

# Advanced Roadside Impaired Driving Enforcement A.R.I.D.E.

National Highway Traffic Safety  
Administration  
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Washington, D.C. 20590

# Session I

## Introduction and Overview

# SESSION I

## Introduction and Overview Drugs and Highway Safety

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

1. Explain the goals and objectives of this course
2. Identify the elements of the drug problem as it relates to highway safety
3. Define and describe the impaired driving enforcement programs
4. Understand the roles and responsibilities of the Drug Recognition Expert (DRE) and how this course supports the Drug Evaluation and Classification (DEC) program
5. Define the term drug in the context of traffic safety and impaired driving enforcement as referenced in the DEC program

<u>Content Segments</u>	<u>Learning Activities</u>
Describe the course to the class	Instructor introductions
Goal of the course	Instructor-led presentation
List of activities & schedule	Instructor-led presentation
SFST proficiency requirements	Instructor-led presentation
Pre-course knowledge assessment	Student-assessment
What is a drug?	Instructor-led presentation
Statistics & research	Instructor-led presentation
US and other countries	Instructor-led presentation
General alcohol and drug use	Instructor-led presentation
Prevalence of impaired driving	Instructor-led presentation
Impaired driving enforcement programs	Instructor-led presentation
Roles and responsibilities of the DRE	Instructor-led presentation

## Course Introduction

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. Additionally, some officers complete more advanced training through the Drug Evaluation and Classification (DEC) program and become Drug Recognition Experts (DRE). This course is not designed as a substitute to 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 courses 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 Advanced Roadside Impaired Driving Enforcement (ARIDE) course was developed with the following goals in mind:

This course will train law enforcement officers to observe, identify and articulate the signs of impairment related to drugs, alcohol, or combination of both, in order to reduce the number of impaired driving incidents as well as crashes which result in serious injuries and fatalities.

This course will educate other criminal justice professionals (prosecutors, toxicologists, judges, etc.) to understand the signs of impairment related to drugs, alcohol, or combination of both, to enable them to effectively work with law enforcement in order to reduce the number of impaired driving incidents as well as crashes which result in serious injuries and fatalities.

In order to deal with impaired drivers on our roadways, it is important for the law enforcement community and other criminal justice professionals to be aware of the signs and symptoms of impairment related to drugs, alcohol, or combination of drugs and alcohol as well as their effects on driving. In addition to identifying the impaired driver, law enforcement agencies need to have the proper information to utilize their available resources including DREs and appropriate screening methods (blood, urine, or saliva).

Criminal justice professionals such as prosecutors and toxicologists must also understand the impaired driving detection process in order to support enforcement efforts, which will increase the probability of successful prosecution and adjudication. The traffic safety community is well aware that it is essential to address both enforcement and adjudication in order to effectively impact DWI incidents as well as associated crashes.

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

1. Define and describe the relationship of drugs to impaired driving incidents.
2. Demonstrate, articulate, and properly administer the Standardized Field Sobriety Tests proficiently.

3. Observe, identify and articulate the observable signs of drug impairment with the established seven drug categories associated with DEC program.
4. Recognize possible medical conditions, which may mimic the obvious observable signs of impairment.
5. Identify, document and describe indicators observed and information obtained related to impairment which leads to the arrest/release decision.
6. Articulate through testimony, impairment related to alcohol, drugs or 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 the issue of impaired driving, the effects of drugs and alcohol on a person's ability to operate a vehicle safely, as well as demonstrate methods of identifying and processing the impaired driver. The following summarizes the sessions contained in the ARIDE course:

- Introduction & Overview of Drugs and Highway Safety
- SFST Update, Review
- Proficiency Examination
- Drugs in the Human Body
- Observations of Eyes and other Sobriety Tests to Detect Alcohol and Drug Impairment
- Seven Drug Categories
- Effects of Drug Combinations
- Pre- and Post-Arrest Procedures
- Legal Issues Associated with Impaired Driving

This course is designed to build on the Standardized Field Sobriety Test practitioner course. In order for the participant to effectively utilize the information presented in this course, NHTSA has set a prerequisite of SFST proficiency. 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 evaluation will result in dismissal from class.

**Note:** See the form in Session III for additional details.

## What is a Drug?

There are many definitions for the word drug. Charles Levinthal's text, *Drugs, Behavior and Modern Society*, offers a general definition which describes a drug as 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. The National Highway Traffic Safety Administration's (NHTSA) impaired driving training programs require a more specific definition since the ultimate goal is to decrease impaired driving incidents, crashes and fatalities.

For the purpose of this course, a **drug** is defined as:

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

It should be noted that each state may have specific criteria related to the definition of a drug. Participants should become familiar with their state's specific statutes in this area.

## Understanding the Problem – Research & Statistics

The National Survey on Drug Use and Health (NSDUH), previously known as the Household Use Survey, is a useful report which is produced by the Department of Health and Human Services' (DHHS) Substance Abuse and Mental Health Services Administration (SAMHSA). The report provides a thorough overview of drug and alcohol use in the general population.

### 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 NSDUH reports that 119 million (50.1%) people consider themselves drinkers and 14% of this group describe themselves as heavy drinkers. Additionally, the survey indicated that 19.5 million people or 8.2% of the population have used illicit drugs in the past month.

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. The following summarizes the usage information as reported by the NSDUH Survey (2003):

- 14.6 million people consider themselves current marijuana users
- 54.2% only use marijuana
- 20.6% use marijuana in combination with other drugs

- 75% of current illicit drug users also use marijuana

The NSDUH Survey provides additional detail on the types of drugs which are commonly used in the United States. The following table summarizing the current illicit drug use or drugs used in a manner other than medically intended:

Type of Drug Users	(in Millions)
• Cocaine	2.3
• Hallucinogens	1.0
• Psychotherapeutics (Prozac, Norpramin, etc.)	6.3
• Pain relievers (Oxycontin, Vicoden, etc.)	4.7
• Tranquilizers (Xanax, Librium, etc.)	1.8
• Stimulants	1.2
• Sedatives	0.3

## **Driving Under the Influence**

After illustrating the usage problem based on the information presented in the NSDUH Survey, the next step is to understand the magnitude of the problem of individuals driving while impaired by drugs and alcohol.

The survey tells us that males are twice as likely as females to drive under the influence of alcohol. 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 of age. Although less than alcohol, those operating a motor vehicle under the influence of illicit drugs at least once during the last twelve months was significant. The survey states that approximately 5% of the population or 11 million people drove under the influence of illicit drugs during the last year.

This survey does not describe statistics related to those who drive impaired by prescription or other legal compounds. It is important that participants in this course understand the prevalence of alcohol and drug use as well as the frequency by which these individuals drive under the influence of impairing substances. The NSDUH Survey provides the participant with a strong overview of the problem at the national level.

Participants are encouraged to understand the issues related to alcohol and drug impaired driving in their respective states and/or communities.

Impaired Driving Enforcement Systems NHTSA supports enforcement and adjudication through a variety of national and state-level programs. One of the most critical support activities NHTSA provides is training. This training is part of a continuum of education to assist law enforcement officers and other criminal justice professionals in reducing the number of alcohol and/or drug related driving incidents, crashes and fatalities.

The SFST practitioner course lays 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 DEC program. In addition to training, the SFST program should be

part of all alcohol and drug impaired driving enforcement initiatives and is a critical part of the prosecution process. As part of an overarching impaired driving agenda, NHTSA supports programs at the federal level as well as funds programs at the state and local levels through their regional offices and state highway safety representatives. These programs include enforcement, media, evaluation and training. In addition to targeting deterrence, NHTSA advocates various prevention and adjudication programs.

### **Standardized Field Sobriety Testing (SFST) Program**

The SFST battery is a set of tests, including Horizontal Gaze Nystagmus (HGN), Walk-and-Turn (WAT) and One-Leg Stand (OLS). These tests are designed to be administered and evaluated in a standardized manner to obtain validated indicators of impairment based on NHTSA supported research. The SFSTs are part of the overall DWI detection process which includes three phases: Vehicle in Motion, Personal Contact, and Pre-Arrest Screening. The SFST program and test battery serves as the foundation for impaired driving enforcement. It is critical that these tests be performed and interpreted properly.

### **Drug Evaluation and Classification (DEC) Program**

The ultimate goal of the DEC program is to help prevent crashes and avoid deaths and injuries by improving enforcement of drug-impaired driving violations. The participant is trained to conduct detailed evaluations and obtain other evidence that can be articulated for the purposes of prosecution. A participant who successfully completes all phases of the DEC program is known as a DRE. They can reach reasonably accurate conclusions concerning the category or categories of drugs or medical conditions causing the impairment observed in the subject. Based on these informed conclusions, the DRE can request the collection and analysis of an appropriate biological sample (blood, urine or saliva) to obtain corroborative, scientific evidence of the subject's drug use.

**Important Note: The successful completion of the ARIDE course will NOT certify the participant as a DRE.**

### **Drug Impairment Training for Educational Professionals (DITEP)**

The purpose of the DITEP training is to provide school administrators, teachers, and nurses with a systematic approach to recognizing and evaluating individuals in the academic environment who are impaired by drugs. This training is not intended to qualify participants as a DRE, but is intended to aid in the evaluation and documentation of those subjected of being impaired by drugs.

### **Roles & Responsibilities of the Drug Recognition Expert**

The DRE completes eighty hours of classroom training, field certifications, and a comprehensive final knowledge examination to acquire their initial certification. In order to retain their certification, the DRE must participate in continuing education courses and complete a recertification training course every two years. They must also maintain a log of all evaluations completed in training and as part of any enforcement activities.



They are also required to meet other administrative requirements as established in the International Association of Chiefs of Police (IACP) International Standards governing the DEC program.

Based on their training, the DRE is able to conduct a standardized and systematic 12-step evaluation to determine whether an individual is under the influence of a drug(s) other than or in addition to alcohol. DREs work individually and in conjunction with other enforcement personnel to conduct these evaluations. After completing the evaluation, the DRE formulates an opinion as to which drug category(s) is impairing the person being evaluated. The DRE is able to testify to the general evaluation process as prescribed by the DEC training curriculum as well as the specific signs and symptoms noted and associated with an evaluation conducted on the arrested subject.

The ARIDE course was designed with a dual purpose. First, 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 individuals 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. Secondly, 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 both.

One of the desired outcomes of this course 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, documenting, and reporting.

The second benefit of this course in relation to the DEC program is that students will receive information which will help them better assess impaired subjects. 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 DEC course in the future. A subsequent result of this course will facilitate better utilization of DREs.

**Test your knowledge:**

1. What is the definition of the term drug?

## Session II

# Standardized Field Sobriety Tests Update and Review

# SESSION II

## SFST Update and Review

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

1. Understand the results of selected SFST validation studies
2. Define and describe the SFSTs
3. Define nystagmus and distinguish between the different types
4. Describe and properly administer the three SFSTs
5. Recognize, document, and articulate the indicators and clues of the three SFSTs
6. Identify the limitations of the three SFSTs

### Content Segments

### Learning Activities

SFST Validation Studies	Instructor-led presentation
Overview of Selected Types of Nystagmus	Instructor-led presentation
Standardized Field Sobriety Tests	
Horizontal Gaze Nystagmus	Instructor-led presentation & demonstration
Practice HGN	Participant practice session
Walk-and-Turn	Instructor-led presentation & demonstration
Practice Walk-and-Turn	Participant practice session
One-Leg Stand	Instructor-led presentation & demonstration
Practice One-Leg Stand	Participant practice session

## Overview of the SFST Validation Studies

For many years, law enforcement officers have utilized field sobriety tests to determine a person's impairment due to alcohol influence. The performance of the individual on those field sobriety tests was used by the officer to develop probable cause for an arrest and as evidence in court. A wide variety of field sobriety tests existed and there was a need to develop a battery of standardized and validated tests.

Beginning in late 1975, scientific research studies were sponsored by NHTSA through a contract with the Southern California Research Institute (SCRI) to identify roadside field sobriety tests which were accurate indicators of impairment. SCRI conducted several research projects and published the following three reports:

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

SCRI traveled to law enforcement agencies throughout the United States to select the most commonly used field sobriety tests. Six tests were used in the initial stages of this study. Laboratory research indicated that three of these tests, when administered in a standardized manner, were a reliable test battery for identifying individuals under the influence of alcohol at BACs above 0.10. The recommended battery included the following SFSTs:

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

SCRI analyzed the laboratory test data and determined that:

- HGN, alone, was 77% accurate
- WAT, alone, was 68% accurate
- OLS, alone, was 65% accurate
- Combination of HGN and WAT yield an accuracy rate of 80%

There were three additional research studies. These studies were conducted in the field by trained, experienced officers and validated the three test battery at 0.08. The SFST validation studies were conducted in Colorado (1995), Florida (1997) and San Diego (1998).

The Colorado SFST validation study was the first full field study that utilized law enforcement personnel experienced in the use of SFSTs. The results of this study indicated that correct arrests decisions were made 93% of the time based on the three test battery (HGN, WAT, OLS) which was substantially higher than the initial study results.

The Florida SFST field validation study examined whether SFSTs are valid and reliable indices of the presence of alcohol when used under present day traffic and law enforcement conditions. Correct decisions to arrest were made 95% of the time based on the three 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 three test battery (HGN, WAT, OLS) at the 0.08 level and above.

In order to understand the results of the research studies discussed in this course, it is important to define what is meant by a correct arrest decision. A correct arrest decision is made when an officer, after completing the third phase of the detection process, decides to arrest an subject and that subject tested above the illegal per se limit for BAC or the officer decides to release an subject who is below the illegal per se limit for BAC.

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

Figure 1: Matrix of possible arrest decisions

Figure 1 illustrates the four different decisions which are present in all the validation studies. There are four quadrants, each representing a different decision. The quadrants (I & IV), shaded in gray, represent a correct arrest decision.

The remaining subjects, incorrect arrest decisions, fall into two other categories. The first group were not arrested, but tested above the illegal per se limit for BAC (quadrant II). The Colorado Study noted that a number (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 subjects in the 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 either above the illegal per se limit for BAC or have lost the normal use of their mental or physical faculties.

Even though the arrests in quadrant III are legally justifiable according to an individual state's statute, these decisions are recorded as errors in the research based on the procedures outlined in the study.

**Note:** 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.

## **Review of Selected Types of Nystagmus**

Horizontal Gaze Nystagmus (HGN) is defined as the involuntary jerking of the eyes as they gaze toward the side. Nystagmus is normal and occurs naturally. There are over 40 different types of nystagmus, but during this course we will focus on two types of nystagmus: horizontal gaze nystagmus and vertical gaze nystagmus. 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 aide of specialized instrumentation.

## **Categories of Nystagmus**

In order to understand HGN, it is helpful to review the broad categories of nystagmus.

### **Vestibular Nystagmus**

Caused by movement or action to the vestibular system which 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 disorders which include brain tumors, other brain damage, or some diseases of the inner ear.

### **Neural Nystagmus**

Caused by some disturbance to the neural system.

