil Size



Pupil Size Observation

- 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.

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

Limits on Constriction and Dilation

- Recognize noticeable differences in the pupils
- Each of the seven drug categories has a predictable effect on the pupils

Advanced Roadside Impaired Driving Enforcement 5-8

Notes: _____

- This process of constriction and dilation normally occurs within certain limits.
- This course trains officers to recognize the noticeable differences in the pupils.
- When ingested, each of the seven drug categories has a predictable effect on the eyes, which will be discussed in the subsequent sections.

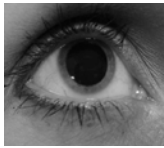


Example: If a stop is made during the day, you should expect to see the pupils somewhat smaller, because of the bright lighting conditions

Note: If you make a stop at night and the pupils are somewhat constricted, then there may be a drug causing the pupil reaction.

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

Dilated Pupils

Observed when the pupils are larger than expected for the given lighting condition, resulting in a very large opening (circle) in the center of the eye

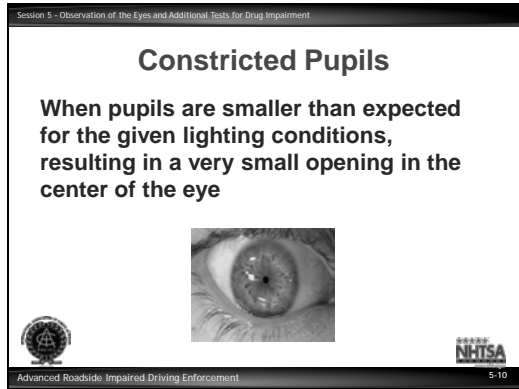




Advanced Roadside Impaired Driving Enforcement 5-9

Notes: _____

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.



Notes: _____

Constricted Pupils

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

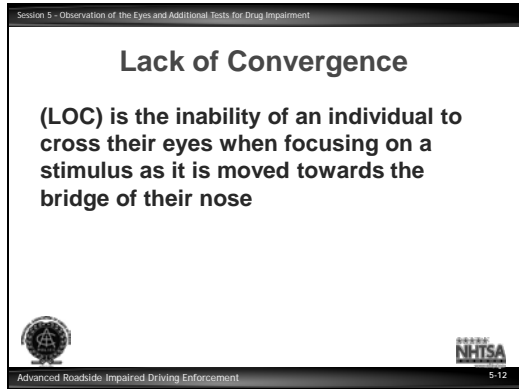
The effects that drugs have on the eyes are involuntary reactions, which mean they cannot be controlled by the individual.



Notes: _____

C. Discuss Lack of Convergence

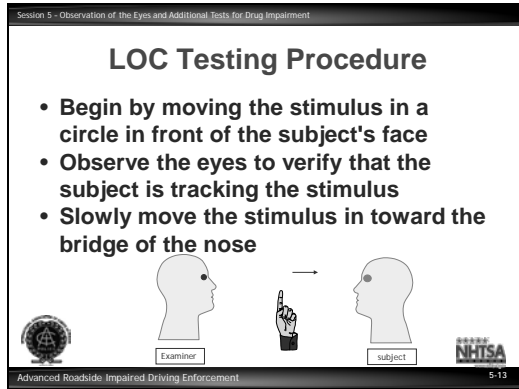
Lack of Convergence (LOC)



Notes: _____

Definition of LOC

The inability of a subject to cross their eyes when focusing on a stimulus as it is moved towards the bridge of their nose.



Notes: _____

Administration of LOC

Instructional Stage

- Inform the subject that you will be moving the stimulus around in a circle, and will be moving it toward the bridge of their nose. In addition, inform the subject that you will not actually touch the nose with the stimulus. This notice is important so the individual will not move their head away.
- Instruct the subject to keep their head steady and to follow the stimulus with their eyes only.
- Position the stimulus approximately 12-15 inches in front of the subject's nose in the same position as used in the HGN test.
- Law enforcement officers should not touch the bridge of the nose with the stimulus.

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

Normal Convergence

- A distance approximately two inches (2") from the bridge of the nose
- If the eyes converge (cross) when the stimulus is approximately two inches from the bridge of the nose, the Lack of Convergence is "not present"

Advanced Roadside Impaired Driving Enforcement 5-14

Notes: _____

Test Interpretation

- The subject's eyes should come together and cross (converge) as they track and remained aligned with the stimulus.
- If the eyes are able to cross (converge), i.e., if they both come together when the stimulus is stopped approximately 2" from the bridge of the subject's nose, lack of convergence is "not present."

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

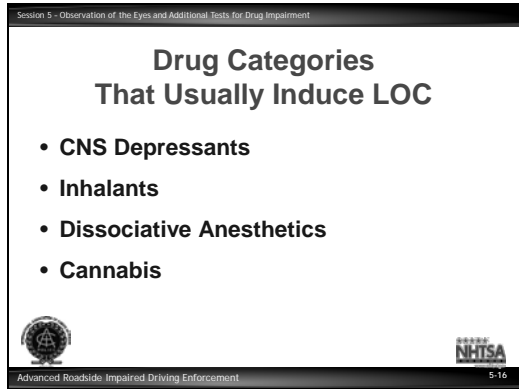
Examiner Subject

Lack of convergence is present if the subject's eyes do not come together and cross as they track and stay aligned on the stimulus

Advanced Roadside Impaired Driving Enforcement 5-15

Notes: _____

LOC is "present" if one eye, or both eyes drift away or outward toward the side instead of converging toward the bridge of the nose.

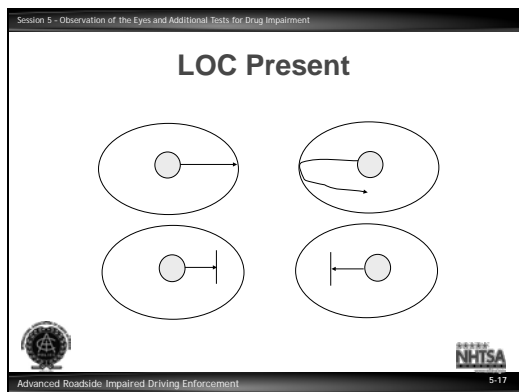


Notes: _____

The following drug categories usually will induce Lack of Convergence:

CNS Depressants

- Inhalants
- Dissociative Anesthetics
- Cannabis



Notes: _____

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.

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

Modified Romberg Balance Test

- Checks a subject's internal clock, balance and presence of tremors (eye and body)
- Ensure the test is conducted on a level surface



Advanced Roadside Impaired Driving Enforcement 5-18

Notes: _____

D. Modified Romberg Balance Test


The Modified Romberg Balance test is adapted and modified from its original use as a neurological assessment tool in order to check a subject's internal clock, balance and presence of tremors (eye and body).

Since part of the Modified Romberg Balance 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.

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

Three Parts of Modified Romberg Balance Test

- Estimate the passage of 30 seconds
- Observation of tremors
- Observation of sway

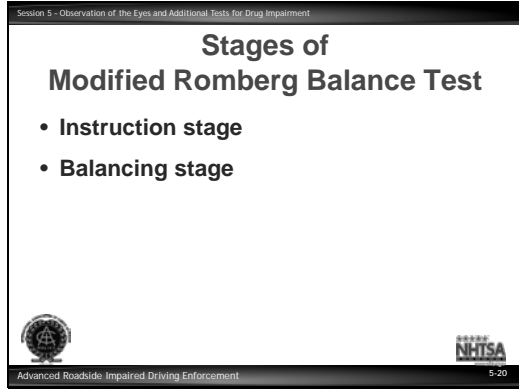


Advanced Roadside Impaired Driving Enforcement 5-19

Notes: _____

The Modified Romberg Balance test is divided into three parts which are conducted simultaneously.

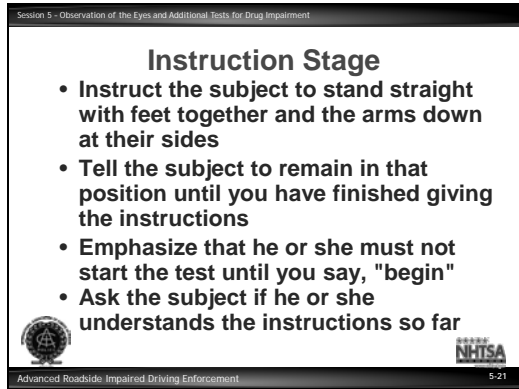
- Estimation the passage of 30 seconds
- Observation of tremors
- Observation of sway



Notes: _____

There are two stages to the Modified Romberg Balance test:

- Instruction stage
- Balancing stage



Notes: _____

Administrative Procedures

Instruction Stage

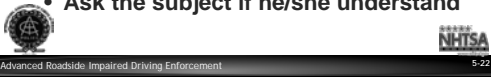
- Instruct the subject to stand straight with their feet together and their arms down at their sides.
- Tell the subject to remain in that position until you have finished giving the instructions. Emphasize that they must not start the test until you say, "begin".
- Ask the subject if they understand the instructions so far.

Note: Make sure to obtain a verbal response from the subject.

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

Instruction Stage (Cont.)

- Tell the subject, "When I tell you to tilt your head back slightly and close your eyes"
- Estimate the passage of 30 seconds
- Tell the subject, "When you think 30 seconds has gone by, bring your head forward, open your eyes, and say "Stop""
- Ask the subject if he/she understand



Notes: _____

Instruction Stage (Cont.)

4. Tell the subject, "When I tell you to tilt your head back slightly and close your eyes."

Note: Demonstrate this without closing your eyes.

5. Emphasis that they will estimate the passage of 30 seconds.

6. Tell the subject, "When you think 30 seconds has gone by, bring your head forward, open your eyes, and say "Stop"."

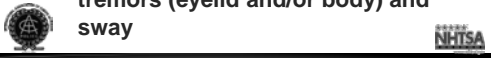
7. Ask the subject if they understand the instructions.

Note: Make sure to obtain a verbal response from the subject.

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

Balancing Stage

1. Instruct the subject to tilt his or her head back and close their eyes
2. Use a timing device, and pick a convenient time to start the test
3. Tell the subject to begin
4. Keep track of time while the subject performs the test
5. Check subject for presence of tremors (eyelid and/or body) and sway



Advanced Roadside Impaired Driving Enforcement 5-23

Notes: _____


Balancing Stage

- Instruct the subject to tilt his or her head back and close their eyes.
- Use a timing device, and pick a convenient time to start the test.
- Tell the subject to begin.
- Keep track of the time while the subject performs the test.
- Check subject for presence of tremors (eyelid and/or body) and sway.

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

Balancing Stage (Cont.)

6. When the subject opens his/her eyes ask, "How much time was that?"
7. Record how much time actually elapsed from the start of the test until the subject opened the eyes or was told to stop.

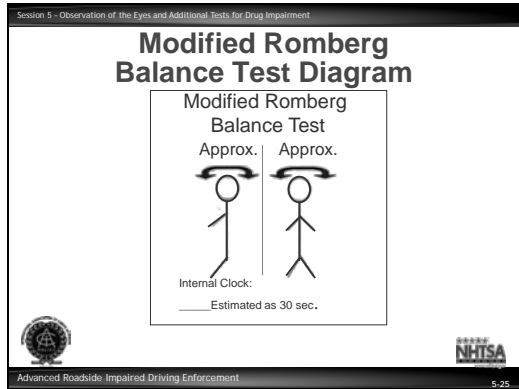


Advanced Roadside Impaired Driving Enforcement 5-24

Notes: _____

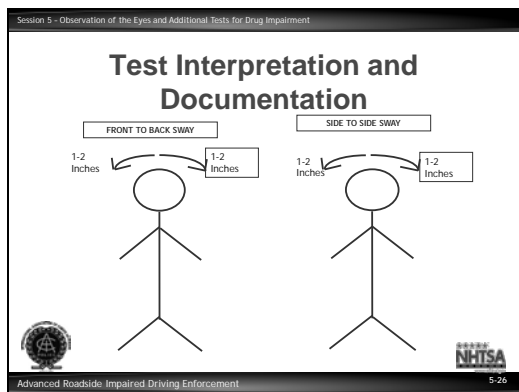
Balancing Stage (Cont.)

