

# **Advanced Roadside Impaired Driving Enforcement (ARIDE)**

**R5/13 Edition**

**Instructor Guide**



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Advanced Roadside Impaired Driving Enforcement  
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## Purpose of this Document

This Administrative Guide provides an introduction to and an overview of the two-day instructional module entitled "Advanced Roadside Impaired Driving Enforcement" (ARIDE). This module can be taught in a Drug Evaluation and Classification Program (DEC) State, or a State that currently does not support the DEC Program.

The curriculum is designed to be delivered as a stand-alone course. The program of instruction is intended for delivery to as many of the nation's traffic law enforcement officers as possible. That curriculum is designed to help those officers become more proficient at detecting; apprehending, testing and prosecuting impaired drivers. The module's subject matter relates to two curriculums, the "Standardized Field Sobriety Testing" and "Drug Evaluation and Classification."

A qualified DRE is a specially skilled individual who can examine a person suspected of drug impairment and determine, with a high degree of accuracy, the broad category (or combination of categories) of drugs causing the impairment. A DRE does their specialized work only after a suspect has been apprehended (for DWI or some other offense), and only when there is probable cause to continue with an investigation.

This course will offer additional information to law enforcement officers on detecting impairment caused by more than just alcohol. Often times law enforcement officers that have not received advanced or in-service training regarding drug impairment tend to not be able to identify these characteristics, therefore they will release an impaired driver. Once an officer completes the training he/she will be more proficient with the 3 battery of tests (HGN,WAT,OLS), as well as possess a broader knowledge of drug impairment indicators. The law enforcement officer will also be more familiar with the DRE program and its function. This will facilitate better communication and transfer of critical roadside indicators of impairment to the evaluating DRE officer for a more complete and accurate assessment of the impairment.

This Administrative Guide is intended to facilitate planning and implementation of the ARIDE Course. This course consists of 9 sessions. It overviews the sequence of instruction, documents the materials and the teaching aides that make up the instructional package, describes course administrative requirements, and provides guidelines for discharging those requirements satisfactorily.

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

A. For whom is the training intended?

This module is designed primarily for law enforcement officers that meet the IACP/NHTSA National Standardized Field Sobriety Testing Program Standards, including a proficiency test, and who have successfully completed an IACP/NHTSA approved training course. The officer must be able to administer and interpret the horizontal gaze nystagmus (HGN) test for alcohol-impaired suspects. The student should be fully conversant with the procedural "mechanics" of HGN with the three clues of HGN and with the interpretation of those clues for assessing alcohol

impairment. A major focus of this module is on the examination of a drug-impaired suspect's eyes. The procedures for those eye examinations derive largely from HGN procedures.

Students should be a State Certified or Commissioned law enforcement officer in a full time paid capacity and/or prosecutors responsible for the detection, arrest, and prosecution of DWI drivers. Officers and Prosecutors selected to attend this training should be aware of the hazards caused by impaired drivers, motivated to arrest and prosecute impaired drivers, and their duty assignments will enable them to spend the time required to process DWI offenders.

Students applying to or scheduled to attend should be familiar with the extent of the drug impaired driving problem, must have successfully completed the basic Standardized Field Sobriety Testing course, and attended a recent SFST Refresher or Update course.

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

## B. Curriculum Objectives

**Session one** deals specifically with Drugs, Drug Impaired Driving, and how it relates to Highway Safety. The session objectives are:

Explain the goals and objectives of this course

Identify the elements of the drug problem

Define and describe impaired driving enforcement programs

Understand the roles and responsibilities of the Drug Recognition Expert (DRE) and how this course supports the Drug Evaluation and Classification Program (DECP)

Define the term drug in the context of traffic safety and impaired driving enforcement as referenced in the DECP

**Session two** is a very detailed review of the Standardized Field Sobriety Tests including the foundational studies and the most recent validation studies. The session objectives are:

Understand the results of selected SFST validation studies

Define and describe the Standardized Field Sobriety Tests (SFSTs)

Define nystagmus and distinguish between the different types

Describe and properly administer the three SFSTs

Recognize, document and articulate the indicators and clues of the three SFSTs

Identify the limitations of the three SFSTs

**Session three** involves SFST Proficiency. The participant will be given two opportunities to pass the NHTSA/IACP Proficiency Examination. This Session Objectives are:

Demonstrate knowledge and proficiency in administering the Standardized Field Sobriety Test Battery.