### **Gaze Nystagmus**

#### **Horizontal Gaze Nystagmus (HGN)**

Is 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 Central Nervous System (CNS) Depressants.

## Vertical Gaze Nystagmus (VGN)

Is the involuntary jerking of the eyes (up and down) which occurs when the eyes gaze upward at a maximum elevation. The presence of this type of nystagmus is associated with a high dose of a CNS Depressant (including alcohol), an Inhalant, or a Dissociative Anesthetic in a particular individual. The drugs which cause VGN also cause HGN. VGN will not be present without HGN.

**Important Note: In this course, we will only be concerned with gaze invoked nystagmus. Alcohol and/or specific types of drugs *cause* gaze nystagmus that may be observed by an officer during the proper administration of the HGN and VGN tests.**

## Resting Nystagmus

Is defined as the involuntary jerking of the eyes as they gaze straight ahead. This condition is not frequently seen. Its presence may indicate Dissociative Anesthetics usage, high levels of an impairing substance for that individual or some other medical problem. If detected, take precautions. As always, exercise sound officer safety techniques and consider calling for medical aid.

## Horizontal Gaze Nystagmus (HGN) Test

HGN is the involuntary jerking of the eyes as they gaze toward the side. HGN may be observable when a person is under the influence of alcohol and as the individual's BAC increases, the jerking will appear sooner as their eyes gaze to the side. HGN may be observable when an individual is under the influence of specific drug categories.

In administering the HGN test, the officer has the subject follow the motion of a stimulus with the eyes only. This stimulus can be the tip of a pen or similar object with a specific focal point as long as it contrasts with the background.

## Initiating the Test

Instruct the subject to remove eyeglasses if necessary, then to put their feet together, hands at their side, and look straight ahead. If the subject is taller than the officer or has very poor balance, they can be placed in a seated position to afford better observation of the eyes or improved stability. The subject should hold their head still during the entire procedure.

Prior to administration of HGN, the eyes are checked for equal pupil size, resting nystagmus, and equal tracking (can they follow an object together). If the eyes do not track together, or if the pupils are noticeably unequal in size, the chance of medical disorders or injuries causing the nystagmus is present.



## **Procedures of Horizontal Gaze Nystagmus Testing: The Three Clues**

The test you will use at roadside is "Horizontal Gaze Nystagmus" -- an involuntary jerking of the eyes occurring as the eyes gaze toward the side. Some jerking will be seen if the eyes are moved far enough to the side.

### **1. The Lack of Smooth Pursuit**

(Clue Number One)

The eyes can be observed to jerk or "bounce" as they follow a smoothly moving stimulus, such as a pencil or penlight. The eyes of an unimpaired person will follow smoothly, i.e., a marble rolling across a smooth pane of glass, or windshield wipers moving across a wet windshield. The eyes of an impaired person will jerk as they move, similar to a marble rolling along sandpaper, or a windshield wiper on a dry windshield.

### **2. Distinct and Sustained Nystagmus at Maximum Deviation**

(Clue Number Two)

Distinct and sustained nystagmus will be evident when the eye is held at maximum deviation for a minimum of four seconds. People exhibit slight jerking of the eye at maximum deviation, even when unimpaired, but this will not be evident or sustained for more than a few seconds. When impaired by alcohol, the jerking will be larger, more pronounced, sustained for more than four seconds, and easily observable.

### **3. Onset of Nystagmus Prior To 45 Degrees**

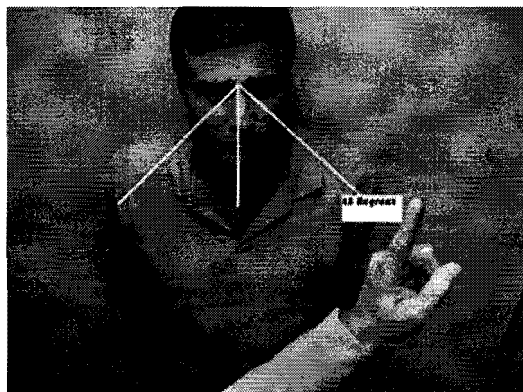
(Clue Number Three)

The point at which the eye is first seen jerking. If the jerking begins prior to 45 degrees it is evident that the person has a BAC above 0.08, as shown by recent research. The higher the degree of impairment, the sooner the nystagmus will be observable.

## **Estimating a 45-Degree Angle**

It is important to know how to estimate a 45-degree angle. How far you position the stimulus from the suspect's nose is a critical factor in estimating a 45-degree angle (i.e., if the stimulus is held 12" in front of the suspect's nose, it should be moved 12" to the side to reach 45 degrees; likewise, if the stimulus is held 15" in front of the suspect's nose, it should be moved 15" to the side to reach 45 degrees).

For practice, a 45-degree template can be prepared by making a 15"-square cardboard and connecting its opposite corners with a diagonal line. To use this device, hold it up so that the person's nose is above the diagonal line. Be certain that one edge of the template is centered on the nose and perpendicular to (or, at right angles to) the face. Have the person you are examining follow a penlight or some other object until suspect is looking down the 45-degree diagonal. Note the position of the eye. With practice, you should be able to recognize this angle without using the template.



## Specific Procedures

If the suspect is wearing eyeglasses, have them removed.

Give the suspect the following instructions from a safe position.

**(FOR OFFICER SAFETY KEEP YOUR WEAPON AWAY FROM THE SUSPECT)**

- "I am going to check your eyes."
- "Keep your head still and follow this stimulus with your eyes only."
- "Keep following the stimulus with your eyes until I tell you to stop."

Position the stimulus approximately 12-15 inches from the suspect's nose and slightly above eye level. Check to see that both pupils are equal in size. If they are not, this may indicate a head injury. You may observe Resting Nystagmus at this time, then check the suspect's eyes for the ability to track together. Move the stimulus smoothly across the suspect's entire field of vision. Check to see if the eyes track the stimulus together or one lags behind the other. If the eyes don't track together it could indicate a possible medical disorder, injury, or blindness.

## **Lack of Smooth Pursuit**

Check the suspect's left eye by moving the stimulus to your right. Move the stimulus smoothly, at a speed that requires approximately two seconds to bring the suspect's eye as far to the side as it can go. While moving the stimulus, look at the suspect's eye and determine whether it is able to pursue smoothly. Now, move the stimulus all the way to the left, back across suspect's face checking if the right eye pursues smoothly. Movement of the stimulus should take approximately two seconds out and two seconds back for each eye. Repeat the procedure.

## **Distinct and Sustained Nystagmus at Maximum Deviation**

Check the eyes for distinct and sustained nystagmus at maximum deviation beginning with the suspect's left eye. Simply move the object to the suspect's left side until the eye has gone as far to the side as possible. Usually, no white will be showing in the corner of the eye at maximum deviation. Hold the eye at that position for a minimum of four seconds, and observe the eye for distinct and sustained nystagmus. Move the stimulus all the way across the suspect's face to check the right eye holding that position for a minimum of four seconds. Repeat the procedure.

**Note: Fatigue Nystagmus.** This type of nystagmus may begin if a subject's eyes are held at maximum deviation for more than 30 seconds.

## **Nystagmus Prior to 45°**

Check for onset of nystagmus prior to 45 degrees. Start moving the stimulus towards the right (suspect's left eye) at a speed that would take approximately four seconds for the stimulus to reach the edge of the suspect's shoulder. Watch the eye carefully for any sign of jerking. When you see it, stop and verify that the jerking continues. Now, move the stimulus to the left (suspect's right eye) at a speed that would take approximately four seconds for the stimulus to reach the edge of the suspect's shoulder. Watch the eye carefully for any sign of jerking. When you see it, stop and verify that the jerking continues. Repeat the procedure.

**Note:** It is important to use the full four seconds when checking for onset of nystagmus. If you move the stimulus too fast, you may go past the point of onset or miss it altogether.

If the suspect's eyes start jerking before they reach 45 degrees, check to see that some white of the eye is still showing on the side closest to the ear. If no white of the eye is showing, you either have taken the eye too far to the side (that is more than 45 degrees) or the person has unusual eyes that will not deviate very far to the side.

**Note:** Nystagmus may be due to causes other than alcohol. These other causes include medical conditions and certain other drugs (CNS Depressants, Inhalants, and Dissociative Anesthetics). A large disparity between the performance of the right and left eye may indicate a medical condition.

## **Test Interpretation**

You should look for three clues of nystagmus in each eye:

1. The eye cannot follow a moving object smoothly.
2. Nystagmus is distinct and sustained when the eye is held at maximum deviation or a minimum of four seconds.
3. The angle of onset of nystagmus is prior to 45 degrees.

Based on the original research, if you observe four or more clues it is likely that the suspect's BAC is above 0.10. Using this criterion you will be able to classify about 77% of your suspects accurately. This was determined during laboratory and field testing and helps you weigh the various field sobriety tests in this battery as you make your arrest decision.

Based on the 1997 San Diego field validation study, if four or more clues are observed, it is likely that the individual's BAC is at or above 0.08. If two or three clues are observed, it is likely that the individual's blood alcohol concentration (BAC) is at or above 0.04 but under 0.08. Document the results of the HGN test on an assessment form as they are completed. It is a good practice to use an assessment form that also lists the administrative procedures.

## **Vertical Gaze Nystagmus (VGN) Test**

The Vertical Gaze Nystagmus (VGN) test is simple to administer. During the VGN test, look for jerking as the eyes move up and are held for approximately four seconds at maximum elevation. (Reminder: glasses will remain off during this test)

1. Position the stimulus horizontally, about 12-15 inches in front of the suspect's nose.
2. Instruct the suspect to hold the head still, and follow the object with the eyes only.
3. Raise the object until the suspect's eyes are elevated as far as possible.
4. Hold for approximately four seconds.
5. Watch closely for evidence of jerking.
6. Repeat the procedure.

Horizontal and Vertical Gaze Nystagmus can be observed directly and does not require special equipment. You will need a contrasting stimulus for the suspect to follow with their eyes. The stimulus used should be held slightly above eye level, so that the eyes are wide open when they look directly at it. It should be held approximately 12-15 inches in front of the nose. Remain aware of your position in relation to the suspect at all times.

## **Walk-and-Turn Test**

This test requires the individual to walk nine steps heel-to-toe down a real or imaginary line, turn in a prescribed manner, and take nine heel-to-toe steps back, counting each step out loud while watching their feet and without using arms for balance.

The Walk-and-Turn (WAT) test is divided into two stages, instructional stage and walking stage.

The Instructional Stage divides the subject's attention between balancing (standing in the heel-to-toe position with their hands at their sides) and information processing (listening to and remembering instructions). The Walking Stage divides the subject's attention between 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).

### **Administrative Procedures:**

#### **Instructional Stage: Initial Positioning and Verbal Instructions**

For standardization in the performance of this test, have the individual assume the heel-to-toe stance by giving the following verbal instructions, accompanied by demonstrations:

### **Procedures for Walk-and-Turn Testing**

#### **1. Instructional Stage - Initial Positioning and Verbal Instructions**

For standardization in the performance of this test, have the suspect assume the heel-to-toe stance by giving the following verbal instructions, accompanied by demonstrations:

- "Place your left foot on the line" (real or imaginary) (Demonstrate.)
- "Place your right foot on the line ahead of the left foot, with heel of right foot against toe of left foot." (Demonstrate.)
- "Place your arms down at your sides." (Demonstrate.)
- "Maintain this position until I have completed the instructions. Do not start to walk until told to do so."

- "Do you understand the instructions so far?" (Make sure suspect indicates understanding.)

## 2. Demonstrations and Instructions for the Walking Stage

Explain the test requirements, using the following verbal instructions, accompanied by demonstrations:

- "When I tell you to start, take nine heel-to-toe steps, turn, and take nine heel-to-toe steps back." (Demonstrate 3 heel-to-toe steps)
- "When you turn, keep the front foot on the line, and turn by taking a series of small steps with the other foot, like this." (Demonstrate)
- "While you are walking, keep your arms at your sides, watch your feet at all times, and count your steps out loud."
- "Once you start walking, don't stop until you have completed the test."
- "Do you understand the instructions?" (Make sure suspect understands)
- "Begin, and count your first step from the heel-to-toe position as One."

## 3. Test Interpretation

You may observe a number of different behaviors when a suspect performs this test. Original research demonstrated that the behaviors listed below are likely to be observed in someone with a BAC above 0.10. Look for the following clues each time this test is administered:

- Cannot keep balance while listening to the instructions. Two tasks are required at the beginning of this test. The suspect must balance heel-to-toe on the line, and at the same time, listen carefully to the instructions. Typically, the person who is impaired can do only one of these things. The suspect may listen to the instructions, but not keep balance. Record this clue if the suspect does not maintain the heel-to-toe position throughout the instructions. (Feet must actually break apart.) Do not record this clue if the suspect sways or uses the arms to balance but maintains the heel-to-toe position.
- Starts before the instructions are finished. The impaired person may also keep balance, but not listen to the instructions. Since you specifically instructed the suspect not to start walking "until I tell you to begin," record this clue if the suspect does not wait.

- Stops while walking. The suspect pauses for several seconds. Do not record this clue if the suspect is merely walking slowly.
- Does not touch heel-to-toe. The suspect leaves a space of more than one-half inch between the heel and toe on any step.
- Steps off the line. The suspect steps so that one foot is entirely off the line.
- Uses arms to balance. The suspect raises one or both arms more than 6 inches from the sides in order to maintain balance.
- Improper turn. The suspect removes the front foot from the line while turning. Also record this clue if the suspect has not followed directions as demonstrated, i.e., spins or pivots around.
- Incorrect number of steps. Record this clue if the suspect takes more or fewer than nine steps in either direction.

**Note:** If suspect can't do the test, record observed clues and document the reason for not completing the test, e.g. suspect's safety.

If the suspect has difficulty with the test (for example, steps off the line), continue from that point, not from the beginning. This test may lose its sensitivity if it is repeated several times. Observe the suspect from a safe distance and limit your movement which may distract the suspect during the test. **Always consider officer safety.**

Based on original research, if the suspect exhibits two or more clues on this test or fails to complete it, classify the suspect's BAC as above 0.10. Using this criterion, you will be able to accurately classify 68% of your suspects.

#### 4. Test Conditions

Walk-and-Turn test requires a designated straight line, and should be conducted on a reasonably dry, hard, level, non-slippery surface. There should be sufficient room for suspects to complete nine heel-to-toe steps.

**Note:** Recent field validation studies have indicated that varying environmental conditions have not affected a suspect's ability to perform this test. The original research indicated that individuals over 65 years of age, back, leg or inner ear problems had difficulty performing this test. Individuals wearing heels more than 2 inches high should be given the opportunity to remove their shoes.

#### 5. Combined Interpretation:

##### Horizontal Gaze Nystagmus and Walk-and-Turn Tests

Based on the original research, combining four or more clues of HGN and two or more clues of the Walk-and-Turn, suspects can be classified as above 0.10 BAC 80% of the time.

## **Documentation**

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.