6. When the subject opens his/her eyes ask, "How much time was that?"
Note: Make sure to document their "exact" verbal response.
7. Record how much time actually elapsed from the start of the test until the subject opened the eyes or was told to stop.



Notes: _____

Instructor-Lead Demonstrations



Notes: _____

Recording Results of the Modified Romberg Balance Test

The major items that need to be recorded for the Modified Romberg Balance test are:

- The amount that the subject sways.
- The actual amount of time that the subject keeps the 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.



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 that the subject kept his or her eyes closed.

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 (1)*	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (2)*	Dilated (4)*	Dilated (4)*	Normal	Constricted	Normal (3)*	Dilated (4)*

1. *High dose for that individual
 2. *Pupil size may be dilated for Soma, Quaaludes, and some anti-depressants
 3. *Normal (average ranges) but may be dilated
 4. *Dilated, but may be normal (average ranges)

Advanced Roadside Impaired Driving Enforcement 5-27

Notes: _____

E. Relationship Between the Eye Observations and the Drug Categories

Eye Observations

- Eye observations can provide valuable information, which can help determine impairment.
- Additionally, we discussed in Session 2 that HGN is a critical part of assessing subjects suspected of being under the impairment of alcohol.
- HGN also plays a significant part in the evaluation of individuals 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 an individual is impaired by alcohol and/or drugs.



We have included a chart to assist the law enforcement officer 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.

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

Caution

- Although effects displayed in the table 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

Advanced Roadside Impaired Driving Enforcement 5-28

Notes: _____

The law enforcement 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 table 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 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.

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

QUESTIONS?



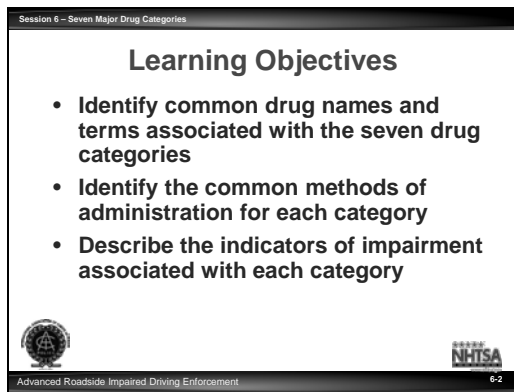

Advanced Roadside Impaired Driving Enforcement 5-28

Notes: _____

Participant Manual ARIDE – Session 6 – Seven Drug Categories



Notes: _____



Notes: _____

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.

Content Segments

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


Learning Activities

- Instructor-Led Presentation
- Instructor-Led Presentation

Session 6 – Seven Major Drug Categories

Learning Objectives (Cont.)

- 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 which may indicate the subject is under the influence of a drug(s)



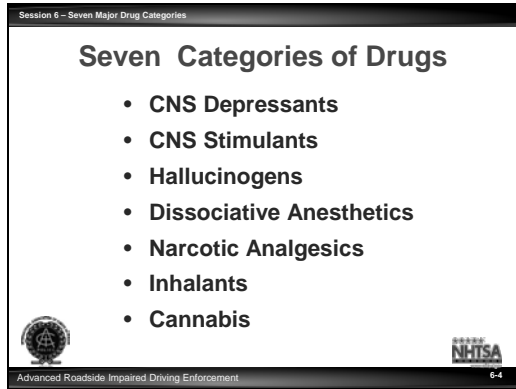
Advanced Roadside Impaired Driving Enforcement 6-3

Notes: _____

- 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).

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.



Notes: _____

A. Overview of the Drug Categories

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

Seven Categories of Drugs:

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

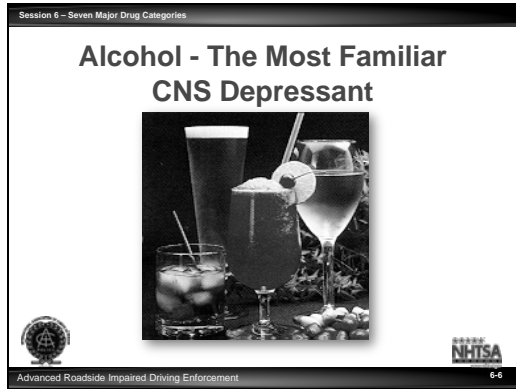


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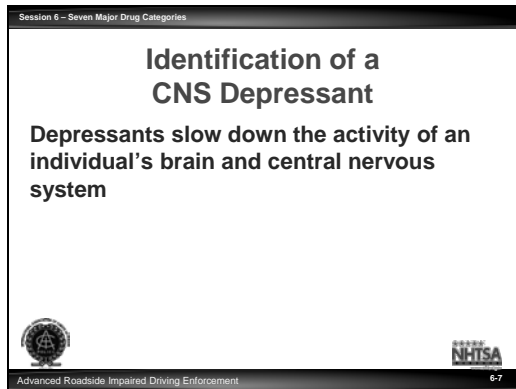
Identification of CNS Depressants

In order for a drug to be classified as a depressant according to the DEC program, it must:

- Depress the activity of a subject’s brain and CNS.

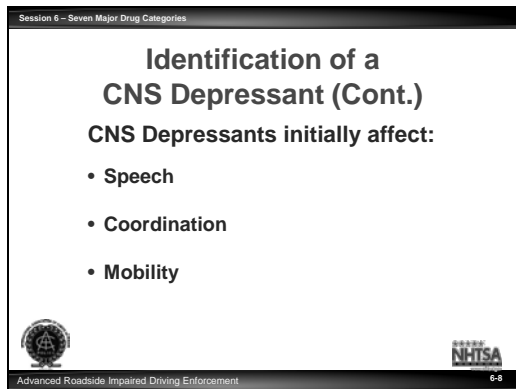


Notes: _____



Notes: _____

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



Notes: _____

The depressant category initially affects a person's functions:

- Speech
- Coordination
- Mobility



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

Session 6 – Seven Major Drug Categories

Doses greater than Therapeutic levels

CNS Depressants may cause impairment to the body's autonomic nervous system.

- Heartbeat
- Blood Pressure
- Breathing



Advanced Roadside Impaired Driving Enforcement 6-9

Notes: _____

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

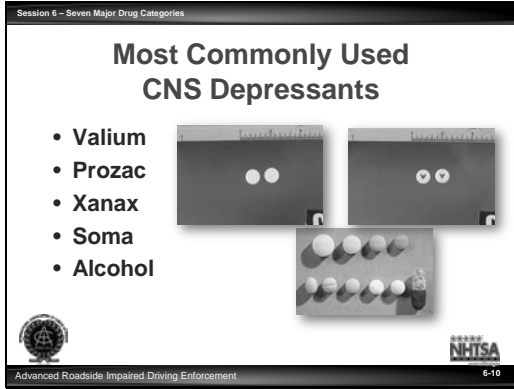
The systems affected are:

- Heartbeat
- Body temperature
- Breathing

In addition to alcohol, the depressant category also includes:

- Antianxiety drugs
- Antipsychotics
- Antidepressants
- Barbiturates
- Non-barbiturate or combination drugs

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



Notes: _____

Most familiar and abused depressants are:

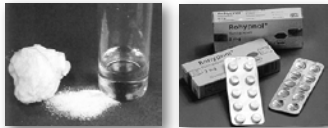
- Valium
- Prozac
- Xanax
- Soma
- Alcohol

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

Session 6 – Seven Major Drug Categories

Illicit CNS Depressants

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



Advanced Roadside Impaired Driving Enforcement

NHTSA

6-11

Notes: _____

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

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

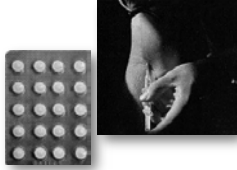
These drugs have been implicated in an alarming number of sexual assaults and overdose deaths.

Rohypnol is most commonly found in pill form (1 or 2 mg) and is still smuggled across the US/Mexico border.

Session 6 – Seven Major Drug Categories

Methods and Signs of Ingestion

- Oral
- Insufflation
- Injection



Advanced Roadside Impaired Driving Enforcement

NHTSA

6-12

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Effects of CNS Depressants

A person under the influence of a CNS depressant will look like a drunk, talk like a drunk, walk like a drunk, but they may not smell like a drunk



Advanced Roadside Impaired Driving Enforcement 6-13

Notes: _____

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.

Session 6 – Seven Major Drug Categories

General Indicators

- Wide variety of emotional behavior
- Reduced ability to divide attention
- Disoriented
- Sluggish
- Thick, slurred speech
- Drunk-like behavior
- Droopy eyes
- Fumbling



Advanced Roadside Impaired Driving Enforcement 6-14

Notes: _____


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 eyes
- Fumbling

Session 6 – Seven Major Drug Categories

General Indicators (Cont.)

- Relaxed inhibitions
- Slowed reflexes
- Uncoordinated
- Drowsiness
- Gait ataxia



Advanced Roadside Impaired Driving Enforcement 6-15

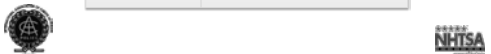
Notes: _____

- Relaxed inhibitions
- Slowed reflexes
- Uncoordinated
- Drowsiness
- Gait ataxia (impaired walking)

Session 6 – Seven Major Drug Categories

Eye Indicators

HGN	Present
VGN	May be Present (high dose)
LOC	Present
Pupil Size	Normal



Advanced Roadside Impaired Driving Enforcement 6-16

Notes: _____

Eye Indicators

- HGN – Present
- VGN – May be Present – especially at high dose levels for that individual
- LOC – Present
- Pupil Size – Normal

Session 6 – Seven Major Drug Categories

Onset and Duration of Effects

Type	Onset	Duration
Ultra Short	Seconds	Few Minutes
Short	10 to 15 min.	4 hours
Intermediate	30 minutes	4 to 6 hours
Long Acting	One hour	6 or more hours

Advanced Roadside Impaired Driving Enforcement

NHTSA

6-17

Notes: _____

Duration of Effects

There are four different categories of depressants which are classified based on their onset properties:



<u>Type</u>	<u>Action</u>
Ultra Short	Very rapid
Short	4 hours or less
Intermediate	4 to 6 hours
Long Acting	6 or more hours

Session 6 – Seven Major Drug Categories

Duration of Effects

The duration of effects of CNS Depressants can vary depending on:

- Dosage amounts
- Age
- Weight
- Tolerance level
- Other variables may dictate the length of actual impairment

Advanced Roadside Impaired Driving Enforcement 6-18

Notes: _____

Duration of Effects



The duration of effects of CNS depressants can vary depending upon:

- Dosage amounts
- Age
- Weight
- Tolerance level
- Other variables may dictate the length of actual impairment

Session 6 – Seven Major Drug Categories

Duration of Effects

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

Advanced Roadside Impaired Driving Enforcement 6-19


Notes: _____

<u>Type</u>	<u>Duration</u>
Barbiturate	1 – 16 hours
Tranquilizers	4 – 8 hours
GHB	3 – 5 hours
Rohypnol	Peak 1-2 Duration 8-12 hours

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptoms

- Shallow breathing
- Cold/clammy skin
- Dilated pupils
- Rapid / weak pulse



Advanced Roadside Impaired Driving Enforcement 6-20

Notes: _____

Overdose Signs and Symptoms

- Shallow breathing
- Cold/clammy skin
- Dilated pupils
- Rapid/weak pulse

Session 6 – Seven Major Drug Categories

Medical Conditions That May Mimic Drug Impairment

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



Advanced Roadside Impaired Driving Enforcement 6-21

Notes: _____



Medical Conditions That May Mimic Drug Impairment

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

Session 6 – Seven Major Drug Categories

Drug Matrix

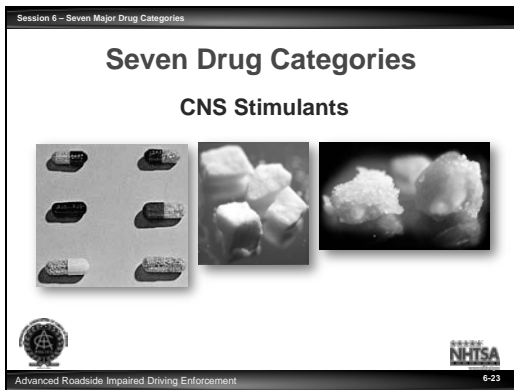
	CNS Dep.	CNS Stim.	Hall.	D.A.	N.A.A	Inhalant	Cannabis
HGN	Present						
VGN	Present						
Pupil Size	Normal *						
LOC	Present						

 *Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils 

Advanced Roadside Impaired Driving Enforcement 6-22

Notes: _____

Drug Matrix: CNS Depressants





Notes: _____

CNS Stimulants

Session 6 – Seven Major Drug Categories

Central Nervous System Stimulants

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



Advanced Roadside Impaired Driving Enforcement 6-24

Notes: _____

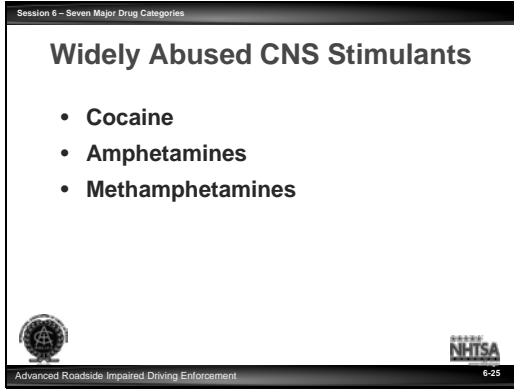
Central nervous system stimulants:

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

In general, it brings about both a psychological and physical exhilaration.