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

Describe, in general terms, the basic purpose and functions of selected major systems in the human body as they relate to observable signs.

Identify methods of ingestion and general effects of drugs.

Identify medical conditions which may mimic alcohol and drug impairment.

Identify the seven major drug categories as referenced in the DECP and the basis for dividing drugs into these specific groups.

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

Discuss Vertical Gaze Nystagmus: How to administer properly and describe what the results indicate.

Discuss Lack of Convergence: How to administer properly and describe what the results indicate.

Describe the difference in pupil size.

Discuss Modified Romberg Balance Test: How to administer properly and describe what the results indicate.

Explain the relationship between eye examinations and the seven categories

**Session six** involves a detailed description of the seven major drug categories and how they affect the human body and what an officer may observe with these drugs on board. The session objectives are:

Identify common drug names and terms associated with the Major Drug categories.

Identify the common methods of ingestion for each category.

Describe the general indicators of impairment associated with each category.

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

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 under the influence of a drug(s).

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

Describe the prevalence of drug and alcohol use (individually & in combination) as well as poly drug use

Define poly drug use

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

**Session eight** involves Pre & Post Arrest procedures and how to prepare for the prosecution of the drug and alcohol impaired driver. The session objectives are:

Describe the three phases of the detection process: vehicle in motion, personal contact and pre-arrest screening

Describe effective roadside interview techniques

List the elements of the offence of DUID

Identify the indicators of impairment observed during the three phases of the detection process

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

Identify additional resources to support prosecution

Articulate relevant evidence as it relates to case preparation and prosecution

#### C. Subject Matter

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

Update of Standardized Field Sobriety Testing Battery.

How drug impaired driving affects our community.

SFST Proficiency Examination.

Drugs in the human body and the impairing effects they may have.

Seven categories of drugs identified by the DEC Program.

Additional sobriety tests that will provide an expanded knowledge of detection to law enforcement.

Provide an expanded knowledge of prosecuting drug impaired drivers to prosecutors and courts

#### D. Curriculum Package



## Introduction to the Drug Indicator Matrix

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

# Session II Dry Lab Worksheet

SUBJECTS NAME: \_\_\_\_\_ OFFICER NAME: \_\_\_\_\_

Blindness: None <input type="checkbox"/> Right Eye <input type="checkbox"/> Left Eye <input type="checkbox"/>	Tracking: <input type="checkbox"/> Unequal <input type="checkbox"/>		Eyes: <input type="checkbox"/> Normal <input type="checkbox"/> Bloodshot <input type="checkbox"/> Watery	
Able to Follow Stimulus: <input type="checkbox"/> Yes <input type="checkbox"/> No	Eyelids: <input type="checkbox"/> Normal <input type="checkbox"/> Droopy			
<b>Lack of Smooth Pursuit</b>	<b>LEFT EYE</b>	<b>RIGHT EYE</b>	Vertical Nystagmus: <input type="checkbox"/> YES <input type="checkbox"/> NO	<b>HGN CLUES OBSERVED</b>
Distinct and Sustained Nystagmus at Maximum Deviation			Corrective Lenses: <input type="checkbox"/> None <input type="checkbox"/> Glasses <b>Contacts:</b>	
Onset of Nystagmus prior to 45 degrees			Pupil Size: <input type="checkbox"/> Equal <input type="checkbox"/> Unequal	