## **One Leg Stand Test**

This test requires the individual to balance on one leg for thirty seconds. The other leg is to be extended in front of the subject, legs straight, with the foot held approximately six inches above and parallel to the ground. The individual is to stare at the elevated foot and count aloud, in this fashion: "one thousand one, one thousand two, one thousand three ..." and so on until told to stop.

The One-Leg-Stand (OLS) test is divided into two stages: instructions stage and balance and counting stage.

The Instructions Stage divides the subject's attention between balancing (standing in the heel-to-toe position with their hands at their sides) and information processing (listening to and remembering instructions). The Balance and Counting Stage divides the subject's attention between balancing (leg raised), small muscle control (counting out loud) and short-term memory (recalling the length of time to maintain leg in raised position and counting correctly).

### **Administrative Procedures:**

For standardization in the performance of this test have the subject initiate the test by giving the following verbal instructions, accompanied by demonstrations.

#### **1. Instructions Stage: Initial Positioning and Verbal Instructions**

- "Please stand with your feet together and your arms down at the sides, like this." (Demonstrate)
- "Do not start to perform the test until I tell you to do so."
- "Do you understand the instructions so far?" (Make sure suspect indicates understanding.)



## 2. Demonstrations and Instructions for the Balance and Counting Stage

Explain the test requirements, using the following verbal instructions, accompanied by demonstrations:

- "When I tell you to start, raise one leg, either leg, with the foot approximately six inches off the ground, keeping your raised foot parallel to the ground." (Demonstrate one-leg-stand)
- "You must keep both legs straight, arms at your side."
- "While holding that position, count out loud in the following manner: "one thousand and one, one thousand and two, one thousand and three, until told to stop." (Demonstrate a count, as follows: "one thousand and one, one thousand and two, one thousand and three, etc." Officer should not look at his foot when conducting the demonstration - OFFICER SAFETY)
- "Keep your arms at your sides at all times and keep watching the raised foot."
- "Do you understand?" (Make sure suspect indicates understanding)
- "Go ahead and perform the test." (Officer should always time the 30 seconds. Test should be discontinued after 30 seconds.)

Observe the suspect from a safe distance. If the suspect puts the foot down, give instructions to pick the foot up again and continue counting from the point at which the foot touched the ground. If the suspect counts very slowly, terminate the test after 30 seconds.

## 3. Test Interpretation

You may observe a number of different behaviors when a suspect performs this test. The original research found the behaviors listed below are the most likely to be observed in someone with a BAC above 0.10. Look for the following clues each time the One-Leg-Stand test is administered.

- The suspect sways while balancing. This refers to side-to-side or back-and-forth motion while the suspect maintains the one-leg-stand position
- Uses arms for balance. Suspect moves arms 6 or more inches from the side of the body in order to keep balance
- Hopping. Suspect is able to keep one foot off the ground, but resorts to hopping in order to maintain balance
- Puts foot down. The suspect is not able to maintain the one-leg-stand position, putting the foot down one or more times during the 30-second count

**Note:** If suspect can't do the test, record observed clues and document the reason for not completing the test, e.g. suspect's safety. Remember that time is critical in this test. The original research has shown a person with a BAC above 0.10 can maintain balance for up to 25 seconds, but seldom as long as 30. Based on original 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 above 0.10. Using that criterion, you will accurately classify 65% of the people you test as to whether their BAC's are above 0.10.

Observe the suspect from a safe distance and remain as motionless as possible during the test so as not to interfere. If the suspect puts the foot down, give instructions to pick the foot up again and continue counting from the point at which the foot touched the ground. If the suspect counts very slowly, terminate the test after 30 seconds.

#### 4. Test Conditions

One-Leg-Stand requires a reasonably dry, hard, level, and non-slippery surface. Suspect's safety should be considered at all times. The original research indicated that certain individuals over 65 years of age, back, leg or inner ear problems, or people who are overweight by 50 or more pounds had difficulty performing this test. Individuals wearing heels more than 2 inches high should be given the opportunity to remove their shoes.

#### 5. Documentation of Field Sobriety Tests

For purposes of the arrest report and courtroom testimony, it is not enough to record the total number of clues on the three tests. The number of clues is important to the police officer in the field because it helps determine whether there is probable cause to arrest. But to secure a conviction, more descriptive evidence is needed. The officer must be able to describe how the suspect performed on the tests, and exactly what the suspect did. The standard note taking guide provided in this Manual is designed to help you develop a clear description of the suspect's performance on the tests.

#### **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.

#### **Difference between a "Clue" and a general observation:**

A clue is a specific observation of the behavior of a suspected impaired driver by a law enforcement officer that occurs during a standardized field sobriety test. The clues are detailed in the test interpretation part of the training. A general observation is also associated with a suspected impaired driver's behavior, but does not have to be during the SFSTs and is NOT considered a specific clue (Example: During OLS, putting the foot down is a clue while tremors are a general observation).

## Test your Knowledge:

1. Name the eight major clues associated with the Walk-and-Turn test.
2. Name at least three other indicators of impairment that you may observe during the Walk-and-Turn.
3. Name the four major clues associated with the One-Leg Stand test.
4. Name at least three other indicators of impairment that you may observe during the One-Leg Stand test.
5. What is the difference between a clue and a general observation in the context of this course?

## Session III

# Standardized Field Sobriety Tests Proficiency Examinations

# SESSION III

## SFST Proficiency Examinations

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

1. Demonstrate knowledge and proficiency in administering the SFST battery.

### **Important Note:**

**The participant must pass the SFST Proficiency Examination to continue in the ARIDE course.**

### Content Segments

### Learning Activities

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Proficiency Exam

Participant proficiency examination

# Standardized Field Sobriety Test Battery Proficiency Examination

Participant Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Instructions:

This form will be completed during the second section of the course. The Participant must be able to demonstrate their ability to administer the SFST battery without the aid of any reference materials and by memory. The Participant will be given only two opportunities to successfully demonstrate the proper administration of the SFST battery. If the Participant does not successfully complete the SFST battery on their second attempt then they will not be allowed to complete this course.

If the Participant fails their first attempt, they will be given the opportunity to practice on their own or with another Participant until they feel they have mastered the administration of the SFSTs. At that point, the Participant will be given the chance to demonstrate their proficiency during a second attempt. **If the Participant does not successfully complete the SFST battery on their second attempt then they will not be allowed to complete this course.**

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 and not during the tests. The instructor will mark their initials in the space provide for each step completed according to the most current SFST manual. An "X" will be placed in the space if the Participant does not perform the step according to the most current SFST manual.

# I. HORIZONTAL GAZE NYSTAGMUS

1<sup>st</sup> Attempt    2<sup>nd</sup> Attempt

- |       |       |   |
|-------|-------|---|
| _____ | _____ | 1. Remove eyeglasses (if worn)  |
| _____ | _____ | 2. Stimulus held in proper position (approximately 12"-15" from nose, just slightly above eye level)  |
| _____ | _____ | 3. Check for equal pupil size and resting nystagmus   |
| _____ | _____ | 4. Check for equal tracking   |
| _____ | _____ | 5. Smooth movement from center of nose to maximum deviation in approximately 2 seconds and then back across subject's face to maximum deviation in right eye, then back to center |
|       |       | Check left eye, then right eye (Repeat)   |
| _____ | _____ | 6. Eye held at maximum deviation for a minimum of 4 seconds (no white showing)  |
|       |       | Check left eye, then right eye (Repeat)   |
| _____ | _____ | 7. Eye moved slowly (approximately 4 seconds) from center to 45° Angle  |
|       |       | Check left eye, then right eye (Repeat)   |
| _____ | _____ | 8. Check for Vertical Gaze Nystagmus (Repeat)   |

## II. WALK-AND-TURN

1<sup>st</sup> Attempt    2<sup>nd</sup> Attempt

- |       |       |   |
|-------|-------|---|
| _____ | _____ | 1. Instructions given from a safe position  |
| _____ | _____ | 2. Tells subject to place feet on a line in heel-to-toe manner (left foot behind right foot) with arms at sides and gives demonstration |
| _____ | _____ | 3. Tells subject not to begin test until instructed to do so and asks if subject understands  |
| _____ | _____ | 4. Tells subject to take nine heel-to-toe steps on the line and demonstrates  |
| _____ | _____ | 5. Explains and demonstrates turning procedure  |
| _____ | _____ | 6. Tells subject to return on the line taking nine heel-to-toe steps  |
| _____ | _____ | 7. Tells subject to count steps out loud  |
| _____ | _____ | 8. Tells subject to look at feet while walking  |
| _____ | _____ | 9. Tells subject not to raise arms from sides   |
| _____ | _____ | 10. Tells subject not to stop once they begin   |
| _____ | _____ | 11. Asks subject if all instructions are understood   |



### III. ONE-LEG STAND

1<sup>st</sup> Attempt    2<sup>nd</sup> Attempt

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

First Attempt:             Pass             Fail

Second Attempt:         Pass             Fail

Course Location: \_\_\_\_\_

Instructor's Name: \_\_\_\_\_ Agency: \_\_\_\_\_

Instructor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Session IV

## Drugs in the Human Body

# SESSION IV

## Drugs in the Human Body

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

1. Describe, in general terms, the basic purpose and functions of selected major systems in the human body as they relate to observable signs and symptoms of impairment.
2. Identify methods of ingestion and general effects of drugs.
3. Identify medical conditions which may mimic alcohol and/or drug impairment.
4. Identify the seven major drug categories as referenced in the DEC program and the basis for dividing drugs into these specific categories.

### Content Segments

### Learning Activities

Overview of selected major systems of the human body:

Instructor-led presentation

Identify methods of ingestion and general effects of drugs:

Instructor-led presentation

Medical conditions which may mimic alcohol and/or drug impairment

Instructor-led presentation

Seven drug categories & the basis for dividing drugs into these specific categories

Instructor-led presentation

Blank Drug Indicator Matrix

Instructor-led presentation

## Drugs in the Human Body

In order to effectively recognize whether or not a subject is under the influence of alcohol and/or drugs, it is important for the participant to be able to identify the effects of these substances in humans. This process is dependent, in part, on recognizing changes in behavior as well as observable signs and symptoms related to an impaired subject. In order to gain a better understanding of how alcohol and/or drugs affect bodily functions, it is helpful to understand the major processes of the human body.

This session is designed to provide the participant with a general overview related to how drugs affect the body in basic terms. One aspect of how drugs affect the human body is ***pharmacokinetics***. In simple terms, pharmacokinetics accounts for how a chemical substance is transported through the body in terms of absorption, distribution, metabolism and elimination. This course is not intended to teach the participant the details of pharmacokinetics, but rather to provide the participant with a basic overview of the effects of drugs and/or alcohol as they move through the body.

We will highlight those systems involved with distribution, absorption, metabolism, and elimination of alcohol and/or other drugs in the human body. Additionally, this session will explain the different forms of drug ingestion as well as other disorders which may mimic the signs and symptoms of alcohol and/or drug use. Finally, this session will identify the seven drug categories used in the DEC program along with introducing a drug indicator matrix.

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 help to describe the majority of substances we will discuss as part of this course.

**Drug:** Any substance which, when taken into the human body, can impair the ability of the person to operate a vehicle safely.

**Psychoactive:** A psychoactive drug or substance (also referred to as psychotropic) 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 and spiritual purposes, as well as in medicine, especially for treating neurological and psychological illnesses.

## Introduction of Selected Major Systems of the Human Body

There are ten major organ systems in the human body: muscular, urinary, respiratory, digestive, endocrine, reproductive, skeletal, integumentary (skin), nervous and circulatory. In order to illustrate the impact of drugs, alcohol or a combination of substances, it is helpful to think of it in terms of ingestion, onset and duration of effects, and elimination. The following systems provide the most predominant observable signs and symptoms related to influence of alcohol and/or other drugs on human body:

## Digestive System:

The digestive system is responsible for reducing large food particles to a size and chemical nature that can be absorbed (taken from the digestive system into the blood). The digestive system plays a key role in introducing drugs that are swallowed (pills, alcohol, etc.) into the blood. It also plays a role in determining onset of effects, depending upon the contents of the stomach and the type(s) of drug involved.

## Urinary System:

The urinary system is responsible for the elimination of wastes from the body. It consists of two kidneys connected by long tubes (ureters) to the bladder, which stores urine. A third tube, the urethra, carries the urine from the bladder out of the body. Many of the waste products are filtered out of the blood as it passes through the kidneys and this waste is then removed from the body in the urine. 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.

**How does the body break down chemicals, such as alcohol to its basic elements for elimination?**

Examples: Alcohol dehydrogenase breaks down alcohol into hydrogen, carbon and oxygen.

**How do you think alcohol and/or drugs might affect an individual's urinary system?**

Examples: Evidence of use in urine & loss of bladder control.

## Respiratory System:

The chief organs of the respiratory system are the diaphragm and the 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 of 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.

The respiratory system forces air through the voice box, which in turn allows for speech to be accomplished. Therefore verbal communication is largely the responsibility of the respiratory system.

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

Examples: Rapid, or slow and shallow, breathing

## **Muscular System:**

The body has three kinds of muscles: (1) the heart; (2) the smooth muscles (which control involuntary movements); and (3) the 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 and one-leg stand tests as well as during general observations.

## **Circulatory System:**

The circulatory system consists of the heart, blood vessels and blood. The heart pumps blood throughout the body, transporting food, water, hormones, antibodies, oxygen, carbon dioxide, and many other substances to or 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.

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

Examples: Body or leg tremors, gait ataxia, (disordered, uncoordinated walking), lack of muscle control, and poor coordination

**How could the use of alcohol and/or drugs impact the subject's circulatory system?**

Examples: Body temperature, bloodshot eyes & flushed face.

## **Nervous System:**

The nervous system serves as the control center of the human body. It consists of the brain, spinal cord, and 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 and through sensations of temperature, touch, pressure, pleasure and pain. The nervous system also enables reasoning, memory and emotions.

The central nervous system (CNS) sends impulses that cause muscles to contract and glands to secrete, and it works with all body systems to integrate all physiological processes so 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.

**Can you think of how alcohol and/or drugs might affect a subject's CNS?**

**What would you expect to observe?**

Examples: Restlessness, euphoria, disorientation, memory loss & paranoia.

The CNS is one of the body's major control systems and the brain is the center of that system. The brain is made up of billions of nerve cells, also known as *neurons*. Nerve cells communicate by transferring chemical substances between each other. When a message is sent from one neuron (transmitter), it triggers the release of chemicals called *neurotransmitters* which carry 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 Central Nervous System functions.

Some drugs affect the brain because their chemical make up is similar to the neurotransmitters which occur in the body naturally. In the appropriate dose amount, drugs have a positive influence on how the neurons function. However, in some cases, drugs can cause the release of large amounts of a similar neurotransmitter while others can block the receptors. All drugs of abuse, such as nicotine, cocaine and marijuana, primarily impact the limbic system of the brain. The limbic system generates our feelings, emotions and motivations as well as supports memory and learning. It responds to pleasurable experiences by releasing the neurotransmitter dopamine. The euphoric – like effect which a person experiences when dopamine is ‘dumped’ in the CNS is a 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.