CNS stimulants are commonly known as “*uppers*” and their effects are similar to the body’s flight or fight responses.

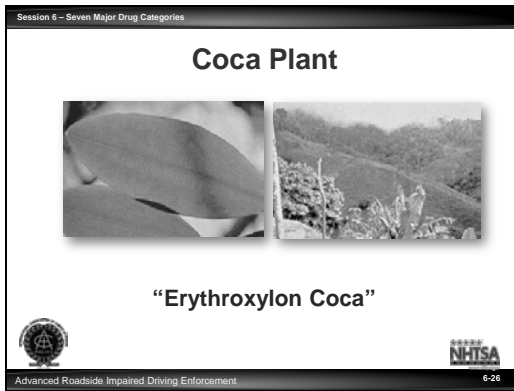
As stimulants “wear off”, the individual can exhibit signs and symptoms similar to those associated with depressants since the some of the body’s systems may experience a “crash.”



Notes: _____

The most widely abused CNS stimulants are:

- Cocaine
- Amphetamines
- Methamphetamines



Notes: _____

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

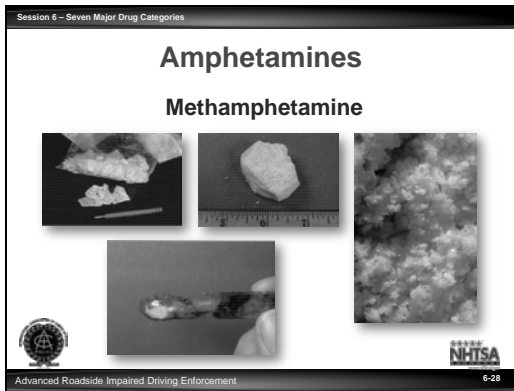


Notes: _____

Crack cocaine is made by mixing

- Baking soda,
- Cocaine
- Water
- Then heating

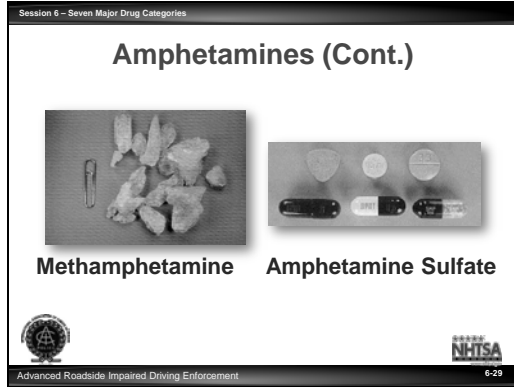
It appears as small white or off-white chunks.



Notes: _____

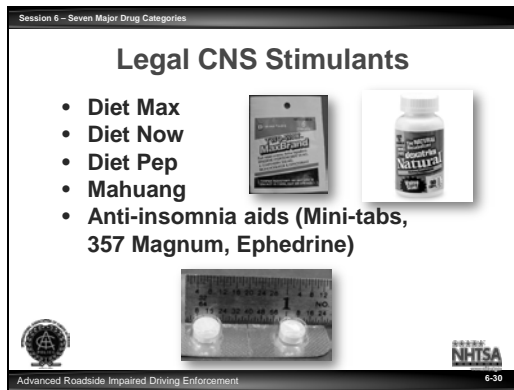
Amphetamines are usually found in pill form and are legally manufactured for medical use.

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



Notes: _____

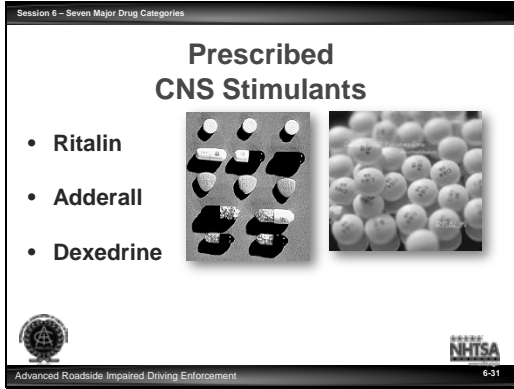
Ephedrine and pseudoephedrine are also classified as CNS stimulants



Notes: _____

Ephedrine is often advertised as diet supplements

- Diet Max
- Diet Now
- Diet Pep
- Mahuang
- Anti-insomnia aids (Mini-tabs, 357 Magnum, Efedrin)
- “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.



Notes: _____

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 common targets for abuse for participants and professionals who want to obtain a temporary increase in their ability to focus and process information.

Session 6 – Seven Major Drug Categories

Methods and Signs of Ingestion

- Insufflated
- Injected
- Smoked
- Oral

Advanced Roadside Impaired Driving Enforcement

NHTSA

6-32

Notes: _____

Methods and Signs of Ingestion

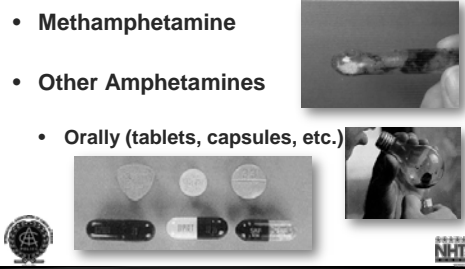
There are many types of stimulants and their form will dictate the method of ingestion.

- 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

Session 6 – Seven Major Drug Categories

Ingesting Stimulants

- Methamphetamine
- Other Amphetamines
- Orally (tablets, capsules, etc.)



Advanced Roadside Impaired Driving Enforcement 6-33



Notes: _____

- Methamphetamines can be snorted, smoked, injected, or taken orally.
- Ephedrine, Pseudoephedrine, Ritalin (pill), Adderall (pill), and Dexedrine (pill and capsule) are primarily taken orally.
- Some schools have reported Ritalin to have been crushed and inhaled by some abusers.

Session 6 – Seven Major Drug Categories

Ingestion Signs

- Perforated septum
- Powder residue in nasal cavity
- Blisters on lips and tongue
- Raised taste buds
- Injection track marks

Advanced Roadside Impaired Driving Enforcement 6-34

Notes: _____

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.

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



When they are smoked, the intense heat of the smoke may cause the taste buds to rise, 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.

Session 6 – Seven Major Drug Categories

Effects of CNS Stimulants

- Euphoria – an extremely pleasurable sensation (while the drug is psychoactive)
- Opposite effect as the drug wears off

Advanced Roadside Impaired Driving Enforcement 6-35

Notes: _____

The main effect of most CNS stimulants is Euphoria – an extremely pleasurable sensation.


This is only true while the high is felt. 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.

Session 6 – Seven Major Drug Categories

General Indicators of Impairment

- Restlessness
- Body tremors
- Excited
- Euphoric
- Talkative
- Exaggerated reflexes
- Anxiety



Advanced Roadside Impaired Driving Enforcement 6-36

Notes: _____


General Indicators

- Restlessness
- Body tremors
- Excited
- Euphoric
- Talkative
- Exaggerated reflexes
- Anxiety

Session 6 – Seven Major Drug Categories

General Indicators of Impairment (Cont.)

- Grinding teeth (bruxism)
- Redness to nasal area
- Runny nose
- Loss of appetite
- Increased alertness
- Dry mouth
- Irritability



Advanced Roadside Impaired Driving Enforcement 6-37


Notes: _____

- Grinding teeth (bruxism)
- Redness to nasal area
- Runny nose
- Loss of appetite
- Increased alertness
- Dry mouth
- Irritability

Session 6 – Seven Major Drug Categories

Eye Indicators

- HGN – Not Present
- VGN – Not Present
- LOC – Not Present
- Pupil Size – Dilated



Advanced Roadside Impaired Driving Enforcement 6-38

Notes: _____


Eye Indicators / Matrix

- HGN – Not Present
- VGN – Not Present
- LOC – Not Present
- Pupil Size – Dilated

Session 6 – Seven Major Drug Categories

Duration of Effects

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



Advanced Roadside Impaired Driving Enforcement 6-39

Notes: _____


Duration of Effects

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

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptoms

- Increase in heart rate and blood pressure
- Convulsions
- Increased body temperature
- Hallucinations



Advanced Roadside Impaired Driving Enforcement 6-40

Notes: _____

Overdose Signs and Symptoms


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

- Possible increase in heart rate or intensity
- Convulsions
- Increased body temperature
- Hallucinations

Session 6 – Seven Major Drug Categories

Medical Conditions That Mimic CNS Stimulants

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



Advanced Roadside Impaired Driving Enforcement 6-41

Notes: _____

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)

Session 6 – Seven Major Drug Categories

Drug Matrix

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

** Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils*

Advanced Roadside Impaired Driving Enforcement NHISA 6-42

Notes: _____



Notes: _____

Hallucinogens

- Session 6 – Seven Major Drug Categories
- ### Hallucinogens
- This category causes hallucinations
 - Hallucinations are sensory experiences of something that does not exist outside the mind
- Advanced Roadside Impaired Driving Enforcement NHISA 6-44

Notes: _____


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

Session 6 – Seven Major Drug Categories

Hallucinogens (Cont.)

Hallucinations affect a person's:

- Perceptions
- Sensations
- Thinking
- Self-awareness
- Emotional state



Advanced Roadside Impaired Driving Enforcement 6-45

Notes: _____


Hallucinogens affect a person's:

- Perceptions
- Sensations
- Thinking
- Self-awareness
- Emotional state

Session 6 – Seven Major Drug Categories

Hallucinogens (Cont.)

- An example of a hallucination would be seeing sounds and hearing colors
- This is called Synesthesia: or the transposition of senses



Advanced Roadside Impaired Driving Enforcement 6-46

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Identification of Hallucinogens

Some hallucinogens 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
- Toad (*Bufo Alvarius*) releases a hallucinogenic secretion when threatened



Advanced Roadside Impaired Driving Enforcement 6-47

Notes: _____


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.

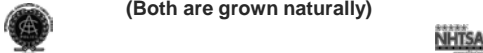
Session 6 – Seven Major Drug Categories

Common Hallucinogens



Peyote (Mescaline)

Psilocybin
(Both are grown naturally)



Advanced Roadside Impaired Driving Enforcement 6-48

Notes: _____

Common Hallucinogens

- Peyote (Mescaline)
- Psilocybin


Note: Both are grown naturally

Session 6 – Seven Major Drug Categories

Identification of Hallucinogens

Some hallucinogens are synthetically manufactured:

- Lysergic acid Diethylamide (LSD)
- Methylenedioxymethamphetamine (MDMA) or Ecstasy



Advanced Roadside Impaired Driving Enforcement 6-49

Notes: _____

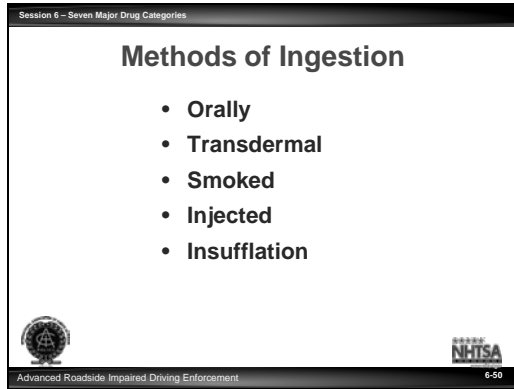
Hallucinogenic drugs are also synthetically manufactured.