## **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.

### ***Example of Homeostasis:***

Temperature regulation—mechanically in a room by a thermostat or biologically in the body by a complex system controlled by the hypothalamus in the brain, which adjusts breathing and metabolic rates, blood-vessel dilation, and blood-sugar level in response to changes caused by factors including ambient temperature, hormones, and disease.

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

## **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. 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.

**The method of ingestion may provide important information or evidence as to the type of drug(s) used. (Example: A person who has snorted cocaine may have drug residue in their facial hair or in the nasal cavity.)**

Oral administration is the most common manner of ingesting prescription and many illicit drugs. Oral administration includes pills and liquid. This type of ingestion is often preferred since it is convenient and easy to conceal.

Injection is a common method of administering heroin (Narcotic Analgesic), but is also used to ingest other Narcotic analgesics, CNS Stimulants, Hallucinogens, and some Dissociative Anesthetics. 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.

Insufflation is the act of introducing a substance directly into the body by inhaling through the nose for the purpose of intranasal absorption through the mucous membrane. This is often more rapid or more complete than gastrointestinal absorption. 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. Categories which are commonly introduced into the body through insufflation are CNS Stimulants, Hallucinogens, Dissociative Anesthetics and Narcotic Analgesics.

Inhalation is 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. For a substance to be effective when inhaled, it must be in a gaseous state. This is a very rapid method of absorption and is often referred to as huffing, sniffing, or smoking. Inhalation is a common method of administration for Cannabis, Narcotic Analgesics, Dissociative Anesthetics, Hallucinogens, and CNS Stimulants.



Transdermal is 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 and Narcotic Analgesics can be administered transdermally.

***Important Note on Officer Safety:*** Take care in dealing with individuals who you suspect are under the influence of a drug – latex or nitrile gloves should be worn. Drugs which are taken transdermally can be quickly absorbed through direct contact with the skin.

## **Medical Conditions Which May Mimic Drug Impairment**

There are medical conditions and injuries that may cause a subject to appear to be under the influence of alcohol or other drugs. Some of the more common medical conditions are listed and discussed below:

**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, and other gross indicators similar to those of alcohol and/or drug impairment. 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.

**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 markedly 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 predominate 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.

***Note:*** *If you suspect a subject is suffering an emerging stroke, call EMS!*

**Diabetes** – A diabetic is most likely to be confused with a person impaired by alcohol or drugs when he or she has taken too much insulin, so that the blood sugar level becomes dangerously low. This condition is sometimes called insulin shock. A diabetic in insulin shock may appear very confused, may be non-responsive, sweat profusely and exhibit elevated pulse rate and blood pressure. If you suspect that you may be dealing with insulin shock, you may be able to give the subject a glass of orange juice, a bite of candy or simply a spoonful of sugar, if they can sit upright and talk normally; that may rapidly produce a noticeable improvement in their condition.

***Note:*** *If you suspect a diabetic emergency, call EMS!*

**Conjunctivitis** – This is an inflammation of the mucous membrane that lines the inner surface of the eyelids giving a red, bloodshot appearance of 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’.

**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. Subjects who are in shock often will appear dazed, uncoordinated and non-responsive.

*Note: Shock requires IMMEDIATE medical treatment and can get worse very rapidly.*

**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 many under the influence of alcohol and/or drugs, MS sufferers usually appear alert.

**Other Medical Conditions** – Some other medical conditions that may cause signs and symptoms similar to drug impairment include: carbon monoxide poisoning, seizures, endocrine disorders, neurological conditions, psychiatric conditions, and infections.

**Behavioral Conditions** – There are some behavioral conditions that may affect demeanor, general appearance, and vital signs. Some examples would include exercise, excitement, fear, anxiety, and depression.

**Important Note:** Individuals with medical conditions often volunteer this information. The officer should be aware that evidence of these conditions may or may not be observable. Remember that officer safety and the safety of the individual are critical – consider calling emergency medical services (EMS) if a medical condition and/or a potential overdose situation exists. Additionally, the presence of a medical condition does not negate the possibility that an individual may be impaired.

## **Introduction to the Seven Drug Categories**

As a review, the definition of a drug, adopted by the DEC Program and this course, is any substance which, when taken into the human body, can impair the ability of the person to operate a vehicle safely. Based on this definition of drug, the DEC Program divided drugs into seven broad categories. These drug categories are based on the observable signs and symptoms they can produce. The following is a brief description of each category:

**Central Nervous System Depressants** includes a large number of different drugs. Some common drugs in this category are alcohol, Zanax, Prozac, and GHB. 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, amphetamines, methamphetamine, and Ritalin are examples of CNS Stimulants.

The **Hallucinogen** category includes some natural, organic substances as well as some synthetic chemicals. All hallucinogens impair the individual's ability to perceive reality. Peyote (which comes from a particular variety of cactus) is a naturally occurring hallucinogen while LSD and MDMA (Ecstasy) are examples of synthetic compounds.

The **Dissociative Anesthetic** category consists of the drugs PCP, Ketamine and their various analogs (chemical cousins), as well as other substances with similar effects on the body, such as Dextromethorphan. Originally developed for use as an anesthetic, PCP is a powerful drug that acts like a depressant in some ways, but also causes the body to respond similar to a stimulant as well as a hallucinogen.

**Narcotic Analgesics** include the natural derivatives of opium, such as morphine, heroin, codeine as well as many others. The category also includes many synthetic drugs, such as Demerol and methadone. All narcotic analgesics relieve pain (that is what "analgesic" means) and may lead to addiction. In addition to relieving pain, narcotic analgesics can produce withdrawal signs and symptoms, and relieve the signs and symptoms of withdrawal.

The **Inhalants** category includes a number of breathable chemicals, some of which are contained in familiar household items that can be purchased without prescription. Indeed, most of the things that we call inhalants are not at all intended by their manufacturers to be used as drugs. The inhalants include such things as the volatile solvents found in glue, gasoline and paint thinner. Additionally, the category includes aerosols found in spray cans and certain anesthetic gases, such as nitrous oxide and amyl nitrite.

**Cannabis** is likely the most well known of the seven categories since it includes marijuana and hashish. The active ingredient in both marijuana and hashish is a chemical called delta-9 tetrahydrocannabinol, usually abbreviated THC. There is also a synthetically produced form of THC known as Marinol.

# Introduction to the Drug Indicator Matrix

	<b>CNS Depressants</b>	<b>CNS Stimulants</b>	<b>Hallucinogens</b>	<b>Dissociative Anesthetics</b>	<b>Narcotic Analgesics</b>	<b>Inhalants</b>	<b>Cannabis</b>
<b>HGN</b>							
<b>VGN</b>							
<b>Pupil Size</b>							
<b>Lack of Convergence</b>							
<b>General Indicators</b>							
<b>Ingestion Methods</b>							
<b>Overdose Signs</b>							

**Test your Knowledge:**

1. \_\_\_\_\_ is any self regulating process by which a biological or mechanical system maintains stability while adjusting to changing conditions.
2. Identify at least two methods of ingestion.
3. Name the seven drug categories as defined in the ARIDE course.
4. Identify at least three medical conditions that may mimic the signs and symptoms associated with alcohol, drugs or a combination of both.

## Session V

# Observations of the Eyes and Other Sobriety Tests for Impairment

## Session V

# Observations of the Eyes and Other Sobriety Tests for Impairment

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

1. Describe the difference in pupil size
2. Discuss Lack of Convergence: How to administer properly and describe what the results indicate
3. Discuss Modified Romberg Balance Test: How to administer properly and describe what the results indicate
4. Explain the relationship between eye examinations and the seven categories

### Content Segments

### Learning Activities

Pupil Size	Instructor - Led Presentation
Lack of Convergence	Instructor –Led Presentation & Demonstration
Practice Lack of Convergence	Student Practice Session
Romberg Balance Test	Instructor - Led Presentation & Demonstration
Practice Romberg Balance Test	Student Practice Session
Correlation of Eye Examinations	Instructor Led - Presentation

## **Observations of the Eyes & Other Indicators of Drug Impairment**

As we learned in Standardized Field Sobriety Testing (SFST) training, we need to base our arrest decision as to whether a driver is under the influence of alcohol on the combined results of the entire battery of tests (HGN, Walk-and-Turn, and One Leg Stand). Additionally, an officer needs to use the collective results of several additional tests to determine whether an individual is impaired by drugs, alcohol or a combination of both. The information collected at roadside is critical to the entire impaired driving enforcement process. In some areas, the arresting officer may have access to a Drug Recognition Expert (DRE) while others may not. Observations lead to an informed decision of whether the suspect is impaired or not impaired according to their individual state's statutes. Regardless of the availability of a DRE, the arresting officer needs to take the opportunity at roadside to recognize and document pertinent observations as part of the arrest and adjudication processes.

Officers should approach the investigation of a DWI in the same fashion they would a crash. The first officer who arrives at the scene may not be an accident investigator or reconstructionist, but they have a responsibility to gather information, which may be used as part of a more detailed investigation. This is similar to the process expected of the arresting officer in a DWI case.

This Session describes the administration and proper interpretation of the following tests:

- Pupil Size Observations
- Lack of Convergence (LOC)
- Romberg Balance Test

### **Administrative Procedures for 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. This process of constriction and dilation normally occurs within certain limits.



Since this course trains officers to observe the suspect at roadside in one lighting condition, the officer will only document gross differences in pupil size. If the stop is made during a sunny day, the officer should expect the pupils to be somewhat constricted in response to the brighter light. Conversely, if the stop is made at night on a rural road, the officer might expect to see a more dilated pupil in response to the darker condition. The officer should document their observations including whether the pupil size is significantly different than expected based on the lighting condition.

**Examples:**

**Dilation** Observed when the pupils are larger than normal for the given lighting condition, resulting in a very large opening (circle) in the center of the eye. Figure IV-A



*Figure IV-A*

**Constriction** When the pupils are smaller than normal for the given lighting condition, resulting in a very small opening (circle) in the center of the eye. Figure IV-B



*Figure IV-B*

The effects that drugs have on the eyes are involuntary reactions, which mean they cannot be controlled by the individual. When ingested, each of the seven drug categories has a predictable effect, with some exceptions, on the pupils of the eyes, which will be discussed in the subsequent sessions.

## **Administration and Evaluation of Lack of Convergence (LOC)**

In simple terms, Lack of Convergence (LOC) is the inability of an individual to cross their eyes when focusing on a stimulus as it is moved towards their eyes in the center of their face. In order to properly administer the LOC test, the law enforcement officer must position the stimulus about 12-15 inches in front of the suspect's nose in the same position used for the HGN test. The stimulus will be moved towards the nose/face without actually touching it. It is important that the suspect understands what is expected so that the LOC test can be conducted properly.

### **Administration of the LOC Test**

The procedures for administering this test are listed below. The procedures are divided into two stages: instruction and testing.

#### **Instruction Stage: Initial Positioning and Verbal Instructions**

1. Position the stimulus approximately 12-15 inches in front of the suspect's nose in the same position as used in the HGN test.
2. Inform the suspect 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 suspect that you will not actually touch the nose with the stimulus. This notice is important so the individual will not move their head away.
3. Instruct the suspect to keep their head steady and to follow the stimulus with their eyes only.

#### **Testing Stage:**

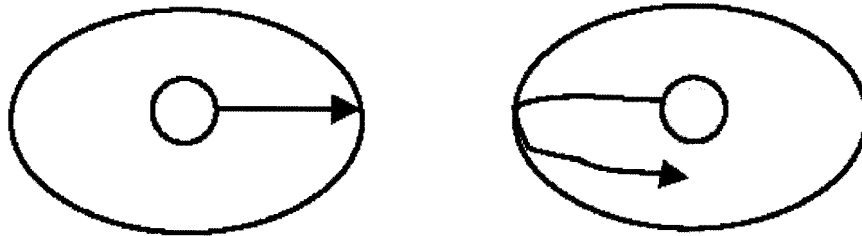
1. Start moving the stimulus and make two circles in front of the suspect's face, either in a clockwise or counterclockwise motion. Observe the eyes to verify the suspect are tracking the stimulus.
2. Slowly move the stimulus in toward the bridge of the suspect's nose stopping at approximately 2" from the bridge of the nose. Do not touch the bridge of the nose with the stimulus.
3. Hold the stimulus 2" from the bridge of the suspect's nose for approximately one (1) second and then remove it, while continuing to observe the suspect's eyes.

### **Test Interpretation**

The suspect's eyes should come together and cross (converge) as they track and remain 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 suspect's nose, lack of convergence is "not present." But, if one eye drifts away or outward toward the side instead of converging toward the bridge of the nose, lack of convergence is "present".

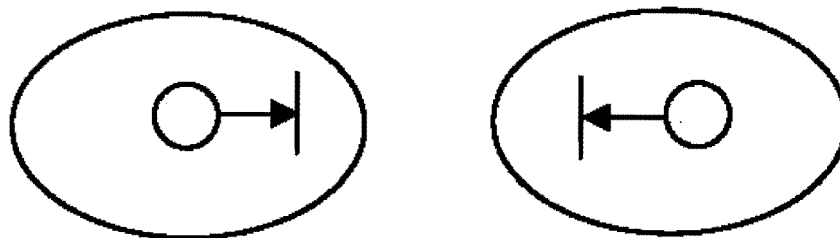
**Important Note:** The law enforcement officer should not actually touch the suspect's nose or come any closer than 2' from the bridge of the nose. Additionally, the stimulus should be held high enough, in the same position as used in the HGN test, so that the officer can easily observe the eye movements and to ensure that the suspect doesn't close their eyes.

The results are documented by diagramming the movement of the eyes. The diagrams below illustrate two examples of the proper method of documenting your observations:



*Figure VI-C*

Figure IV-C indicates the right eye was able to converge, but, as soon as the left eye converged, it immediately bounced down and out.



*Figure IV-D*

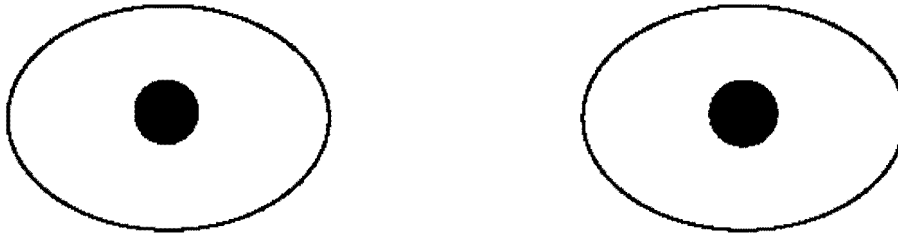
Figure IV-D indicates both eyes started to converge, but stopped short of completely converging.

There are no clues associated with the LOC 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. This test does not contribute to the number of clues associated with the HGN test.

Again, document the results of the lack of convergence test on an assessment form as it is completed. It is a good practice to use an assessment form that documents the administrative procedures. An example of a simple form is included below:

### **Lack of Convergence:**

Indicate the path of the pupils by drawing arrows below:



Present  Not Present

Make two circles in front of the face and bring the stimulus in towards the bridge of the nose stopping at a point approximately 2" from the bridge of the nose.

Check if the eyes were able to converge (cross).

The observations associated with the LOC test must be considered as part of the entire body of evidence gathered by the law enforcement officer during all three phases of the DWI detection process.

### **Administration and Evaluation of Romberg Balance Test**

The Romberg Balance Test, which is used as part of the Drug Evaluation and Classification Program as well as this course, is adopted from its original use as a neurological assessment tool in order to check a suspect's internal clock, balance and presence of tremors (eyelid and body). Since part of the 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.

The Romberg Balance Test is divided into three parts which are conducted simultaneously. The first part is when the suspect estimates the passage of 30 seconds. The second and third parts are the observation of tremors and sway, respectively.

We will discuss the Romberg Balance Test in terms of the instructional stage and the balancing stage. This test requires the suspect to stand with the feet together, the head tilted slightly back, the eyes closed, and estimate the passage of thirty seconds. When the suspect believes that the thirty seconds have passed, he or she is to tilt the head forward, open the eyes, and say "Stop".

### **Administrative Procedures:**

#### **Instruction Stage: Initial Positioning and Verbal Instructions**

1. Instruct the suspect to stand straight with their feet together and the arms down at their sides.

2. Tell the suspect to remain that position while you have finished giving the instructions. Emphasize that he or she must not start the test until you say "begin".
3. Ask the suspect if he or she understands the instructions so far.
4. Tell the suspect that, when you tell them to, they must tilt their head back and close their eyes. DEMONSTRATE how the head should be tilted, but DO NOT CLOSE YOUR EYES while demonstrating.
5. Tell the suspect that when you say "Begin," they must estimate to themselves the passage of 30 seconds.

**Note:** DO NOT tell the suspect to "count to thirty seconds" or to use any other specific procedure to keep track of time."

6. Tell the suspect that, when they think the 30 seconds have gone by, they must bring their head forward, open their eyes, and say "Stop."
7. Ask the suspect if they understand.

Balancing Stage:

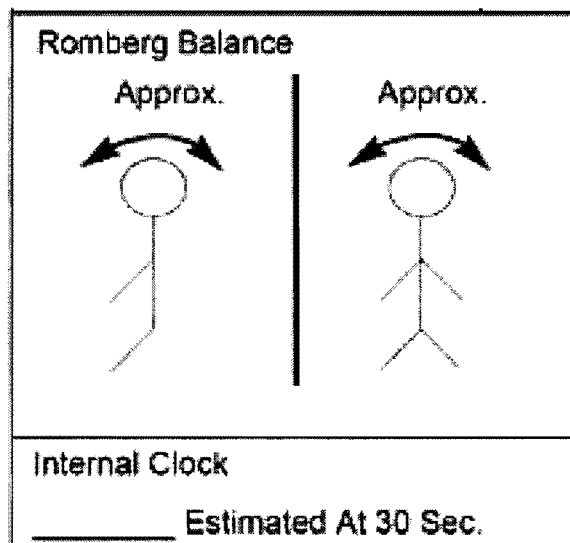
1. Instruct the suspect to tilt their head back and close their eyes.
2. Look at your watch and pick a convenient time to start the test.
3. Tell the suspect to begin.
4. Keep track of time while the suspect performs the test.
5. Check suspect for presence of tremors (eyelid and/or body) and sway.
6. When the suspect opens the eyes, ask them "how much time was that?"

**Note:** If 90 seconds elapse before the suspect opens their eyes, stop the test.

<p><b>Important Note:</b> If the subject appears unable to perform the test (i.e. excessive swaying which may cause the subject to lose their balance and fall), the officer may discontinue the test and note their observations.</p>
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## Test Interpretation

There are no pass/fail criteria or clues associated with the modified Romberg Balance Test. Document the actual number of the seconds which passed during the test. If the suspect's estimation of time is between 25-35 seconds, then their internal clock is considered acceptable. The presence of any tremors, as well as the occurrence, degree, and direction of any sway should be documented. Other observations can be conducted during this test including, looking into the nasal cavity for signs of ingestion, muscle rigidity, skin color, etc. Any additional observations should also be documented.



## Relationship Between the Eye Observations and the Drug Categories

As we learned during Standardized Field Sobriety Testing training, eye examinations can provide valuable information which can help determine impairment. Additionally, we discussed in Session II that HGN is a critical part of assessing individuals suspected of being under the influence of alcohol. Similarly, HGN 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, LOC, and pupil size can also provide information which contributes to the overall process in determining whether or not an individual is under the influence of 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. The law enforcement officer who successfully completes this course shall only use their roadside observations to make a decision as to whether the individual is impaired or not impaired according to their specific state's statutes.

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 suspect's impairment.

The table below indicates what is usually found when the eye examinations are conducted on individuals under the influence of the different drug categories.

	Depressants	Stimulants	Hallucinogens	Dissociative Anesthetics	Narcotic Analgesics	Inhalants	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present <sup>1</sup>	None	None	Present	None	Present <sup>1</sup>	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal <sup>2</sup>	Dilated	Dilated	Normal	Constricted	Normal <sup>3</sup>	Dilated <sup>4</sup>

1. High dose for that individual
2. Soma, Quaaludes, and some anti-depressants dilate pupils
3. Normal, but may be dilated
4. Dilated, but may be normal

**Test your Knowledge:**

1. The presence of HGN is associated with which drug category(s).

- A. Dissociative Anesthetic
- B. Inhalants
- C. Alcohol
- D. B&C
- E. All the above



# Session VI

## Seven Major Drug Categories

# SESSION VI

## Seven Major Drug Categories

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

1. Identify common drug names and terms associated with the seven major drug categories
2. Identify the common methods of ingestion for each category
3. Describe the general indicators of impairment associated with each category
4. Describe conditions, which may mimic the signs and symptoms associated with each major drug category
5. List the indicators, which may emerge during the three phases of the DWI detection process (vehicle in motion, personal contact & pre-arrest screening) which may indicate the subject is impaired by a drug(s)

<u>Content Segments</u>	<u>Learning Activities</u>
Overview of the drug categories	Instructor-led presentation
Identification of drugs associated with each category	Instructor-led presentation
General indicators associated with each drug category	Instructor-led presentation
Eye indicators for each drug category	Instructor-led presentation
Other conditions which mimic indicators with each drug category	Instructor-led presentation associated
Expected results from the detection process	Instructor-led presentation
Review of Drug Indicator Matrix	Participant review

## **Central Nervous System (CNS) Depressants**

Historically, alcohol has been the most used and abused psychoactive depressant drug. The majority of the general public is familiar with the effects of alcohol either through personal experience and/or observing others impaired by alcohol.

### **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 an individual's brain and the Central Nervous System. The CNS Depressant category initially affects functions such as speech, coordination, and mobility. As the dosage increases (amounts usually greater than therapeutic doses), impairment of the body's autonomic nervous system, such as heartbeat, body temperature, and breathing may be observed. In addition to alcohol, the depressant category also includes anti-anxiety tranquilizers, anti-psychotic tranquilizers, antidepressants, barbiturates, non-barbiturates, or combination drugs.

People under the influence of CNS Depressants may look and act very much like people under the influence of alcohol. You may encounter an individual that appears to be "drunk," but lacks any breath odor of an intoxicating beverage. The most familiar and abused CNS Depressants (other than alcohol) are Valium, Prozac, and Xanax. These are just a few of the multitude of anti-anxiety tranquilizers and anti-depressants legally prescribed for a variety of disorders. Muscle relaxants, such as Soma (Carisoprodol), are also classified as CNS Depressants. These are usually found in pill form. The color, size, and shape may depend on the manufacturer or milligram strength.

There are also several illicit CNS Depressants that have gained national attention in the past several years. Rohypnol (Flunitrazepam) and Gamma Hydroxy Butyrate (GHB) have been implicated in an alarming number of sexual assaults and overdose deaths. Rohypnol is mostly commonly found in pill form (1 or 2 mg) and is still smuggled across the US/Mexico border. Conversely, GHB is usually in the form of a clear, colorless, and odorless liquid or as a white powder.

**Examples of the drugs in the CNS Depressant Category are included at the end of this session**

### **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 inhaled. 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. Inhaled substances will usually cause irritation to the nasal tissue. 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.

## Effects of CNS Depressants

When considering the effects of all CNS depressants, alcohol impairment should be used as a model. 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. Subjects taking a therapeutic dose (amounts typically prescribed by a physician) may not exhibit observable effects.

Combinations of depressants can be especially risky. Unfortunately, many people routinely combine depressants, usually in the form of alcohol and some other depressant. In some cases, the effects of the result may be greater than the sum of the effects that the two drugs would produce independently (synergistic (**additive**) effect).

### General Indicators:

- Wide variety of emotional effects (euphoria, depression, and laughing or crying for no apparent reason)
- Reduced ability to divide attention
- Disoriented
- Sluggish
- Thick, slurred speech
- Drunk-like behavior
- Droopy eyes
- Fumbling
- Relaxed inhibitions
- Slowed reflexes
- Uncoordinated
- Drowsiness
- Gait ataxia (rubber legged)

### Context of Traffic Safety

How would a depressant possibly impair an individual's ability to safely operate a motor vehicle?

*Example:* Slowed reflexes may cause a delay in applying brakes in a timely manner.

### Eye Indicators:

HGN	Present
VGN	May be present, especially in high doses
Pupil Size	Normal (Exception: Soma/Quaaludes which cause dilation)
LOC	Present

## Duration of Effects:

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

Type	Action
Long Acting	8 to 14 hours
Intermediate Acting	6 to 8 hours
Short Acting	4 hours or less
Ultra Short Acting (surgical anesthesia)	Very Rapid

**Note:** The duration of effects of CNS depressants can vary widely. Dosage amounts, age, weight, tolerance, and other variables may dictate the length of observable indicators of impairment.

Type / Example	Duration
Barbiturates	1 to 16 hours
Tranquilizers	4 to 8 hours
GHB	3 to 5 hours
Rohypnol	Peak 1 – 2 hours Peak 8 – 12 hours

## Overdose Symptoms

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

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

## Conditions That May Mimic Drug Impairment

There are several conditions that may mimic impairment by a CNS depressant.

These may be, but are not limited to:

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

Examples of Drugs in the Depressant Category

<u>Drug Names</u>	<u>Trade Name</u>	<u>Street Name</u>
<b>Barbiturates</b>		
Secobarbital	Seconal	reds, fender benders
Pentobarbital	Nembutal	yellows, yellow jackets
Phenobarbital		pink ladies
<b>Non-Barbiturates</b>		
Methaqualone	Quaalude, Sopor	Ludes
Diphenhydramine Hydrochloride	Benedryl, Sominex	
Carisoprodol	Soma	
Diphenylhydantoin Sodium	Dilantin	
Gamma-hydroxybutyrate		GHB, Liquid X
<b>Anti-Anxiety Tranquilizers</b>		
Chlordiazepoxide	Librium	
Diazepam	Valium	
Alprazolam	Xanax	
Triazolam	Halcion	
Flunitrazepam	Rohypnol	roofies, roches
<b>Anit-Depressants</b>		
Fluoxetine	Prozac	
Desipramine Hydrochloride	Norapramin, Petrofrane	
Phenelzine Sulfate	Nardil	
<b>Anti-Psychotic Tranquilizers</b>		
Chlorpromazine	Thorazine	
Haloperidol	Haldol	
Lithium Carbonate		
<b>Combinations</b>		
Chlordiazepoxide & Amitriptyline	Limbitrol	
Perphenazine & Amipriptyline Hydrochloride	Triavil	

## Central Nervous System (CNS) Stimulants

CNS Stimulants relieve fatigue, aid in weight reduction, reduce the need for sleep, and 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 subject can exhibit signs and symptoms similar to those associated with depressants since some of the body’s systems may experience a “crash.”

### Identification of CNS Stimulants

The most widely abused CNS Stimulants are cocaine, amphetamines, and methamphetamines. Cocaine is made from the leaves of the coca plant and is generally found as a white or off-white powder. Crack cocaine is made by mixing baking soda, cocaine, and water, then heating. It appears as small white or off-white chunks. Amphetamines are usually found in pill form and are legally manufactured for medical use. Methamphetamine can be a variety of different colors from the consistency of brown sugar to a clear crystalline appearance (Ice).

Ephedrine and pseudoephedrine are also classified as CNS Stimulants. Ephedrine is often advertised as diet supplements (Diet Max, Diet Now, Diet Pep, Mahuang), anti-insomnia aids (Mini-tabs, 357 Magnum, Effedrin), or as “natural versions of illegal drugs” (Herbal Ecstasy and Herbal Bliss). Pseudoephedrine can be found in a variety of over-the-counter antihistamines, decongestants and cold products, thus making it more accessible. Both are usually found in pill form and can be used in the production of methamphetamine. When taken in excess, they have the ability to impair.

Ritalin, Adderall, and Dexedrine are also classified as CNS Stimulants. These medications allow an individual with attention deficit disorder (ADD) and attention deficit hyperactivity disorder (ADHD) to focus their attention. These medications have recently become common targets for abuse by students and professionals who want to obtain a temporary increase in their ability to focus and process information.

Note: Examples of the drugs in the CNS Stimulant category are included at the end of this session.

### Methods and Signs of Ingestion

There are many types of stimulants and their form will dictate the method of ingestion. Powder cocaine is typically inhaled, but can be injected or smoked. Crack cocaine is usually smoked. Amphetamines are usually taken orally. 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 be crushed and inhaled by some abusers.

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

Effects of CNS Stimulants

The main effect of most CNS Stimulants is euphoria – an extremely pleasurable sensation. This is only true while the high is felt. You may find an opposite effect as the drug wears off. While the drug is psychoactive, the subject may seem as 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.

General Indicators:

- . Restlessness
- . Body tremors
- . Excited
- . Euphoric
- . Talkative
- . Exaggerated reflexes
- . Anxiety
- . Grinding teeth (bruxism)
- . Redness to nasal area
- . Runny nose
- . Loss of appetite
- . Increased alertness
- . Dry mouth
- . Irritability

Eye Indicators:

HGN	None
VGN	None
Pupil Size	Dilated
LOC	None

Context of Traffic Safety

How would a stimulant possibly impair a subject’s ability to safely operate a motor vehicle?

*Example:* A driver’s increased alertness (perceives all tasks involved in driving at the same time) but can’t concentrate or focus on any single one.



### Duration of Effects

The duration of effects of CNS stimulants can vary widely. Dosage amounts, age, weight, tolerance, and other variables may dictate the length of actual impairment.