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.
- 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.



Notes: _____

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.

Note: 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.

Session 6 – Seven Major Drug Categories

Effects of Hallucinogens

- 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



Advanced Roadside Impaired Driving Enforcement 6-51

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Effects of Hallucinogens (Cont.)

- Hallucinogens can uncover emotional flaws in the user
- Therefore, the user may expect a pleasurable “trip,” but end up instead with a bad “trip”

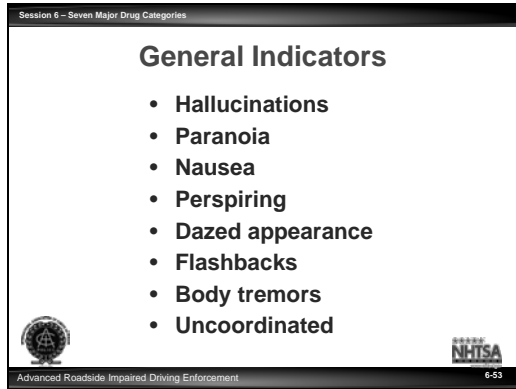


Advanced Roadside Impaired Driving Enforcement 6-52

Notes: _____

Hallucinogens can uncover emotional flaws in the user.

Therefore, the user may expect a pleasurable “trip,” but end up instead with a bad “trip.”



Notes: _____

General Indicators

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

- Hallucinations
- Paranoia
- Nausea
- Perspiring
- Dazed appearance
- Flashbacks
- Body tremors
- Uncoordinated



Note: 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.

Session 6 – Seven Major Drug Categories

General Indicators (Cont.)

- Disoriented
- Memory loss
- Synesthesia (transposing of the senses)
- Difficulty in speech



Advanced Roadside Impaired Driving Enforcement 6-54



Notes: _____

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

Session 6 – Seven Major Drug Categories

Eye Indicators

• HGN	Not Present
• VGN	Not Present
• LOC	Not Present
• Pupil Size	Dilated



Advanced Roadside Impaired Driving Enforcement 6-55

Notes: _____


Eye Indicators

- HGN – Not Present
- VGN – Not Present
- LOC – Not Present
- Pupil Size – Dilated

Session 6 – Seven Major Drug Categories

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



Advanced Roadside Impaired Driving Enforcement 6-56


Notes: _____

- 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)

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptoms

The primary overdose symptom for the hallucinogen category is a long and intense “bad trip”



Advanced Roadside Impaired Driving Enforcement 6-57


Notes: _____

The primary overdose symptom for the hallucinogen category is a long and intense “bad trip.”

Session 6 – Seven Major Drug Categories

Medical Conditions That Mimic Hallucinogen Impairment

- High fever
- Mental illnesses



Advanced Roadside Impaired Driving Enforcement 6-58

Notes: _____

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

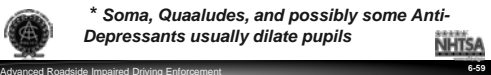
- High fever
- Mental illnesses

Session 6 – Seven Major Drug Categories

Drug Matrix

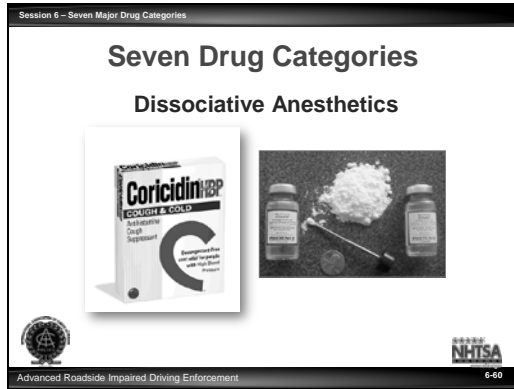
	CNS Dep.	CNS Stim.	Hall.	Dissoc Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None				
VGN	Present	None	None				
LOC	Present	None	None				
Pupil Size	Normal *	Dilated	Dilated				

** Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils*



Advanced Roadside Impaired Driving Enforcement 6-59

Notes: _____



Notes: _____

Dissociative Anesthetics



Notes: _____

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.

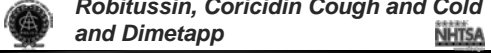
Dissociative Anesthetics symptoms may be confused with individuals under the influence of hallucinogens, stimulants and depressants.

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

Session 6 – Seven Major Drug Categories

Identification of Dissociative Anesthetics

- PCP was originally manufactured as an intravenous anesthetic - trade name *Sernyl*
- Ketamine (*Ketalar*) is an analog of PCP and is still used in pediatric and animal surgery
- DXM is found in over-the-counter anti-tussive medicines like *Robitussin, Coricidin Cough and Cold and Dimetapp*



Advanced Roadside Impaired Driving Enforcement 6-62

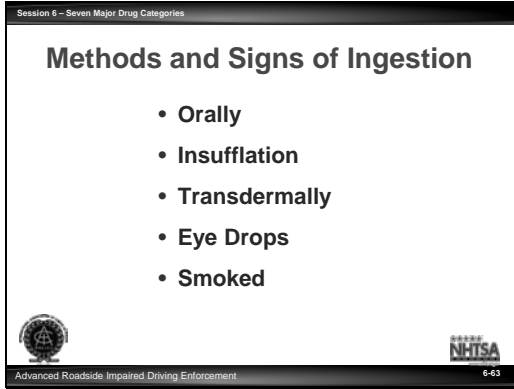
Notes: _____

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.



Notes: _____

Methods and Signs of Ingestion

Dissociative Anesthetics ingestion:

- Orally
- Insufflation
- Transdermally
- Eye Drops
- Smoked



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

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

Session 6 – Seven Major Drug Categories

Effects of Dissociative Anesthetic

- Cut off or distort the brain's perception of the rest of the body's senses (Dissociate)
- Increase the user's pain threshold (Anesthetic)



Advanced Roadside Impaired Driving Enforcement 6-64

Notes: _____

Effects of Dissociative Anesthetic

The predominant effect of Dissociative Anesthetics is as a dissociative anesthetic. This means Dissociative Anesthetics has the ability to cut off the brain's perception of the rest of the body's senses.

This sense is so strong that 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.

Session 6 – Seven Major Drug Categories

General indicators

- Perspiring
- Blank stare
- Cyclic behavior
- Chemical odor
- Increased pain threshold
- Incomplete verbal responses



Advanced Roadside Impaired Driving Enforcement 6-65

Notes: _____



General Indicators

- Perspiring
- Blank stare
- Cyclic behavior
- Chemical odor
- Increased pain threshold
- Incomplete verbal responses

Session 6 – Seven Major Drug Categories

General indicators (Cont.)

- Warm to the touch
- Repetitive speech
- Hallucinations
- Confused
- Possibly violent and combative
- “Moon walking”

Advanced Roadside Impaired Driving Enforcement 6-66



Notes: _____

- Warm to the touch
- Repetitive speech
- Hallucinations
- Confused
- Possibly violent and combative
- “Moon walking”

Session 6 – Seven Major Drug Categories

Eye Indicators

• HGN	Present
• VGN	Present
• Pupil Size	Normal
• LOC	Present

Advanced Roadside Impaired Driving Enforcement 6-67

Notes: _____


Eye Indicators

HGN	Present
VGN	Present
Pupil Size	Normal
LOC	Present

Session 6 – Seven Major Drug Categories

Duration of Effects

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



Advanced Roadside Impaired Driving Enforcement 6-68

Notes: _____

Duration of Effects

PCP 4 to 6 hours

Ketamine 30 – 45 minutes (injected)
 45 – 60 minutes (snorted)
 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.

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptom

- **Deep coma lasting up to 12 hours**
- **Seizures and convulsions**
- **Respiratory depression**
- **Magnification of pre-existing cardiac conditions**
- **Possible psychosis**



Advanced Roadside Impaired Driving Enforcement 6-69

Notes: _____

One of the primary overdose symptoms for the Dissociative Anesthetic drug category is a long and intense “trip.”

Session 6 – Seven Major Drug Categories

Conditions That May Mimic Drug Impairment

Mental illnesses may mimic impairment by Dissociative Anesthetics.



Advanced Roadside Impaired Driving Enforcement 6-70

Notes: _____

Conditions That May Mimic Drug Impairment

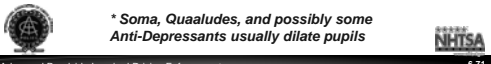
Mental illnesses may mimic impairment by Dissociative Anesthetics.

Session 6 – Seven Major Drug Categories

Drug Matrix

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present			
VGN	Present	None	None	Present			
Pupil Size	Normal *	Dilated	Dilated	Normal			
LOC	Present	None	None	Present			

* Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils



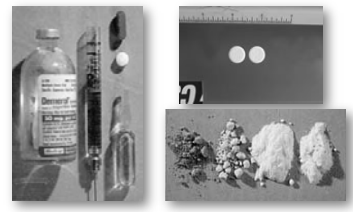
Advanced Roadside Impaired Driving Enforcement 6-71

Notes: _____

Session 6 – Seven Major Drug Categories

Seven Drug Categories

Narcotic Analgesics




Advanced Roadside Impaired Driving Enforcement 6-72

Notes: _____



Narcotic Analgesics

Session 6 – Seven Major Drug Categories

Narcotic Analgesics

Narcotic Analgesics:

- Relieve pain
- Induce euphoria, alter moods, and produce sedation
- Known for physically addicting properties and severe withdrawal symptoms



Advanced Roadside Impaired Driving Enforcement 6-73

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Identification of Narcotic Analgesics

- The most familiar narcotic analgesic is heroin
- Heroin is normally found in powder form
- Heroin's color ranges from white to dark brown (tar colored)



Advanced Roadside Impaired Driving Enforcement 6-74

Notes: _____

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.



Notes: _____



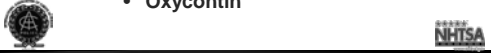
Notes: _____

Session 6 – Seven Major Drug Categories

Identification of Narcotic Analgesics

Other narcotic analgesics include:

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



Advanced Roadside Impaired Driving Enforcement 6-77

Notes: _____

Other narcotic analgesics include:

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

Typically, these are prescription drugs and found in pill form.

The shape, size, or scoring can depend on the manufacturer or milligram strength.

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.

Session 6 – Seven Major Drug Categories

Methods, Signs, and Symptoms

Methods of ingestion vary, depending on the drug used

- Orally in pill form
- Inhaled as a powder
- Injected as a liquid



Advanced Roadside Impaired Driving Enforcement

NHTSA

6-78

Notes: _____

Methods of ingestion vary, depending on the drug used.

They may be taken:

- Orally in pill form
- Inhaled as a powder
- Injected as a liquid



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 inhaled, while heroin that is less pure is typically injected.

Session 6 – Seven Major Drug Categories

Effects of Narcotic Analgesics

- Usually very addictive
- Addicts who stop using may suffer physical withdrawal symptoms
- Users may develop a tolerance to the drug (Each time the drug is taken, a larger dose is required to achieve the same feeling)



Advanced Roadside Impaired Driving Enforcement 6-79

Notes: _____



Effects of Narcotic Analgesics

- Narcotic analgesics are 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.

Session 6 – Seven Major Drug Categories

General Indicators

- Droopy eyelids
- “On the nod”
- Drowsiness
- Depressed reflexes
- Dry mouth
- Low, raspy, slow speech



Advanced Roadside Impaired Driving Enforcement 6-80

Notes: _____



General Indicators

- Droopy eyelids
- “On the nod”
- Drowsiness
- Depressed reflexes
- Dry mouth
- Low, raspy, slow speech

Session 6 – Seven Major Drug Categories

General Indicators (Cont.)