Drug	Duration
Cocaine	5 – 10 minutes (smoked) 45 – 90 minutes (injected) 30 – 90 minutes (snorted)
Amphetamines	4 – 8 hours
Methamphetamines	12 hours
Ritalin, Adderall, Dexedrine	Varies depending on form, strength, and time release

### Overdose Signs & 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

### Conditions That May Mimic Drug 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)

### Examples of Drugs in the Stimulant Category

Drug Name	Trade Name	Street Name
Cocaine		aspirin, blow, C-dust
Crack		151, apple jacks, beamers
Methamphetamine		meth, bling bling
Amphetamine	Benzedrine	bennies, whites, amp
Methylphenidate	Ritalin	vitamin R
Adderall		
Dexedrine		
Ephedrine		
Pseudoephedrine		

## Hallucinogens

Hallucinogens are drugs, which affect a subject's perceptions, sensations, thinking, self-awareness and emotional state. The category is classified in this manner because one of the significant effects of these drugs is hallucinations. A hallucination is a sensory experience of something that does not exist outside the mind. An example would be seeing something that does not exist or hearing a color.

### 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.

Hallucinogenic drugs are also synthetically manufactured. 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.

### Methods and Signs of Ingestion

Although many hallucinogens are taken orally, LSD is absorbed directly (transdermal absorption) either by placing it on the tongue or placing it on the skin. Peyote, Psilocybin Mushrooms, Jimson Weed, and Morning Glory seeds are dried and then eaten or brewed as a tea. Ecstasy is usually taken orally. Additionally, users can consume hallucinogens by smoking, injecting, or insufflation. Since most hallucinogens are taken orally, detecting any signs of ingestion may be difficult.

**Note:** Extreme care should be taken when handling suspected LSD blotter paper. LSD can be absorbed through the skin and unintentional intoxication may result. Gloves and other protection should be worn when handling any suspected drug.

### 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 subject, 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, and if the user is feeling pleasant, you could see a heightened pleasure. However, hallucinogens can uncover emotional or psychological issues in the user. Therefore, the user may expect a pleasurable "trip", but end up instead with a bad "trip."

## General Indicators

- Hallucinations
- Paranoia
- Nausea
- Perspiring
- Dazed appearance
- Flashbacks
- Body tremors
- Uncoordinated
- Disoriented
- Memory Loss
- Synesthesia (mixing of the senses)
- Difficulty in speech

There are many drugs capable of inducing hallucinations. They cause the user to perceive things differently from the way they really are.

**Synesthesia:** A transposing of sensory modes. For example, seeing a particular sight may cause the user to perceive a sound. Hearing a sound may cause the subject to perceive an odor. Thus, a subject under the influence of a hallucinogen might hear a telephone ring, and “see” a flash of a brilliant color.

Some hallucinogens have the ability to cause a “flashback” of the original “trip”. 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.

## Context of Traffic Safety

How would hallucinogens possibly impair a subject’s ability to safely operate a motor vehicle?

*Example:* A driver who is hallucinating that a snake is chasing their car can’t operate a vehicle in an effective manner.

## Eye Indicators

HGN	None
VGN	None
Pupil Size	Dilated
LOC	None

### Duration of Effects

The duration of effects of hallucinogens varies widely.

Type / Example	Duration
LSD	10 to 12 hours (peaking between 4 – 6 hours)
Ecstasy (MDMA)	1 to 3 hours
Psilocin	2 to 3 hours
Mescaline/Peyote	Up to 12 hours

### Overdose Symptoms

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

### Conditions That May Mimic Drug Impairment

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

- High fever
- Mental illnesses

### Examples of Drugs in the Hallucinogen Category

Trade Name	Street Name
LSD	Acid
Ecstasy (MDMA)	E, X, essence, XTC
Peyote	P
Mescaline	buttons, cactus, blue caps
Psilocybin	mushrooms, boomers
DOM	STP
Morning Glory Seeds	
Jimson Weed	

### Dissociative Anesthetic (DA)

The DA category includes Phenyl Cyclohexyl Piperidine (PCP) along with its analogs, as well as dextromethorphan (DXM). An analog of a drug is one with a similar chemical composition. Analogs have slightly different chemical structures but produce the same effects.

A DA is often hard to recognize as its own category because the effects or symptoms displayed are sometimes similar to those found in individuals under the influence of hallucinogens, stimulants and depressants. If a thorough assessment is not performed, the officer may jump to an incorrect conclusion.

## Identification of DA

The most common DA is PCP which 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. PCP can be found as a powder or a liquid. Ketamine (Ketalar) is an analog of PCP and is still used in pediatric and animal surgery.

In contrast, DXM is found in many over-the-counter anti-tussive cold medications such as Robitussin, Coricidin Cough and Cold, and Dimetapp. DXM is typically abused by school age children and teenagers by concentrated or multiple dosages to achieve impairment. DXM can be found in liquid and pill form. With high doses of DXM, the user may experience hallucinogenic effects.

## Methods and Signs of Ingestion

DA can be consumed in a number of ways. PCP powder can be compressed into a pill or put into a capsule and taken orally. The powder may also be insufflated. Liquid PCP can be injected or absorbed through the skin. Cigarettes may be dipped into liquid PCP and the drug is inhaled as the cigarettes burns. Liquid PCP has been administered through eyedroppers directly into the eyes where it is absorbed into the tear ducts.

When PCP is taken orally, signs of ingestion may be limited. Insufflated PCP may result in irritated nasal tissue. Extreme care should be used as PCP can be directly absorbed through the skin. Always wear gloves and other protection when handling suspected PCP. DXM is typically found in liquid or pill form and taken orally. In liquid form, DXM may be mixed with sodas or other drinks.

## Effects of DA

Dissociative anesthetics have the ability to cut off or distort 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 DA is the subject's increased pain threshold. The subject may be impervious to the same pain sensations that would typically render an impaired subject incapacitated. One should be extremely cautious when dealing with a subject impaired by a DA.

## General Indicators:

- Perspiring
- Blank stare
- Cyclic behavior
- Chemical odor
- Increased pain threshold
- Incomplete verbal responses
- Warm to the touch
- Repetitive speech
- Hallucinations

- Confused
- Possibly violent and combative
- “Moon walking”

Eye Indicators:

HGN	Present
VGN	Present
Pupil Size	Normal
LOC	Present

Duration of Effects:

Type / Example	Duration
PCP	4 to 6 hours
Ketamine	30 – 45 minutes (injected) 45 – 60 minutes (snorted) 1– 2 hours (orally)
DXM	3 to 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.

Context of Traffic Safety

How would Dissociative Anesthetics possibly impair a subject’s ability to safely operate a motor vehicle?

*Example:* A driver with a blank stare and unaware of their surroundings traveling through an intersection.

Overdose Symptoms

1. In addition to the bizarre, violent and self destructive behavior discussed previously, persons severely intoxicated by Dissociative Anesthetics may exhibit definite and extreme symptoms signifying a medically dangerous condition.
  - A deep coma, lasting up to 12 hours.
  - Seizures and convulsions.
  - A danger associated with severe PCP intoxication is that the person may die due to respiratory depression.
  - There is also some evidence that PCP may trigger a heart attack, if the user had some pre-existing condition disposing him or her to possible cardiac problems.
  - Eyes generally open with a blank stare.

2. There is also some evidence that prolonged use of PCP can lead to psychosis, which can be permanent.

### Conditions That May Mimic Drug Impairment

Mental illnesses may mimic impairment by Dissociative Anesthetics.

#### **Examples of Drugs in the Dissociative Anesthetic Category**

Drug Name	Trade Name	Street Name
PCP	Sernyl	angel dust, black whack, new acid, energizer
Ketamine	Ketalar	K, Special K, cat killer, kit kat
DXM		DXM, Skittles, CCC, Robo, Triple C

### 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 both legal prescription medications as well as illegal drugs. This category is known for its physically addicting properties and severe withdrawal symptoms.

#### Identification of Narcotic Analgesics

The most familiar illegal Narcotic Analgesic is heroin. Depending on the purity, heroin may be white powder to a dark brown powder/tar color. Prescription Narcotic Analgesics include Hydrocodone, Vicodin, Lortab, Tylenol 3 (with codeine), Darvocet, Morphine, and Oxycontin. Typically, these are found in pill form. The shape, size, or scoring can depend on the manufacturer or milligram strength.

In many cases, narcotic analgesics are obtained in local pharmacies, but may be acquired illegally. These drugs are inexpensive and frequently prescribed, but nevertheless remain a controlled substance.

#### Methods and Signs of Ingestion

Methods of ingestion vary, depending on the drug used. They may be taken orally in pill form, insufflated as a powder, or injected as a liquid. Most of the prescribed pain relievers are found in pill form, which may be taken orally. If taken orally, signs of ingestion may be limited. Heroin that is more pure may be insufflated or smoked, while heroin that is less pure is typically injected or taken orally.

#### Effects of Narcotic Analgesics

Narcotic Analgesics can be very addictive. This means the subject must receive a dose of the drug at regular intervals or physical withdrawal may result. Narcotic Analgesics also enable the subject to develop a tolerance to the drug. Each time the drug is taken, a larger dose is required to achieve a similar sensation.

General Indicators:

- Droopy eyelids
- “On the nod”
- Drowsiness
- Depressed reflexes
- Dry mouth
- Low, raspy, slow speech
- Euphoria
- Fresh puncture marks
- Itching
- Nausea
- Track marks

Eye Indicators:

HGN	None
VGN	None
Pupil Size	Constricted
LOC	None

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.

Type / Example	Duration
Heroin	4 to 6 hours
Hydrocodone	6 to 8 hours
Dilaudid	5 hours
Percodan	4 to 6 hours
Methadone	12 to 18 hours

Context of Traffic Safety

How would a narcotic analgesic possibly impair a subject’s ability to safely operate a motor vehicle?

*Example:* A driver who is “on the nod” will have depressed reflexes hen required to brake immediately.



## Overdose Symptoms

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

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

## Conditions That May Mimic Drug Impairment

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

## Examples of Drugs in the Narcotic Analgesic Category

Drug Name	Trade Name	Street Name
Heroin		Big Harry, bin Laden, chip, dead presidents, smack, hombre
Morphine		Miss Emma, dreamer, morf, nods, first line
Codeine	Various	Coties
Codeine (cough medication)	Various	AC/DC, bar, Karo
Oxycodone	Percodan	
Fentanyl	Sublimaze	Tango & Cash, goodfellas, friend, Apache
Meperidine	Demerol	
Oxycodone Hydrochloride	Oxycontin	OC's, kickers, 40-bar, hillbilly heroin
Propoxyphene	Darvon	
Hydromorphone Hydrochloride	Dilaudid	drug store heroin

## Inhalants

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.

### Identification of Inhalants

There are three sub-categories of Inhalants. The first sub-category consists of all volatile solvents. These chemicals are usually inhaled directly from their source. Some of these include gasoline, paint thinners, fingernail polish remover, cleaning fluid, dry erase markers, paint, and model airplane glue.

The second sub-category is aerosols. 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, or plastic bag. Some of the commonly abused aerosols include hair sprays, deodorants, vegetable frying pan lubricants, insecticides, and spray paint.

The third sub-category is anesthetic gases. This sub-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, and nitrous oxide (whip cream propellant).

### Methods and Signs of Ingestion

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, or soaked in a cloth (scrunchies/socks) and placed on the nose/mouth and inhaled. Subjects abusing inhalants will frequently have the abused substance on their hands, face, and even in their mouth.

### Effects of Inhalants

The effects of inhalants will vary widely depending on the substance inhaled. Typically the inhalant abuser will generally appear similar to someone who is impaired by alcohol. Inhalant abusers can be detected and distinguished from other drug abusers because they will usually carry the chemical odor of the inhaled substance about their breath and person.

General Indicators:

- Confusion
- Flushed face
- Intense headaches
- Bloodshot, watery eyes
- Lack of muscle control
- Odor of substance
- Non-communicative
- Disorientation
- Slurred speech
- Possible nausea
- Residue of substance around mouth and nose

Eye Indicators:

HGN	Present
VGN	Present (In high dose for particular individual)
Pupil Size	Normal (May be dilated)
LOC	Present

Duration of Effects

Type / Example	Duration
Volatile Solvents (Ex: Toluene)	6 to 8 hours
Anesthetic Gases/Aerosols	Very short (minutes)
Nitrous Oxide	< 5 minutes
Amyl Nitrite/Butyl Nitrite	Few seconds to 20 minutes

Overdose Symptoms

The primary overdose sign for an inhalant is coma or “sudden sniffing death.” This is where the subject stops breathing from inhaling a substance. This can occur during the first experience with an inhalant.

Context of Traffic Safety

How would an Inhalant impair a subject’s ability to safely operate a motor vehicle?

*Example:* A driver’s lack of muscle control would be detrimental to steering and braking performance.

## 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

## Examples of Drugs in the Inhalant Category

Drug Name	Trade Name	Street Name
Nitrous Oxide		Whippets, buzz bomb, laughing gas, shoot the breeze
Glue		gluey
Aerosol Paint	Various brand names	

Inhalant is a unique category in that a number of drugs in this group can be obtained from ordinary household substances such as glue, paint and cleaning products. The following is a listing of the terms, which refer to the act of using Inhalants or general names for inhalants:

- Glading
- Bagging (since chemical are often sprayed into bags and inhaled)
- Spraying
- Air Blast
- Viagra in a bottle
- Satan's secret
- Poor man's pot
- Oz
- Hippie crack

## Cannabis

Cannabis is a category of drugs derived primarily from various species of plants, such as the Cannabis Sativa and Cannabis Indicia. 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 greenish, brown plant material. It is typically packaged in plastic baggies or other small devices.

## Identification of Cannabis

The Cannabis category includes marijuana, hash, hash oil and the synthetic drugs, Marinol (Dronabinol). Marijuana is the most common and well known of the drugs in this category, but there are other forms as well. Marinol (Dronabinol) is a synthetic form of THC and has legitimate medical use as anti-vomiting agent, commonly associated with cancer chemotherapy. Additional uses include treatment for glaucoma patients or as appetite enhancers for anorexia disorders.

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.

## Methods and Signs of Ingestion

Marijuana is often 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. 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). By passing the marijuana smoke through the water, the smoke is not only more pure, but also cooler. It can also be baked in brownies or brewed into a tea and ingested.

## Effects of Cannabis

Subjects impaired by Cannabis may not be able to pay attention or may have a very brief attention span. The subjective effects can vary considerably, but they will exhibit divided attention impairment. The impact of these effects may be obvious in the classroom, but the consequences when driving can be fatal.

## General Indicators:

- Marked reddening of the conjunctiva
- Odor of marijuana
- Marijuana debris in the mouth
- Body tremors
- Increased appetite
- Relaxed inhibitions
- Disoriented
- Possible paranoia
- Impaired perception of time and distance
- Eyelid tremors

Eye Indicators:

HGN	None
VGN	None
Pupil Size	Dilated (Can be normal)
LOC	Present

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 2 to 3 hours, with most behavioral and physiological effects dissipating after 3-6 hours. Some research suggests that residual effects can impact specific behaviors for up to 24 hours.

Dronabinol/Marinol 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.

Context of Traffic Safety

How would cannabis possibly impair a subject's ability to safely operate a motor vehicle?

*Example:* A driver with an impaired perception of time and distance makes an inaccurate braking decision while approaching a yellow traffic signal.