- Euphoria
- Fresh puncture marks
- Itching
- Nausea
- Track marks



Advanced Roadside Impaired Driving Enforcement 6-81


Notes: _____

- Euphoria
- Fresh puncture marks
- Itching
- Nausea
- Track marks

Session 6 – Seven Major Drug Categories

Eye Indicators

- HGN Not Present
- VGN Not Present
- Pupil Size Constricted
- LOC Not Present



Advanced Roadside Impaired Driving Enforcement 6-82

Notes: _____

Eye Indicators

HGN Not Present

VGN Not Present


Pupil Size Constricted

LOC Not Present

Session 6 – Seven Major Drug Categories

Duration of Effects

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



Advanced Roadside Impaired Driving Enforcement 6-83

Notes: _____

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.

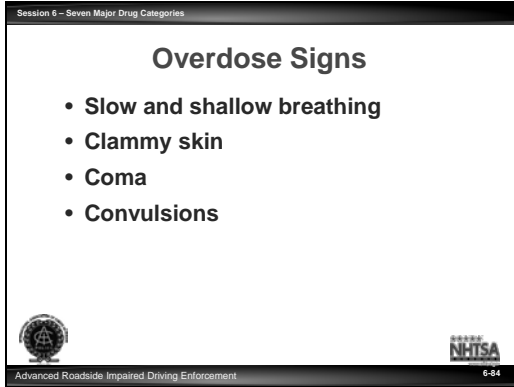
Heroin 4-6 hours

Hydrocodone 6-8 hours

Dilaudid 5 hours

Percodan 4-6 hours

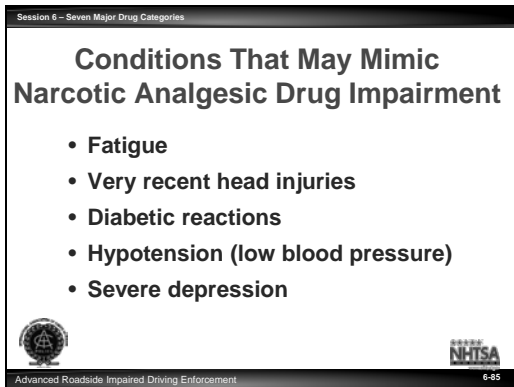
Methadone 12-18 hours



Notes: _____

Overdose signs and symptoms of a narcotic analgesic may include, but are not limited to:

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



Notes: _____

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

Session 6 – Seven Major Drug Categories

Drug Matrix

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

1. Soma, Quaaludes and some Anti-Depressants usually dilate pupils*



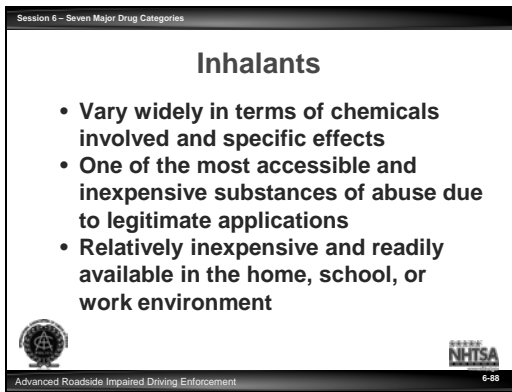
Advanced Roadside Impaired Driving Enforcement 6-86

Notes: _____



Notes: _____

Inhalants



Notes: _____

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.

Session 6 – Seven Major Drug Categories

Identification of Inhalants

The three sub-categories of inhalants are:

- Volatile solvents
- Aerosols
- Anesthetic gases



Advanced Roadside Impaired Driving Enforcement 6-89

Notes: _____

There are three major categories of inhalant abuse:


- Volatile solvents
- Aerosols
- Anesthetic gases

Session 6 – Seven Major Drug Categories

Volatile Solvents

These chemicals are usually inhaled directly from their source:

- Gasoline
- Paint thinners
- Fingernail polish remover
- Cleaning fluid
- Dry erase markers
- Liquid Correction Fluid
- Paint
- Various glues



Advanced Roadside Impaired Driving Enforcement 6-90

Notes: _____

These chemicals are usually inhaled directly from their source.

Some of these include:


- Gasoline
- Paint thinners
- Fingernail polish remover
- Cleaning fluid
- Dry erase markers
- Liquid Correction Fluid
- Paint
- Various glues

Session 6 – Seven Major Drug Categories

Aerosols

These are usually inhaled from a secondary source such as a:

- Soaked rag
- Paper bag
- Plastic bag



Advanced Roadside Impaired Driving Enforcement 6-91

Notes: _____

These chemicals are 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

Session 6 – Seven Major Drug Categories

Aerosols (Cont.)

Some of the commonly abused aerosols include:

- Hair sprays
- Deodorants
- Vegetable frying pan lubricants
- Insecticides
- Spray paint



Advanced Roadside Impaired Driving Enforcement 6-92

Notes: _____

Some of the commonly abused aerosols include:


- Hair sprays
- Deodorants
- Vegetable frying pan lubricants
- Insecticides
- Spray paint

Session 6 – Seven Major Drug Categories

Anesthetic Gases

Some of the anesthetic gases include:

- Chloroform
- Amyl nitrite
- Butyl nitrite
- Isobutyl nitrite
- Nitrous oxide
 - Whipped cream (gas)



Advanced Roadside Impaired Driving Enforcement

NHISA
6-93

Notes: _____

This category is the least abused of the three, 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:

- Chloroform
- Amyl nitrite
- Butyl nitrite
- Isobutyl nitrite
- Nitrous oxide
 - Whipped cream (gas)

Session 6 – Seven Major Drug Categories

Methods and Signs of Ingestion

- 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



Advanced Roadside Impaired Driving Enforcement 6-94

Notes: _____

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

Session 6 – Seven Major Drug Categories

Methods and Signs of Ingestion

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

- Hands
- Face
- Mouth



Advanced Roadside Impaired Driving Enforcement 6-95

Notes: _____



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

- Hands
- Face
- Mouth

Session 6 – Seven Major Drug Categories

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



Advanced Roadside Impaired Driving Enforcement 6-96

Notes: _____

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.

Session 6 – Seven Major Drug Categories

General Indicators

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

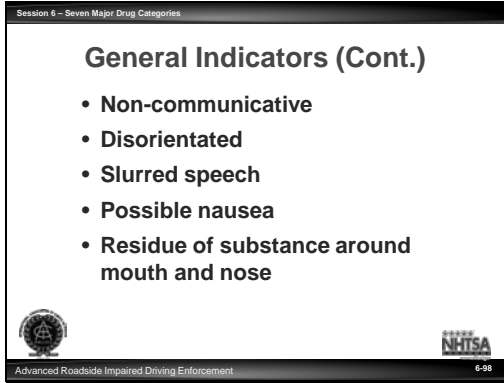


Advanced Roadside Impaired Driving Enforcement 6-97

Notes: _____

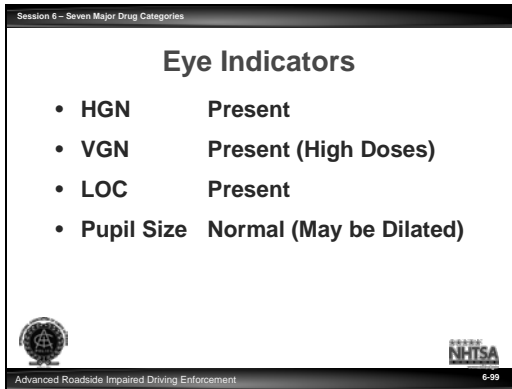
General Indicators

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



Notes: _____

- Non-communicative
- Disorientated
- Slurred speech
- Possible nausea
- Residue of substance around mouth and nose



Notes: _____



Eye Indicators

- HGN Present
- VGN Present (High Doses)
- Pupil Size Normal (May be Dilated)
- LOC Present

Session 6 – Seven Major Drug Categories

Duration of Effects

- **Volatile Solvents** **6-8 hours**
- **Anesthetic Gases** **Very Short**
 - **Nitrous Oxide** **< 5 Minutes**
 - **Amyl Nitrite/ Butyl Nitrite** **Few seconds to 20 minutes**

Advanced Roadside Impaired Driving Enforcement 6-100

Notes: _____

Duration of Effects



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

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptoms

The primary overdose signs for inhalants are:

- **Coma**
- **Sudden sniffing death**

Advanced Roadside Impaired Driving Enforcement 6-101

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Conditions That May Mimic Drug Impairment

There are two conditions that may mimic inhalant impairment:

- Severe head injuries
- Inner ear disorders / Equilibrium



Advanced Roadside Impaired Driving Enforcement 6-102

Notes: _____

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:

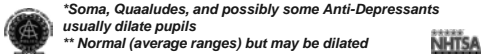
- Severe head injuries
- Inner ear disorders / Equilibrium

Session 6 – Seven Major Drug Categories

Drug Matrix

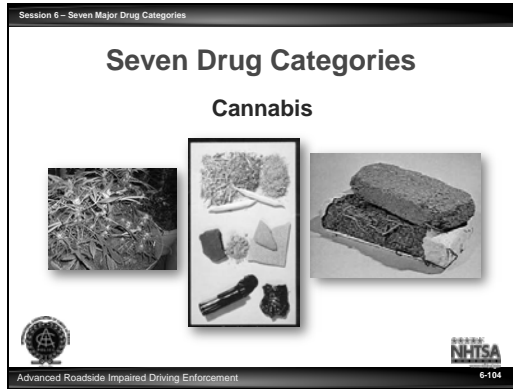
	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	
VGN	Present	None	None	Present	None	Present	
LOC	Present	None	None	Present	None	Present	
Pupil Size	Normal *	Dilated	Dilated	Normal	Constricted	Normal **	

**Soma, Quaaludes, and possibly some Anti-Depressants usually dilate pupils*
*** Normal (average ranges) but may be dilated*



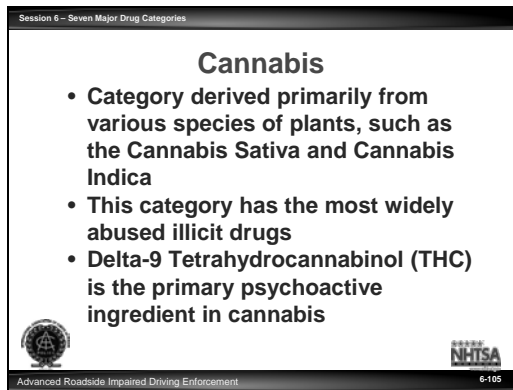
Advanced Roadside Impaired Driving Enforcement 6-103

Notes: _____



Notes: _____

Cannabis



Notes: _____

Cannabis is a category of drugs derived primarily from various species of plants, such as the Cannabis Sativa and Cannabis Indica.

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.

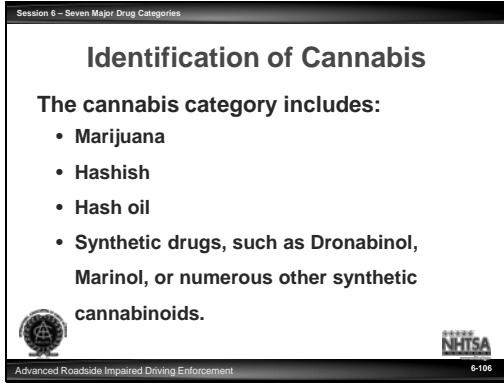
The primary psychoactive ingredient in cannabis is:

- 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.



Notes: _____

The cannabis category includes:

- Marijuana
- Hash
- Hash oil
- Synthetic drug, such as dronabinol, marinol, or numerous other synthetic cannabinoids.





Notes: _____

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

Session 6 – Seven Major Drug Categories

Identification of Cannabis

- **Marinol, a synthetic form of cannabis, has a legitimate medicinal use as an anti-vomiting agent, commonly associated with cancer chemotherapy**
- **Other uses for Marinol include treatment of glaucoma or as an appetite enhancer for anorexia disorders**

Advanced Roadside Impaired Driving Enforcement 6-108

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Identification of Cannabis (Cont.)

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 %).**
- **Current levels are being reported at more than 30%**

Advanced Roadside Impaired Driving Enforcement 6-109

Notes: _____

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).



Session 6 – Seven Major Drug Categories

Methods and Signs of Ingestion

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

Advanced Roadside Impaired Driving Enforcement 6-110

Notes: _____

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.

Session 6 – Seven Major Drug Categories

Effects of Cannabis

People under the influence of cannabis may display:

- Brief attention span
- Divided attention impairment

Advanced Roadside Impaired Driving Enforcement 6-111

Notes: _____

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.

Session 6 – Seven Major Drug Categories

General Indicators

- Marked reddening of the conjunctiva
- Odor of marijuana
- Marijuana debris in the mouth
- Body tremors
- Increased appetite



Advanced Roadside Impaired Driving Enforcement 6-112

Notes: _____


General Indicators

- Marked reddening of the conjunctiva
- Odor of marijuana
- Marijuana debris in the mouth
- Body tremors
- Increased appetite

Session 6 – Seven Major Drug Categories

General Indicators (Cont.)

- Relaxed inhibitions
- Disoriented
- Possible paranoia
- Impaired perception of time and distance
- Eyelid tremors



Advanced Roadside Impaired Driving Enforcement 6-113


Notes: _____

- Relaxed inhibitions
- Disoriented
- Possible paranoia
- Impaired perception of time and distance
- Eyelid tremors

Session 6 – Seven Major Drug Categories

Eye Indicators

- HGN Not Present
- VGN Not Present
- LOC Present
- Pupil Size Dilated (May be normal)



Advanced Roadside Impaired Driving Enforcement 6-114

Notes: _____

Eye Indicators

HGN Not Present

VGN Not Present

Pupil Size Dilated (May be normal)


LOC Present

Session 6 – Seven Major Drug Categories

Duration of Effects

Marijuana

- Peak 10-30 minutes
- Duration 2-3 hours
- Dissipates 3-5 hours
- Residual Effects Up to 24 hours



Advanced Roadside Impaired Driving Enforcement 6-115

Notes: _____

Duration of Effects

When marijuana is smoked, the user will experience peak effects

- Within 10 to 30 minutes.

Typical marijuana users usually exhibit the effects for 2 to 3 hours, with most behavioral and physiological effects dissipating after 3-5 hours.


Some research suggests that residual effects can impact specific behaviors for up to 24 hours.

Session 6 – Seven Major Drug Categories

Duration of Effects

Dronabinol/Marinol

- Onset 30-60 minutes
- Peak 2-4 hours
- Appetite Stimulant Up to 24 hours



Advanced Roadside Impaired Driving Enforcement 6-116

Notes: _____

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

Session 6 – Seven Major Drug Categories

Overdose Signs and Symptoms

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

- Paranoia
- Fatigue



Advanced Roadside Impaired Driving Enforcement 6-117

Notes: _____

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 Major Drug Categories

Drug Matrix

	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 *	Dilated	Dilated	Normal	Constricted	Normal **	Dilated ***

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



Advanced Roadside Impaired Driving Enforcement 6-118

Notes: _____

Drug Matrix

Session 6 – Seven Major Drug Categories

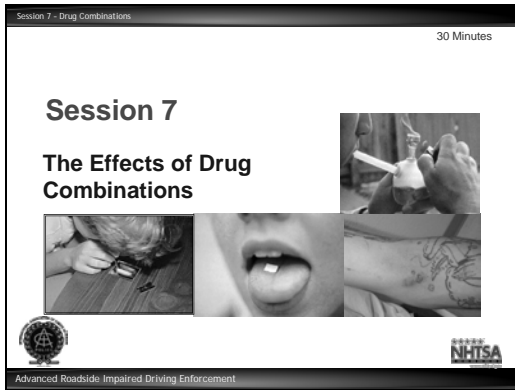
QUESTIONS?



Advanced Roadside Impaired Driving Enforcement 6-119

Notes: _____

Participant Manual ARIDE - Session 7 – The Effects of Drug Combinations





Notes: _____

Session 7 – Drug Combinations

Learning Objectives

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



Advanced Roadside Impaired Driving Enforcement 7-2

Notes: _____

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 poly drug use.
- Define poly drug use.
- Articulate possible effects of poly drug use related to the general indicators of alcohol and drugs.

Content Segments

- A. Prevalence of drug and alcohol use
- B. Research on poly drug use
- C. Potential effects of poly drug
- D. Types of drug combinations
- E. Combinations including alcohol

Learning Activities


- Instructor-Led Presentation

- Instructor-Led Presentation

Session 7 - Drug Combinations

Prevalence of Drug and Alcohol Use

- In 2010 approximately 7 million people aged 12 years or older used psychotherapeutic drugs non-medically (NSDUH, 2010)



Advanced Roadside Impaired Driving Enforcement

NHTSA

7-3

Notes: _____


A. Prevalence of Drug and Alcohol Use

- In 2010, approximately 7 million people aged 12 years or older used psychotherapeutic drugs non-medically.
Source: National Survey on Drug Use and Health (NSDUH, 2010).
- The exact number of prescription drug users in the U.S. is unknown. However, in 2011 a record 4 billion drug prescriptions were written in the U.S.
Source: Medical News Today, September 18, 2012.
- Among those aged 50 to 59, the rate of past month illicit drug use increased from 2.7 percent in 2002 to 5.8 percent in 2010. 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.
- Approximately 6.0 million Americans abuse prescription drugs each year.
Source: NSDUH Report, 2010.
- In 2010, 10.6 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.0 percent of the population aged 12 or older. In 2010, the rate was highest among young adults aged 18 to 25 (12.7 percent).

Session 7 - Drug Combinations

Prevalence of Drug and Alcohol Use (Cont.)

- Alcohol is the most popular "mixer" with other drugs
- Cannabis is another popular "mixer", and frequently shows up in combination with Cocaine, PCP, and various other drugs
- The "speedball", a combination of Cocaine and Heroin, remains popular



Advanced Roadside Impaired Driving Enforcement 7-5

Notes: _____

- Research has shown that 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 poly-drug users than single drug users.


This means that 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 poly-drug use.

Session 7 - Drug Combinations

Poly Drug Use

- When a person ingests two or more drug categories into their body, each drug works independently
- The body will exhibit a combination of these effects



Advanced Roadside Impaired Driving Enforcement 1-4

Notes: _____

B. Define Poly Drug Use


Poly Drug Use: When a person ingests two or more different drug categories.

Session 7 - Drug Combinations

Potential Effects of Poly Drug Use

Four types of combined effects can, and generally will, occur when two drug categories are used together:

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



Advanced Roadside Impaired Driving Enforcement 7-6

Notes: _____

C. Potential Effects of Poly Drug Use

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

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

Session 7 - Drug Combinations

Null Effect

If neither drug affects some particular indicator of impairment, their combination also will not affect that behavior

Nothing + Nothing = Nothing

Advanced Roadside Impaired Driving Enforcement 7-7

Notes: _____

D. Types of Drug Combinations

Null Effect

The simplest way to explain the null effect is using the phrase: "zero plus zero equals zero"

When a subject consumes one drug which does not cause 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 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.

Session 7 - Drug Combinations

Overlapping Effect

If one drug affects some particular indicator of impairment and another does not, their combination also will affect that behavior.

Action + Nothing = Action

Advanced Roadside Impaired Driving Enforcement 7-8

Notes: _____

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.

Session 7 - Drug Combinations



Overlapping Effect Examples

Narcotic Analgesics typically cause:

- HGN - Not present
- VGN – Not present
- Pupil Size – Constricted
- LOC – Not present

CNS Depressants typically cause:

- HGN - Present
- VGN – Possibly Present
- Pupil Size – Normal (Average range)
- LOC – Present



Advanced Roadside Impaired Driving Enforcement 7-9

Notes: _____

Overlapping Effect Examples

Examples:

Narcotic Analgesics typically cause:

- HGN - Not present
- VGN – Not present
- Pupil Size – Constricted
- LOC – Not present

CNS Depressants typically cause:


- HGN - Present
 - VGN – Possibly Present
- Note: VGN is present in high doses.
- Pupil Size – Normal (Average range)
 - LOC – Present

Session 7 - Drug Combinations

Likely Effects of the Combination

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

Action + **Nothing** = **Action**



Advanced Roadside Impaired Driving Enforcement 7-10

Notes: _____

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

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


Action plus nothing equals action.

Session 7 - Drug Combinations

Additive Effect

If both drugs affect some particular indicator of impairment, their combination also will affect that behavior.

Action + **Action** = **Greater Action**



Advanced Roadside Impaired Driving Enforcement 7-11

Notes: _____

Additive Effect

The additive effect occurs when two drug categories 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.

Session 7 - Drug Combinations

Likely Effects of Combination Depressant and Inhalant

- Both cause HGN and VGN
- Expect to see more clues or more pronounced HGN and/or VGN than seen with an individual under the influence of either a depressant or an inhalant alone

Action + **Action** = **Greater Action**

Advanced Roadside Impaired Driving Enforcement 7-12

Notes: _____

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.

Session 7 – Drug Combinations



Additive Effect Examples

Alcohol typically causes:

- HGN – Present
- VGN – Possibly present
- Pupil Size – Normal (Average range)
- LOC – Present

CNS Depressants typically cause:

- HGN – Present
- VGN – Possibly present
- Pupil Size – Normal (Average range)
- LOC – Present



Advanced Roadside Impaired Driving Enforcement 7-13

Notes: _____

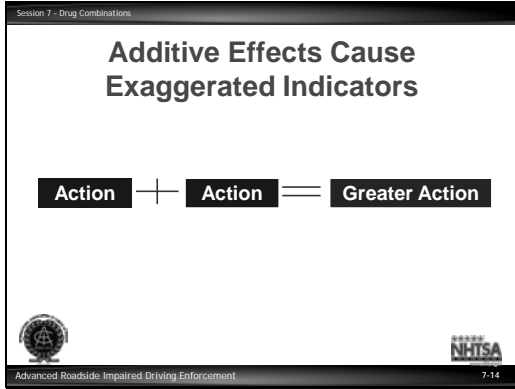
Additive Effect Examples

Alcohol typically causes:

- HGN – Present
- VGN – Possibly present
- Pupil Size – Normal (Average range)
- LOC – Present

CNS Depressants typically cause:

- HGN – Present
- VGN – Possibly present
- Pupil Size – Normal (Average range)
- LOC – Present



Notes: _____

The additive effects may cause the indicators to be exaggerated.

Action + Action = Greater Action

Note: Pupils may be dilated. What you see with HGN usually will not be consistent with the BAC.

Note: 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.



Session 7 - Drug Combinations

Antagonistic Effect

When two drugs affect some indicator in exactly the opposite way, their combination will be unknown

Action + **Opposite Action** = **Unknown**

Effects will be dependant on which drug is more dominant in the system at any given time

Advanced Roadside Impaired Driving Enforcement 7-15

Notes: _____

Antagonistic Effect

An antagonistic effect occurs when two drug categories 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 that 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 (Average range) pupils.