Overdose Symptoms

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

- Paranoia
- Fatigue

Conditions That May Mimic Drug Impairment

Generally speaking, cannabis impairment will not be confused with any other medical condition as noted in the other drug categories. However, a subject who has been diagnosed with an attention deficit disorder may mimic a cannabis user's inability or unwillingness to pay attention.

Examples of Drugs in the Cannabis Category

Drug Name	Trade Name	Street Name
Marijuana		pot, weed, grass, joint
Dronabinol	Marinol	
Sinsemilla		

## Test your knowledge:

1. A person who has taken a hallucinogenic drug may experience synesthesia, which could be described as \_\_\_\_\_.
  - A. a blurring of vision
  - B. a state of paranoia
  - C. the constriction of pupil size
  - D. a transposing of the senses
  - E. a state of extreme excitement
2. You would expect to see constricted pupils when an individual is \_\_\_\_\_ or under the influence of a(n) \_\_\_\_\_.
  - A. in a dark environment / inhalant
  - B. in a bright environment / narcotic analgesic
  - C. in a bright environment / depressant
  - D. in a dark environment / cannabis
  - E. in a bright environment / stimulant
3. You would expect to see dilated pupils when an individual is \_\_\_\_\_ or under the influence of a(n) \_\_\_\_\_.
  - A. in a dark environment / depressant
  - B. in a bright environment / stimulant
  - C. in a bright environment / cannabis
  - D. in a dark environment / dissociative anesthetic
  - E. in a dark environment / stimulant
4. Which general indicators are associated with cannabis use?
  - A. decreased appetite
  - B. marked reddening of the conjunctiva
  - C. tremors
  - D. facial itching
  - E. A & B
  - F. B & C
5. \_\_\_\_\_ is the only drug category which exhibits constricted pupils.
  - A. Depressants
  - B. Narcotic Analgesics
  - C. Cannabis
  - D. Dissociative Anesthetic
  - E. Hallucinogens

6. Match the following common drugs of abuse with the appropriate category:

- |                     |                            |
|---------------------|----------------------------|
| ___ Cocaine         | A. CNS Depressant          |
| ___ Marijuana       | B. CNS Stimulant           |
| ___ Toluene         | C. Hallucinogen            |
| ___ Methamphetamine | D. Dissociative Anesthetic |
| ___ Hydrocodone     | E. Narcotic Analgesic      |
| ___ Xanax           | F. Inhalants               |
| ___ LSD             | G. Cannabis                |
| ___ Ritalin         |                            |
| ___ Nitrous Oxide   |                            |
| ___ Alcohol         |                            |
| ___ Ecstasy         |                            |
| ___ Heroin          |                            |
| ___ Ketemine        |                            |
| ___ Soma            |                            |



# Session VII

## Drug Combinations

# Session VII

## Drug Combinations

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

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

### Content Segments

### Learning Activities

Prevalence of drug and alcohol use

Instructor-Led Presentation

Types of drug combinations

Instructor-Led Presentation

## Effects of Drug Combinations

For the purpose of this course, polydrug use occurs when a person ingests drugs from two or more different drug categories into their body. Each drug may work independently, but what the body will exhibit, however, is a combination of the effects of each drug. Polydrug use is very common, therefore it is important for law enforcement and other criminal justice professionals to have a basic understanding of how ingesting more than one drug category might affect the behaviors commonly associated with an impaired driver.

### Prevalence of drug and alcohol use

The most familiar drug of all, alcohol, is a popular "mixer" with other drugs. Alcohol routinely shows up in combination with virtually everything else, and often officers encounter subjects who have consumed alcohol along with two or more 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, despite the well-publicized hazards of this particular mixture; this was the combination responsible for the death of the actor John Belushi.

Officers should not be surprised to encounter virtually any possible combination of drugs. Officers may find more polydrug users than single drug users. This means that if the officer is to do a good job at interpreting their observations, they must understand the mechanisms of drug interaction.

This session will help the participant appreciate the effects of poly-drug use. The main outcome objective is to increase the awareness of law enforcement officers and other criminal justice professionals related to the potential indicators of impairment due to alcohol, drugs, or a combination of both.

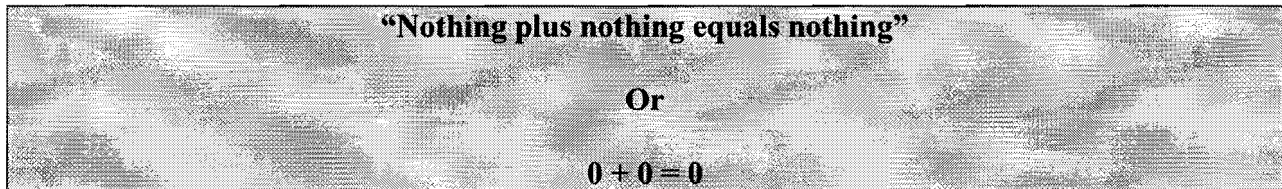
Note: This session is not intended to provide the participant with the knowledge or skills to determine specific drug categories alone or in combination.

### 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

The simplest way to explain the null effect is using the phrase - "zero plus zero equals zero." Another way of describing this is a case:



When using the term null effect in the context of drug use, we are explaining that when an individual 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. The following examples may help clarify this effect.

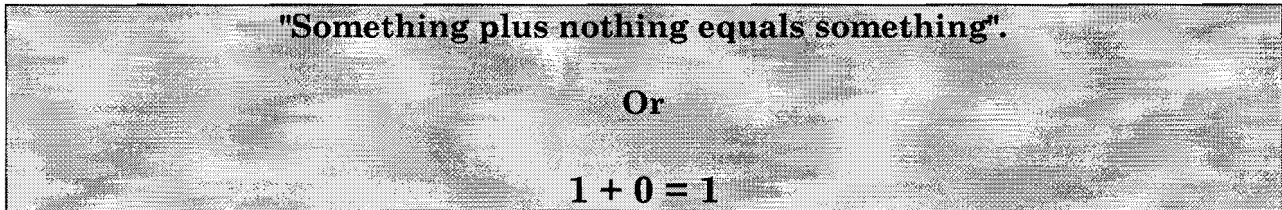
During the pre-arrest screening phase of a DWI traffic stop, one of the first things officers check is HGN. Based on the information presented in the previous sessions, we know that four of the seven categories do not cause HGN. For example, if we observe a subject who is only exhibiting the signs and symptoms of a stimulant, we would not expect to observe HGN. Likewise, if we observe someone who has general indicators associated with cannabis, we would not expect to find HGN. If you encounter an individual who exhibits a number of general indicators associated with both the CNS Stimulant and Cannabis categories, then you should not expect to observe HGN. This is an example of a null or no effect.

Another example of the null effect is the pupil size of a subject who is under the influence of DA and a CNS Depressant. DA does not affect pupil size and neither do CNS Depressants. The combination of these drugs will not affect the size of the pupils.

Another example of the null effect regarding LOC would be CNS Stimulants and Narcotic Analgesics. Subjects impaired by these drug categories independently will not exhibit LOC; therefore it is not present when the drugs are taken in combination.

**No action plus no action equals no action.**

## Overlapping Effect



The overlapping effect comes into play when one drug does affect an indicator of impairment and the other drug has no affect on that indicator. This is a case:

It is common to find individuals under the influence of a narcotic analgesic and a depressant (such as a prescription pain medication and alcohol). Narcotic Analgesics typically cause pupils to constrict while most depressants do not affect pupil size. This specific combination can present three different overlapping effects. The following illustrates the likely effects of the combination of a CNS Depressant and a Narcotic Analgesic:

	<b>CNS Depressant</b>	<b>Narcotic Analgesic</b>	<b>In Combination based on Overlapping Effect</b>
<b>HGN</b>	Present	None	Present
<b>VGN</b>	Possibly Present	None	Possibly Present
<b>Pupil Size</b>	Normal*	Constricted	Normal/Constricted
<b>LOC</b>	Present	None	Present

(\*). Some CNS Depressants (quaaludes and Soma) can cause the pupils to dilate.

## **Action plus no action equals action.**

### 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.

If an officer observes general indicators related to a depressant and an inhalant, both of which may cause HGN and VGN. Based on the combination of these two drugs, we might expect to see more pronounced HGN and/or VGN than we might observe with a subject impaired by 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 much greater than the individual contributions 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.

**"Action plus action equals greater action".**  
  
**Or**  
  
**1 + 1 = 1+**

The combination of Alcohol and other CNS Depressants typically cause exaggerated indicators, for example HGN will be present with alcohol, but will not be consistent with the BAC when used in combination with other CNS Depressants.

### **Action plus action equals a greater action.**

#### Antagonistic Effect

An antagonistic effect occurs when two drug categories affect some indicator in exactly the opposite ways. This is explained with the phrase one plus a negative one equals anything. Another way of describing this is:

**Action plus an opposite action equals anything**  
  
**or**  
  
**1 + (-1) = ?**

For example, consider an individual who has presented general indicators consistent with the CNS Stimulant and Narcotic Analgesic categories. Typically, stimulant use results in dilated pupils while Narcotic Analgesics generally cause the pupils to be constricted. Based on an individual under the influence of a combination of a stimulant and a Narcotic Analgesic, the officer may observe normal pupils due to the antagonistic effect, the pupils may be dilated due to effect of the stimulant, or the pupils may be constricted due to the effect of the narcotic analgesic. When we deal with an antagonistic effect, we cannot always predict the outcome effect.

The effects you will see will be dependent upon which drug is more psychoactive in the body at any given time. For example, if the stimulant is more psychoactive in the body, the pupils will likely be dilated. If the drugs are approximately equal in the body, the pupils could appear to be normal. If the narcotic analgesics are more psychoactive in the body, the pupils will likely be constricted.

### **Action plus an opposite action may be unpredictable.**

## Summary

It is important to recognize that combining drugs produce interactions that are often complex and involve a number of different mechanisms operating within the body at the same time. The actual effects can depend on a number of factors including, but not limited to, dose levels, time of ingestion, a subject's metabolism, and environment. The main reason we discuss these effects in this course is to help the participant understand that many subjects who choose to drive impaired, are often impaired by more than one drug.

The main objective of this course is to raise the awareness of officers so they will be effective observers and be able to articulate their observations in reports and testimony, as well as to a DRE, if appropriate, in their specific community/state. Additionally, these observations are part of the totality of evidence collected throughout the three phases of the detection process and should be considered as such when developing your probable cause.

In order to illustrate the possible effects of drug combinations, the following examples will show a cumulative drug symptomatology matrix for two different drug combinations. The expected effects of each drug category are listed for the selected examples. Understanding these examples will be helpful in preparing the participant for the case studies in the next session.

### CANNABIS AND CNS STIMULANT IN COMBINATION

IMPAIRMENT INDICATOR	EFFECT DUE TO CANNABIS	EFFECT DUE TO CNS STIMULANT	TYPE OF COMBINED EFFECT	WHAT WILL WE SEE
HORIZONTAL GAZE NYSTAGMUS	NONE	NONE	NULL	NONE
VERTICAL GAZE NYSTAGMUS	NONE	NONE	NULL	NONE
LACK OF CONV.	PRESENT	NONE	OVERLAPPING	PRESENT
PUPIL SIZE	DILATED OR NORMAL	DILATED	OVERLAPPING OR ADDITIVE	DILATED
REACTION TO LIGHT	NORMAL	SLOW	OVERLAPPING	SLOW
PULSE RATE	UP	UP	ADDITIVE	UP
BLOOD PRESSURE	UP	UP	ADDITIVE	UP
BODY TEMP	NORMAL	UP	OVERLAPPING	UP

## PCP AND HEROIN IN COMBINATION

IMPAIRMENT INDICATOR	EFFECT DUE TO PHENCYCLIDINE	EFFECT DUE TO HEROIN	TYPE OF COMBINED EFFECT	WHAT WILL WE SEE
HORIZONTAL GAZE NYSTAGMUS	PRESENT	NONE	OVERLAPPING	PRESENT
VERTICAL GAZE NYSTAGMUS	PRESENT	NONE	OVERLAPPING	PRESENT
LACK OF CONV.	PRESENT	NONE	OVERLAPPING	PRESENT
PUPIL SIZE	NORMAL	CONSTRICTED	OVERLAPPING	CONSTRICTED
REACTION TO LIGHT	NORMAL	LITTLE OR NONE VISIBLE	OVERLAPPING	LITTLE OR NONE VISIBLE
PULSE RATE	UP	DOWN	ANTAGONISTIC	DOWN/ NORMAL/UP
BLOOD PRESSURE	UP	DOWN	ANTAGONISTIC	DOWN/ NORMAL/UP
BODY TEMP	UP	DOWN	ANTAGONISTIC	DOWN/ NORMAL/UP



**Test your Knowledge:**

1. Assume that an individual is under the influence of two different drugs, what are the different types of effects which can occur when a suspect is under the influence of more than one drug. Match the four different general effects with their definitions.

\_\_\_ Antagonistic

\_\_\_ Null

\_\_\_ Overlapping

\_\_\_ Additive

- A. Neither drug affects some particular indicator of impairment
- B. One drug affects some particular indicator of impairment while the other drug does not affect that particular indicator of impairment
- C. Both drugs have the same effect on some particular indicator of impairment
- D. One drug affects some particular indicator of impairment in one way while the other drug has the opposite effect on that particular indicator of impairment

# Session VIII

## Pre- and Post-Arrest Procedures

# Session VIII

## Pre- and Post-Arrest Procedures

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

1. Describe the three phases of the detection process: vehicle in motion, personal contact and pre-arrest screening.
2. Describe effective roadside interview techniques.
3. List the elements of the offence of Drug Impaired Driving.
4. Identify the indicators of impairment observed during the three phases of the detection process.
5. Accurately document, in the proper event sequence order, observed impairment in each of the three phases of the detection process.
6. Identify additional resources to support prosecution.
7. Articulate relevant evidence as it relates to case preparation and prosecution.

### Content Segments

### Learning Activities

Three phases of the detection process

Instructor-Led Presentation

Describe effective roadside interview techniques

Instructor-Led Presentation  
& Student Practice Session

Elements of the offense

Instructor-Led Presentation  
& Student Group Activity

Identifying and documenting observed indicators of impairment

Instructor-Led Presentation  
& Student Practice Session

Case studies & Scenarios

Student Practical Exercise

Case preparation and prosecution

Instructor-Led Presentation  
& Student Practice Session

## Pre- and Post-Arrest Procedures

Although this course is designed to make the student aware of the impairment indicators associated with drugs, alcohol or a combination of both, the mission is also to re-enforce the skills taught in Standardized Field Sobriety Testing and other courses regarding active observation, effective documentation, articulation, and courtroom testimony. To effectively gather and present relevant 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. In order to assist officers and prosecutors in this process, we will look at the collection of evidence and articulation during testimony in terms of the three phases of the DWI detection process. We will also address steps which are considered post-arrest.