”Action plus opposite action may be unpredictable”

Session 7 - Drug Combinations

Summary

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

- Dose levels
- Time of ingestion
- An individual's metabolism



Advanced Roadside Impaired Driving Enforcement 7-16

Notes: _____

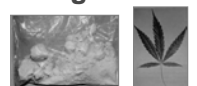
Summary

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

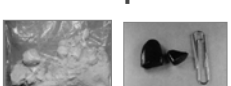
- Dose levels
- Time of ingestion
- A subject's metabolism

Session 7 - Drug Combinations

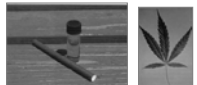
Drug Combination Examples




Cocaine and Cannabis




Cocaine and Heroin



PCP and Cannabis



Alcohol and Practically Anything Else



Advanced Roadside Impaired Driving Enforcement 7-17

Notes: _____



E. Combinations Including Alcohol

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

Session 7 - 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	Normal	Constricted	Overlapping	Constricted





Advanced Roadside Impaired Driving Enforcement 7-18

Notes: _____

Session 7 - Drug Combinations

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



Advanced Roadside Impaired Driving Enforcement 7-19

Notes: _____

Session 7 - Drug Combinations

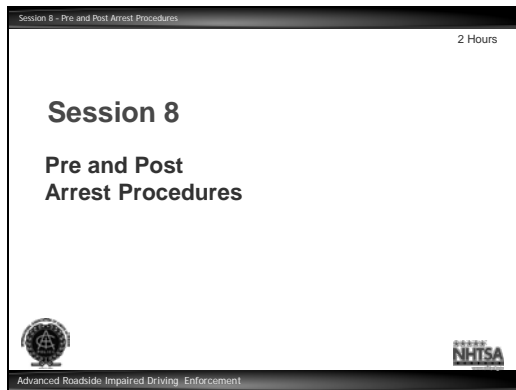
QUESTIONS?



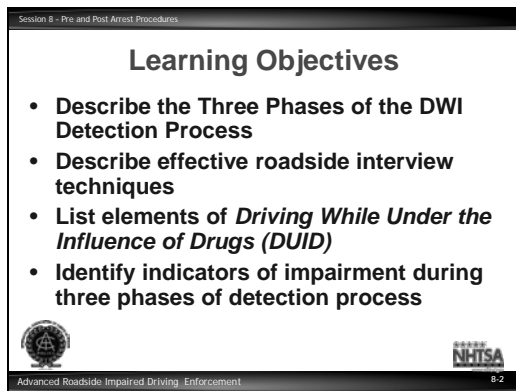
Advanced Roadside Impaired Driving Enforcement 7-20

Notes: _____

ARIDE Participant Manual – Session 8 Pre and Post Arrest Procedures



Notes: _____



Notes: _____


Upon completion of this session participants will be able to:

- 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 the offense of DUID
- Identify the indicators of impairment observed during the three phases of the detection process

Session 8 – Pre and Post Arrest Procedures

Learning Objectives (Cont.)

- Accurately document, in sequence, 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



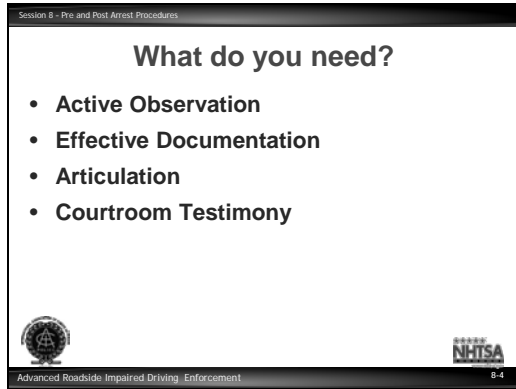
Notes: _____

- 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

Content Segments

Learning Activities

A. What is DWI Detection?	Instructor-Led Presentation
B. Three phases of the detection process	Instructor-Led Presentation
C. Effective roadside interview techniques	Instructor-Led Presentation and Student Practice Session
D. Identifying and documenting observed indicators of impairment	Instructor-Led Presentation and Student Practice Session
E. Case studies and scenarios	Student Practical Exercise
F. Case preparation and prosecution	Instructor-Led Presentation and Student Practice Session

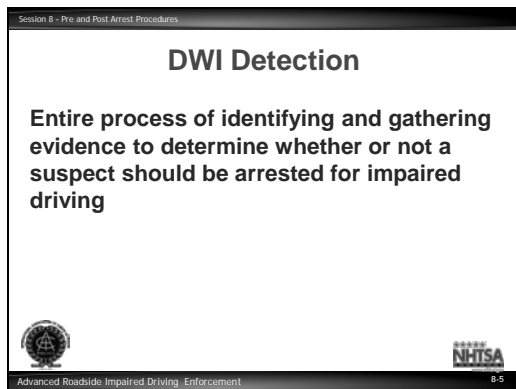


Notes: _____

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, taught in previous courses dealing with:

- Active Observation
- Effective Documentation
- Articulation
- Courtroom Testimony

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.



Notes: _____

A. What is DWI Detection?


DWI detection will be defined as:

“The entire process of identifying and gathering evidence to determine whether or not a suspect should be arrested for impaired driving attributed to alcohol, drug or a combination of alcohol and drugs.”

Session 8 - Pre and Post Arrest Procedures

Three Phases

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



Advanced Roadside Impaired Driving Enforcement 8-6

Notes: _____

B. Three Phases of the Detection Process

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

Session 8 - Pre and Post Arrest Procedures


The Detection Process

When does it begin?

- What draws your attention to a vehicle?

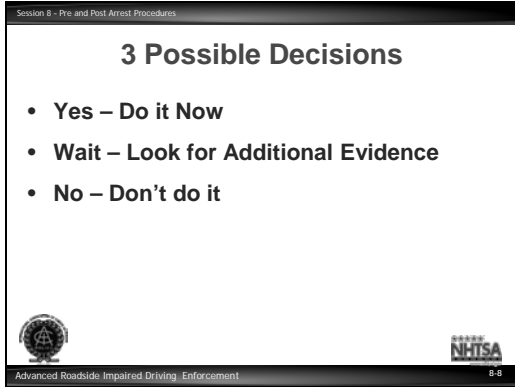
When does it end?

- What do you base the arrest decision on?



Advanced Roadside Impaired Driving Enforcement 8-7

Notes: _____



Notes: _____

The detection process:

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

When does it begin?

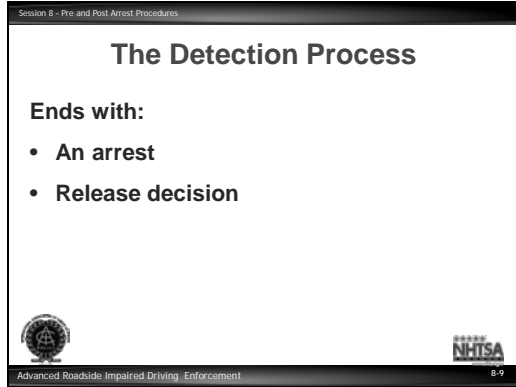
- When the law enforcement officer attention is first drawn to a vehicle.

The detection process ends when the officer decides that there is or there 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.

The precipitating event may be a loud noise; an equipment or moving violation; behavior that is unusual, but not necessarily illegal; or almost anything else.

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



Notes: _____

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.

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.

Session 8 - Pre and Post Arrest Procedures

Phase I: Vehicle in Motion

- What do you observe?
- What is the standard?
- What do you do?
- When might Phase I not occur?



Advanced Roadside Impaired Driving Enforcement 8-10

Notes: _____


Phase I: Vehicle in Motion

In Phase One, you usually observe the driver operating the vehicle.

Session 8 - Pre and Post Arrest Procedures

Phase II: Personal Contact

- What do you observe?
- What do you do?
- When might Phase II not occur?

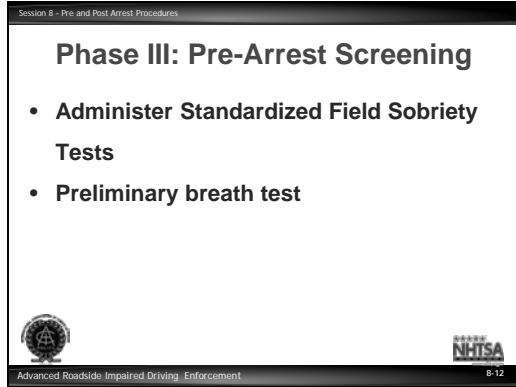


Advanced Roadside Impaired Driving Enforcement 8-11

Notes: _____

Phase II: 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.

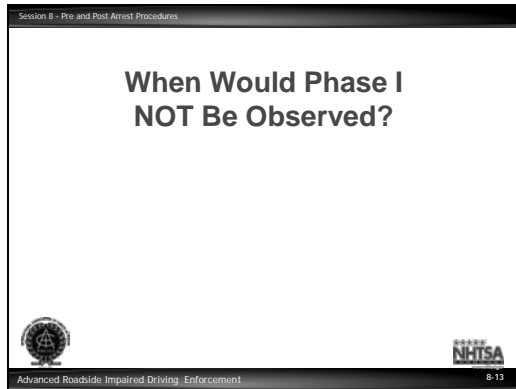


Notes: _____

Phase III: Pre-Arrest Screening

In Phase Three, you usually have an opportunity to administer the Standardized Field Sobriety Tests (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 that alcohol is or is not the cause or a contributing factor of the impairment.

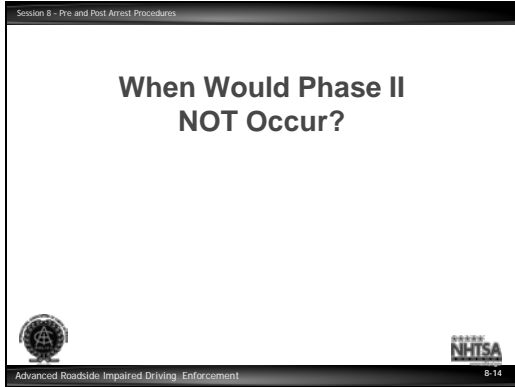


Notes: _____

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.

Examples include:

- Crashes
- Sobriety checkpoint
- Motorist assistance

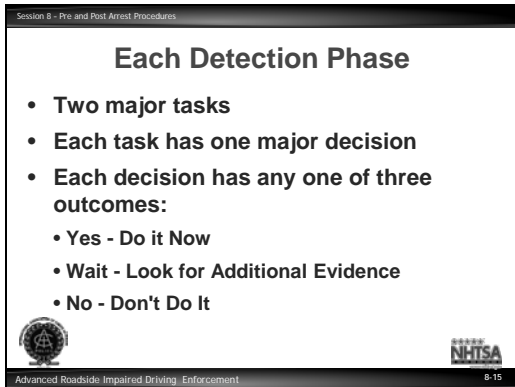


Notes: _____

Sometimes there are situations when Phase Two does not occur.

Examples include:

- Crashes where drivers are transported to the hospital and significant time passes before an investigating officer makes contact with the driver.



Notes: _____


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

Session 8 - Pre and Post Arrest Procedures

Phase I - Task One

- Observe the vehicle in motion
- Decision point: *Is there reasonable suspicion to stop the vehicle?*



Advanced Roadside Impaired Driving Enforcement 8-16

Notes: _____

Phase One:


- Task 1 Observe the vehicle in operation.

Decision Point: *Is there reasonable suspicion to stop the vehicle?*

Session 8 - Pre and Post Arrest Procedures

Phase I - Task Two

- Continue to observe the vehicle and the stopping sequence
- Decision point: *Is there reasonable suspicion to stop the vehicle?*



Advanced Roadside Impaired Driving Enforcement 8-17

Notes: _____

Phase One:


- Task 2 Continue to observe the vehicle and the stopping sequence.

Decision point: *Is there reasonable suspicion to stop the vehicle?*

Session 8 - Pre and Post Arrest Procedures

Phase II - Task One

- Observe and interview the driver face-to-face
- Decision point: *Should you instruct the driver to step from the vehicle for further investigation?*



Advanced Roadside Impaired Driving Enforcement 8-18

Notes: _____

Phase Two:

- Task 1: Observe and interview the driver face-to-face.


Note: 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

Session 8 - Pre and Post Arrest Procedures

Phase II - Task Two

- Observe the driver's exit and walk from the vehicle
- Decision point: *Is there sufficient probable cause to test the driver for DWI?*



Advanced Roadside Impaired Driving Enforcement 8-19

Notes: _____


- Task 2: Observe the driver's exit and walk from the vehicle.

Decision Point: Is there sufficient probable cause to test the driver for DWI?

Session 8 – Pre and Post Arrest Procedures

Phase III – Task One

- Administer psychophysical tests
- Decision point: *Is there sufficient probable cause to arrest the driver for DWI?*



Advanced Roadside Impaired Driving Enforcement 8-20

Notes: _____

Phase Three:


Task 1: Administer psychophysical tests.

- Decision Point: Is there sufficient probable cause to arrest the driver for DWI?

Session 8 – Pre and Post Arrest Procedures

Phase III – Task Two

- Arrange for or administer a preliminary breath test
 - What do you observe?
 - SFST
 - HGN, VGN, WAT, OLS
 - Other Tests/Observations
 - Modified Romberg Balance, LOC, Pupil size
- Decision point: *Is there sufficient probable cause to arrest the driver for DWI?*



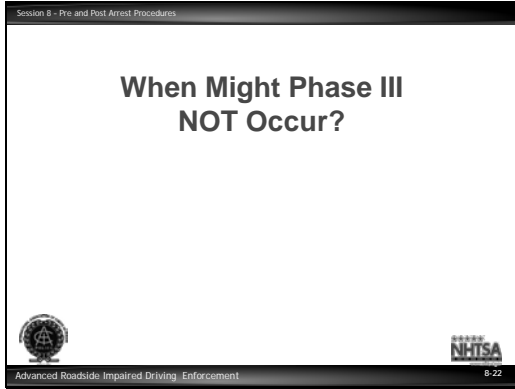
Advanced Roadside Impaired Driving Enforcement 8-21

Notes: _____

Task 2: Arrange for or administer a preliminary breath test.

What do you observe?

- SFST
- HGN, VGN, WAT, OLS
- Other Tests/Observations
- Modified Romberg Balance, LOC, Pupil size
- Decision point: Is there sufficient probable cause to arrest the driver for DWI?
- What do you do?



Notes: _____

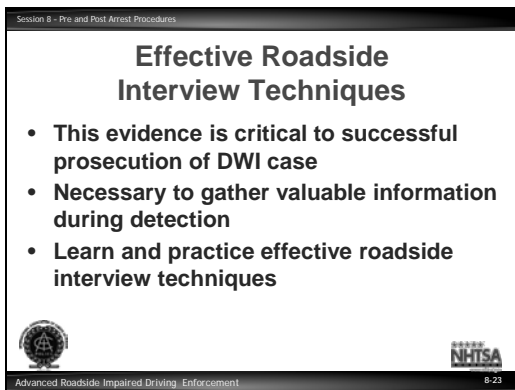
Sometimes there are situations when Phase Three does not occur.

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

Note: This decision is made by the officer.

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



Notes: _____

C. Effective Roadside Interview Techniques


This evidence is critical to the successful prosecution of 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.

Session 8 - Pre and Post Arrest Procedures

What You Say

- **Communication style**
- **Tailor questioning speed and tone to the situation and circumstances**



Advanced Roadside Impaired Driving Enforcement 8-24

Notes: _____

What you say: Word choice, communication style

Example: crash or accident

Note: 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.

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

Session 8 - Pre and Post Arrest Procedures

What You Do

- **Physical positioning, demeanor - avoid an over bearing posture or stance**
- **Goal: encourage cooperation**
- **Facilitate open dialog**
- **Develop a good rapport with the subject**



Advanced Roadside Impaired Driving Enforcement 8-25

Notes: _____

What you do: Physical positioning, demeanor

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


Demeanor example: maintain professionalism, facilitate open dialog.

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

Session 8 - Pre and Post Arrest Procedures

What You See, Smell, Hear

- Bloodshot eyes, clothing, paraphernalia,
- Alcoholic beverage, chemical odors, marijuana
- Slurred speech, unusual and/or inappropriate statements, drug lingo



Advanced Roadside Impaired Driving Enforcement 8-26

Notes: _____

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...

Session 8 - Pre and Post Arrest Procedures

Identifying and Documenting

Case Prep Begins with 1st Observation:

- Document in order of the 3 Phases
 - Absent extraordinary conditions NO shortcuts
 - Follow up on all indicators of impairment
- Document environmental and other conditions



Advanced Roadside Impaired Driving Enforcement 8-27

Notes: _____

D. Identifying and Documenting Observed Indicators of Impairment

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.

Session 8 - Pre and Post Arrest Procedures

Identifying and Documenting

Case Prep Begins with 1st Observation:

- Document in order of the 3 Phases
 - Absent extraordinary conditions NO shortcuts
 - Follow up on all indicators of impairment
- Document environmental and other conditions



Advanced Roadside Impaired Driving Enforcement 8-28

Notes: _____

During phase two of the detection process, a driver may offer a reason for their behavior or physical appearance.

Example:


- 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.

Session 8 - Pre and Post Arrest Procedures

Explain your findings...

Based on your training and experience:

1. Is impairment present?
2. What is causing your observations?
3. Is more info needed to decide?

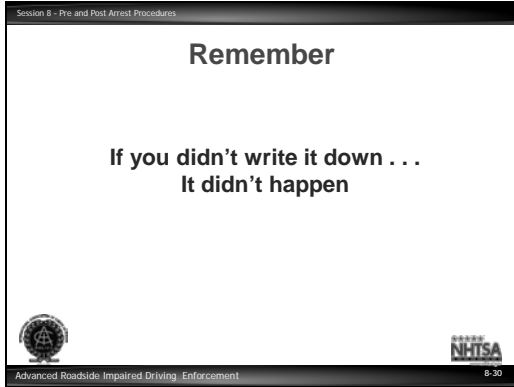


Advanced Roadside Impaired Driving Enforcement 8-29

Notes: _____

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

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



Notes: _____

**** 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.

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

Session 8 - Pre and Post Arrest Procedures

**If you didn't write it down . . .
It didn't happen**

- Use the drug matrix as a field reference
- Organize observations during traffic stop
- Articulate the circumstances and environment in which the stop was conducted
- Descriptive information will *paint a picture* for the prosecutor and the court



Advanced Roadside Impaired Driving Enforcement 8-31

Notes: _____

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.

It is suggested that officers use this matrix or another documentation tool as a field reference.

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.

Session 8 - Pre and Post Arrest Procedures

Exercise: Document Observations

For each of the scenarios/case studies:

- Describe the process of assessing the impaired driver
- Evaluate scenario/case study information
- Articulate observations related to the general indicators of impairment and the basis for that interpretation



Advanced Roadside Impaired Driving Enforcement 8-32

Notes: _____

E. Case Studies and Scenarios

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


The Participant will 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 describe what the results indicate
- Demonstrate the ability to articulate observations related to the general indicators of impairment and the basis for that interpretation.

Session 8 - Pre and Post Arrest Procedures

Case Preparation: When does it begin?

- Know your Legal Requirements (Statutes)
- Develop a Case File
 - Accurately document all observations
 - 3 Phases
- Don't skip steps
 - Consistency Yields Reliability
- Know your limitations
- Ask for help



Advanced Roadside Impaired Driving Enforcement 8-33

Notes: _____

F. Case Preparation and Prosecution

Case preparation begins with the first observations of the vehicle during Phase I 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 that law enforcement officers understand both the elements of the state statutes, and what evidence the prosecution needs to prove each element.

Session 8 - Pre and Post Arrest Procedures

During the Detection Process

- Keep in mind your State legal requirements
- Organize and document observations in terms of the three detection phases
- A successful prosecution for impaired driving begins with building a DWI Prosecution Team
 - The most important part of this process is to remember that it does not matter who leads the effort



Advanced Roadside Impaired Driving Enforcement 8-34

Notes: _____

During the detection process, it is critical that officers keep in mind the legal requirements of their state. It is equally important that 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 it does not matter who leads the effort.

Session 8 – Pre and Post Arrest Procedures

Prosecution Team

- More comprehensive case preparation
- More effective prosecution
- Foundation for a strong DWI Prosecution Team is the relationship between the law enforcement officer(s) involved with the arrest and the prosecuting attorneys associated with the case



Advanced Roadside Impaired Driving Enforcement 8-35

Notes: _____

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 attorneys 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.

Session 8 - Pre and Post Arrest Procedures

Prosecution Team (Cont.)

- Toxicologists
- Breath testing professionals
- DREs and other expert witnesses
- Provide specific details that help build the case and support the law enforcement officer's testimony



Advanced Roadside Impaired Driving Enforcement 8-36

Notes: _____

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.

Session 8 - Pre and Post Arrest Procedures

Common Elements

- Concentrate on common elements and work to optimize how we handle them
- Work together to utilize this team in order to follow a similar protocol with each case
- *Consistency Yields Reliability*



Advanced Roadside Impaired Driving Enforcement 8-37

Notes: _____

It is rational to believe that every DWI traffic stop, arrest and prosecution are different, but it is also reasonable to assume that 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.

Session 8 - Pre and Post Arrest Procedures

What is in a Case File?

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

Remember: Comprehensive Case Prep Yields Effective Courtroom Presentation



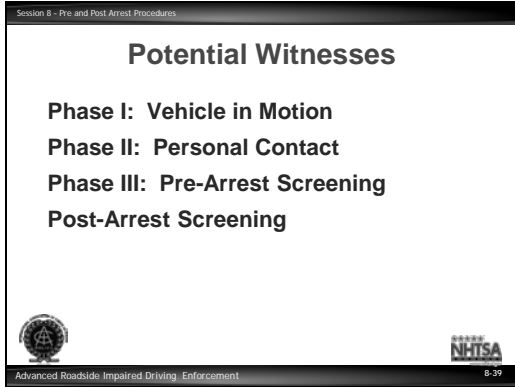
Advanced Roadside Impaired Driving Enforcement 8-38

Notes: _____

What is a Case File?

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

Remember: Comprehensive Case Prep Yields Effective Courtroom Presentation



Notes: _____

Phase I: 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 be involved at this point may include:

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Phase I: Who Can Help?

- 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



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Notes: _____

- 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 II: Document Observations

- Note every observation made regarding personal contact
- Include 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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Notes: _____

Phase II: 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 III: Thoroughly Document

- HGN, WAT, OLS and other sobriety tests, including the associated clues
- Potential team members:
 - Law enforcement officer(s)
 - Lay witnesses



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Notes: _____

Phase III: 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 Walk and Turn 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
- Other law enforcement officers who may have made observations or were called in to assist
- 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 Potential Team Members

- Breath testing operators/technical supervisors.
- Drug Recognition Experts (DREs)
- Medical personnel
- Jail personnel

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Notes: _____

Post Arrest Screening

During post arrest screening the team will potentially include:

- Breath testing operators/technical supervisors.
- Drug Recognition Experts (DREs)
- Medical personnel
- Jail personnel



DRE's 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 Who Can Help?

- Local Prosecutor
- Toxicologist
- DRE/DRE State Coordinator
- TSRP
- NHTSA/NAPC Prosecutor Fellow
- NTLC



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Notes: _____

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 should expand:

- Local prosecutor
- Toxicologist or representative from the appropriate state or contract lab
- DRE Officer / DRE State Coordinator
- Traffic Safety Resource Prosecutor (TSRP) (If available)
- National Highway Traffic Safety Administration (NHTSA)/National Association of Prosecutor Coordinators (NAPC) Prosecutor Fellow
- National Traffic Law Center

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Pre-Trial

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



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Notes: _____

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.

The toxicologist in a DEC state can be used to corroborate the testimony of the DRE.

The DRE / DRE State Coordinator may be able to assist in identifying additional DRE resources.

In a non-DEC state, the toxicologist can be used to bridge the gap between the observations of the arresting officer and the lab report.



If your state has a TSRP they can be utilized as a resource to assist both prosecutors and law enforcement.

NTLC, the NAPC Prosecutor Fellow, and NHTSA and the IACP may also serve as additional resources.

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Visual Aids

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



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Notes: _____

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Trial

Direct Examination

- Use Visual Aids
- Use Plain English
- Listen Carefully to the Question
- Think Before You Answer
- Ask for Clarity if Needed
- Relate Training and Experience
- Talk to Your Audience

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Notes: _____

At trial, it is imperative that 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 offence.

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

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

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.

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Trial (Cont.)

Cross Examination

- Be Professional
- Answer only the 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



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Notes: _____

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Remember

**There is
NO Substitute
For Preparation**





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Notes: _____

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QUESTIONS?



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Notes: _____