### What is DWI Detection?

Detection is one of the most difficult, but most critical tasks in the DWI process. If law enforcement fails to detect DWI violators, the DWI overall countermeasures program ultimately will fail because prosecutors can not prosecute them, the courts and driver licensing officials can not impose sanctions on them, and treatment and rehabilitation programs will go unused. The term DWI detection has been used in many different ways. For the purposes of this training, 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.**

The detection process begins when the law enforcement officer's 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. In any case, it sets in motion a process wherein you focus on a particular individual and have the opportunity to observe that individual.

The detection process ends when you decide either to arrest or not to arrest the individual for DWI. That decision must be based on the totality of the evidence collected throughout each of the three phases, when available. 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.

## **The Three Phases of the DWI Detection Process**

In Phase One, you usually observe the driver operating the vehicle. In Phase Two, after you have stopped the vehicle, there usually is an opportunity to observe and speak with the driver face-to-face. In Phase Three, you usually have an opportunity to administer some field sobriety tests to the driver and 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 field sobriety tests to verify that alcohol is, or is not, the cause or contributing factor to the impairment.

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 checkpoints, or motorist assists. There are also situations when Phase Three does not occur. There are cases in which you would not, or could not, administer formal tests to the driver. Examples include:

- When the 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 field sobriety tests

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:

1. Yes - Do it Now
2. Wait - Look for Additional Evidence
3. No - Don't Do It

<b>Phase One</b>	<b><u>Task 1:</u></b>	Observe the vehicle in operation.
	<b>Decision Point:</b>	Is there reasonable suspicion to stop the vehicle? (If there is no reasonable suspicion then the vehicle should not be stopped.)
	<b><u>Task 2:</u></b>	Continue to observe the vehicle and the stopping sequence.

- Phase Two**
- Task 1: Observe and interview the driver face-to-face.
- Decision Point: Should you instruct the driver to step from the vehicle for further investigation?  
(Barring other circumstances such as safety, if there is no reason for further investigation then the driver should not be asked to step from the vehicle.)
- Task 2: Observe the driver's exit and walk from the vehicle.
- Phase Three**
- Task 1: Administer psychophysical tests.
- Decision Point: Is there sufficient probable cause to arrest the driver for DWI?  
(If probable cause is not present, then the driver should not be arrested.)
- Task 2: Arrange for or administer appropriate biological test(s).

## **Effective Roadside Interview Techniques**

Collecting information throughout the three phases is critical to the arrest/release decision made by the officer. This information is also important if the driver is experiencing some type of condition that warrants medical attention. The remaining part of this Session deals with information which might be considered evidence in a DWI case.

The evidence collected during each of the three phases of the DWI detection process is critical to the successful prosecution of DWI cases. In order for the law enforcement officer to gather valuable information during the detection process, they must learn and practice effective roadside interview techniques.

It is important to understand that an effective interview includes more than just verbal communications. Although it is important to properly document responses to questions, it is equally critical to document the appropriateness of the response and other associated observations.

Some examples of effective roadside interview techniques would include, but not be limited to the following;

- What you say – word choice, communication style
- What you do – physical positioning, demeanor, show of authority
- What you see – bloodshot eyes, clothing, paraphernalia
- What you smell – alcoholic beverage, chemical odor, marijuana
- What you hear – slurred speech, unusual or inappropriate statements, drug lingo, etc...

# Be Professional – Think Critically

## Identifying & Documenting Observed Indicators of Impairment

Any arrest for impaired driving should be based on the totality of the evidence and the circumstances. Law enforcement officers should note, in detail, observations made during each phase of the detection process.

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 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 the combination of both.

During Phase II of the detection process, the driver may offer a reason for their behavior or physical appearance. For example, the reason they were weaving was because they were tuning their radio or their eyes are glassy because they are tired from working a double shift. At this point you should draw on your training and experience to determine:

1. If impairment is present
2. What is causing the signs you have observed and/or
3. If more information is needed to make the determination.

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. 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 student 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 help paint a picture for the prosecutor and the court, thereby presenting the evidence in an effective fashion.

## 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. 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 well-documented case file. This case file should include inculpatory and exculpatory evidence as well as complete documentation in regards to each of the three phases of detection, potential witnesses, biological test results, photos, diagrams and a sketch of the scene. The most significant benefit of working together is more comprehensive case preparation yielding a more effective courtroom presentation.

The foundation for this preparation 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 are essential to the success of the DWI prosecution team. Additionally, toxicologists, breath testing professionals, DREs and other expert witnesses provide specific details that help build the case as well as inform the law enforcement officer's testimony during the trial. We often forget about the other individuals who are not directly part of the case preparation, but are essential partners during the trial portion: the judge and the jury.

This Session 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 students in this course to begin to view DWI enforcement and prosecution as a process which can be continually improved and refined. It is rational to believe that every DWI traffic stop, arrest and prosecution are different, but it is also reasonable to assume 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.



## **Phase I: Vehicle in Motion (Observations of the suspect's driving)**

Proper documentation begins with the first observation of the vehicle which is usually the first point of attack by defense attorneys. 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 this phase of the detection process to the court later. Potential witnesses involved at this point may include:

- Law enforcement officer who observed the driving and/or made the traffic stop
- Other law enforcement officers who may have made observations or were called in to assist
- Lay witnesses, including other people in the vehicle or other motorists

Law enforcement officers should note every observation made regarding driving. This includes observations before and after you activate your emergency equipment. If there is a crash, the officer probably won't actually observe driving. Therefore, witnesses to the crash should be noted and physical evidence collected to support the state's specific statutory requirements.

## **Phase II: Personal Contact (Observations of the suspect after the stop)**

Observations made before and after the suspect exits the vehicle should be documented. For example, the odor of alcohol, slurred speech, red glassy eyes, inappropriate responses to questions, and using the vehicle for support during exit and/or while walking. Accurate documentation is essential to help the officer recall the events accurately due to the length of time between arrest and adjudication of the case. Potential witnesses involved at this point may include:

- Law enforcement officer(s) who observed the suspect 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 at the scene

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.

## **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, not limited to the clues included in the NHTSA SFST training, must be thoroughly documented.

For example, an observation in the Walk and Turn test would be not counting out loud while walking and a clue would be starting the test before being instructed to do so. Potential witnesses 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 during pre-arrest screening. This includes observations made before, during, and after the field sobriety tests. Recording and articulating these observations can support probable cause for arrest.

### **Post Arrest Screening**

During post arrest screening, the team will potentially include: breath testing operators/technical supervisors, drug recognition experts (DREs), medical and/or jail personnel. DRE's should be utilized whenever available. If a DRE is contacted, the arresting officer should document what DRE was contacted, when they were contacted, and when they arrived for the evaluation. If a DRE is not available, it remains essential to document, in detail, all observations including those made after arrest.

### **Pre-Trial Preparation**

As preparation for trial begins, the people involved in the case may expand. Additional resources may include:

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

Although the prosecutor may become involved at any time, ideally they would be on board immediately. This is particularly important in a case involving serious injury or death. The toxicologist in a DEC state can be used to corroborate the testimony of the DRE. 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.

In any state, if a DRE is not available at the time 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. The DRE state Coordinator may be able to identify additional resources. 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/or NHTSA may also serve as additional resources.

Before trial is the appropriate time to make sure all witnesses understand their purpose for being part of the case. In addition, before trial is the appropriate time to discuss any potential issues associated with traffic stop or post arrest screening. This analysis will assist in anticipating potential defense challenges. This approach allows the officer, prosecutor and other witnesses to be prepared. Information should be analyzed and discussed in a manner consistent with how it will be presented at trial. This preparation should include how the officer's observations meet the elements of the state's statute. Additionally, it is important to discuss how these observations can be best communicated based on a lay person's understanding of impairment resulting from alcohol, drugs or a combination of both.

Visual aids should be developed during pre-trial preparation. Visual aids can be used to illustrate the location of the stop, physical appearance of the defendant, and/or performance on the field sobriety tests. Visual aids may also assist in explaining the officer's training and experience, factual concepts, and/or the legal elements of the offense.

## **Trial**

Each witness plays an important role in illustrating to the jury the impairment of the individual on trial. In addition to testimony, visual aids may be used to paint the picture of the entire DWI detection process. Visual aids engage the judge/jury and increase retention of information. Another important issue is 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.

Since testimony constitutes the majority of the time spent during the trial, it is imperative that in addition to effective communication technique, the witnesses be well-prepared to speak to the evidence related to the case. Direct examination should be an exchange between the prosecutor and each State witness. The prosecutor should ask clear and concise questions that each witness expects. The witness should take the time to think before answering any question. This ensures that the witness understands the question and gives the witness time to answer the question in a clear, organized manner. The witness should ask for clarity with complex questions or items they do not fully understand. Remember who the audience is and talk to them in a manner that allows them to easily understand the information you are conveying.

Whether it is during direct or cross examination, it is vital that the witness listen carefully to each question, in order to understand what is being asked.

Ask for clarification of any question that is complex or is not easily understood. If the witness is not able to answer a question during direct or cross examination, it is acceptable for the witness to say "I do not know", "I cannot answer that question" or "I cannot answer that question without further explanation". Witnesses should not answer questions for which they do not have the knowledge.

**Remember – There is no substitute for preparation!!!**

## **Test your Knowledge:**

1. List the seven standardized tests and assessments taught as part of this course to use at roadside in order to identify signs of impairment due to alcohol, drugs or a combination of both.
2. Identify at least two different challenges associated with prosecuting impaired driving cases.
3. Identify three phases of impaired driving detection process.

### A.R.I.D.E. Drug Class Matrix

	DEPRESSANTS	STIMULANTS	HALLUCINOGEN	DISSOCIATIVE ANESTHETICS	NARCOTIC ANALGESICS	INHALANTS	CANNABIS
<b>H.G.N.</b>	Present	None	None	Present	None	Present	None
<b>V.G.N.</b>	Present*	None	None	Present	None	Present	None
<b>L.O.C.</b>	Present	None	None	Present	None	Present	Present
<b>PUPIL SIZE</b>	Normal <sup>1</sup>	Dilated	Dilated	Normal	Constricted	Normal <sup>2</sup>	Dilated <sup>3</sup>
<b>INTERNAL CLOCK</b>	Slow	Fast	fast/slow/unable	Markedly Slow	Slow	fast/slow/unable	Slow
<b>GENERAL INDICATORS</b>	Drowsy	Talkative	Hallucinations	Hallucinations	Low/Slow/Rasp y	Flushed Face	Red Conjunct.
	Disoriented	Dry Mouth	Synestehsia	Violent/Combative	Dry Mouth	Disoriented	Increase Appetite
	Uncoordinated	Excited	Perspiring	Blank Stare	Thirsty	Confused	Odor of Marijuana
	Droopy Eyelids	Agitated	Nausea	"Moon Walking"	Track Marks	Eyes Bloodshot/Watery	Plant Debris in Mouth/Tongue
	Thick, slurred speech	Bruxism	Disoriented	Chemical Odor	Fresh Punctures	Lack of Muscle Control	Impaired Aware. Time & Distance
	Sluggish	Anxious	Difficulty Speaking	Repetitive Speech	Nausea	Residue of Chemical Inhaled	Possible Paranoia in high doses
	Lethargic	Irritable	Paranoia	Cyclic Behavior	Depressed Reflexes	Odor of Chemical on person/face	Relaxed Inhibitions
	Gait Ataxia	Decreased Appetite	Piloerection w/ LSD	Incomplete responses to ?	"on the nod"	Intense Headaches	Disorientation
	Fumbling	Exaggerated Reflexes	Impaired Aware. Time & Distance	Early/resting HGN	Facial Itching	Uncommunicative	Muscle Tremors
	"Drunk" appearance	Insomnia	Flashbacks	Perspiring	Droopy Eyelids	Nausea	Eyelid Tremors
		Increased Alertness	Uncoordinated	Confusion	Drowsy		
		Restlessness	Muscle Tremors	Agitated	Euphoria		
		Nasal Redness/Runny	Dazed Appearance				
		Euphoria	Memory Loss				
		Muscle Tremors					
		Hallucinations OD					

1. Soma & Quaaludes may dilate

2. Normal but may be dilated

3. Pupils may be normal with lower THC levels

<b>Drug Category</b>	<b>CNS Depressants</b>	<b>CNS Stimulants</b>	<b>Hallucinogens</b>	<b>Dissociative Anesthetics</b>	<b>Narcotic Analgesics</b>	<b>Inhalants</b>	<b>Cannabis</b>
HGN							
VGN							
Pupil Size							
LOC							
<b>General Indicators</b>							
<b>Ingestion Methods</b>							
<b>Overdose Signs</b>							

<b>Drug Category</b>	<b>CNS Depressants</b>	<b>CNS Stimulants</b>	<b>Hallucinogens</b>	<b>Dissociative Anesthetics</b>	<b>Narcotic Analgesics</b>	<b>Inhalants</b>	<b>Cannabis</b>
<b>HGN</b>	Present	None	None	Present	None	Present	None
<b>VGN</b>	Present	None	None	Present	None	Present	None
<b>Pupil Size</b>	Normal (1)	Dilated	Dilated	Normal	Constricted	Normal (2)	Dilated(3)
<b>LOC</b>	Present	None	None	Present	None	Present	Present
<b>General Indicators</b>	Uncoordinated Disorientated Sluggish Thick, slurred speech Drunk-like behavior Gait ataxia Drowsiness Droopy Eyes Fumbling	Restlessness Body tremors Excited Euphoric Talkative Exaggerated reflexes Anxiety Grinding teeth Nasal redness Runny nose Loss of appetite Insomnia Increased Alertness Dry mouth Irritability	Dazed appearance Body tremors Synesthesia Hallucinations Paranoia Uncoordinated Nausea Disorientated Difficulty in speech Perspiring Poor perception of time/distance Memory loss Flashbacks	Perspiring Warm to the touch Blank stare Difficulty in speech Incomplete verbal responses Repetitive speech Increased pain threshold Cyclic behavior Confused Agitated Hallucinations Possible violent/combatative Chemical odor "Moon walking"	Droopy eyelids "On the nod" Drowsiness Depressed reflexes Low, raspy, slow speech Dry mouth Itching Euphoria Track marks Nausea Fresh puncture marks	Residue of substance around mouth/nose Odor of substance possible nausea Slurred speech Disorientation Confusion Bloodshot, watery eyes Lack of muscle control Flushed face Non-communicative Intense headaches	Marked reddening of conjunctiva Odor of marijuana Marijuana debris in mouth Body tremors Eyelid tremors Relaxed inhibitions Increased appetite Impaired perception of time/distance Disorientation. Possible paranoia
<b>Ingestion Methods</b>	Oral Injected (occasionally)	Insufflation (snorting) Smoked Injected Oral	Insufflation Smoked Injected Oral Transdermal	Insufflation Smoked Injected Oral Eye Drops	Insufflation Smoked Injected Oral	Insufflation (Historically have been taken orally)	Smoked Oral
<b>Overdose Signs</b>	Shallow breathing Cold, clammy skin Dilated pupils Rapid, weak pulse	Increased body temperature Hallucinations Convulsions	Long Intense Trip	Long Intense Trip	Slow, shallow breathing Clammy skin Coma Convulsions	Coma	Fatigue Paranoia