<b>WALK AND TURN</b>		Can Not Keep Balance: _____		
		Starts Too Soon: _____		
Improper Turn: (Describe)	Can Not Do Test: (Explain)	Stops Walking		
		Misses Heel-Toe		
		Steps Off Line		
		Raises Arms		
		Actual Steps		
<b>WAK AND TURN CLUES OBSERVED</b>				

ONE LEG STAND		
L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Sways while balancing
<input type="checkbox"/>	<input type="checkbox"/>	Uses arms to balance
<input type="checkbox"/>	<input type="checkbox"/>	Hopping
<input type="checkbox"/>	<input type="checkbox"/>	Puts foot down

ARREST DECISION
DECISION TO ARREST
<input type="checkbox"/> YES
<input type="checkbox"/> NO
BAC:
<input type="checkbox"/> ABOVE 0.08
<input type="checkbox"/> BELOW 0.08

ONE LEG STAND CLUES OBSERVED



# Session III Proficiency Examination

## 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<br>(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<br>Check left eye, then right eye (Repeat) |
| _____ | _____ | 6. Eye held at maximum deviation for a minimum of 4 seconds (no white showing)<br>Check left eye, then right eye (Repeat)                                                                                                    |
| _____ | _____ | 7. Eye moved slowly (approximately 4 seconds) from center to 45° angle<br>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 and to look at elevated foot                                                                                        |
| _____ | _____ | 6. Tells subject to count out loud in the following manner: one thousand one, one thousand two, one thousand three, 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: \_\_\_\_\_

# ARIDE Course Critique

Course Location:	
Criminal Justice Area:	Local Police    State Police    Prosecutor    Other
Name (Optional):	

In order to assess the effectiveness of the ARIDE course, it is important to obtain input from participants, like yourself, as to the course's content, its relevance to practice, and the instructors' effectiveness in delivering the course. Your help is needed so we can provide the best possible training. Please take a few minutes to answer the survey.

- I was prepared for the SFST proficiency requirements associated with this course.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_  
\_\_\_\_\_

- The specific information provided in the seven drug categories (signs and symptoms) was sufficient to effectively understand how different drugs may affect individuals especially while driving.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_  
\_\_\_\_\_

- Based on the classroom content, I feel confident to conduct an effective roadside assessment of a suspected impaired driver.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If not, why? \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_

4. Based on the classroom content, I feel confident that I can identify general indicators associated with a suspected impaired driver.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If not, why? \_\_\_\_\_

5. Overall, the ARIDE course provided me with information which is immediately applicable to my job.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If not, why? \_\_\_\_\_

6. Upon completing the course, I can effectively communicate (in writing and in a courtroom setting) my observations associated with a driver who I suspect is impaired by alcohol, drugs or a combination of both.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_

7. If one section of the ARIDE curriculum could be removed/abbreviated, it should be:

\_\_\_\_\_

8. If one section of the ARIDE curriculum could be expanded/emphasized, it should be:

\_\_\_\_\_

9. What information could be added to the ARIDE course to make it more applicable to your job?

\_\_\_\_\_

10. In regards to the course objectives, the length of the course (2-day or 16 hrs) was appropriate:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Based on the information presented in this course, I am confident that I can perform each of the following as part of a roadside assessment of a driver suspected of being impaired by alcohol, drugs or a combination of both: **LAW ENFORCEMENT OFFICERS ONLY**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
ARIDE Assessment					
Observe the vehicle in motion and document any appropriate indicators					
Interview the suspect and document any appropriate indicators					
Perform, interpret and document the <b>HGN Test</b>					
Perform, interpret and document the <b>VGN Test</b>					
Perform, interpret and document the <b>Lack of Convergence Test</b>					
Perform, interpret and document the <b>WAT Test</b>					
Perform, interpret and document the <b>OLS Test</b>					
Perform, interpret and document the <b>Modified Romberg Balance Test</b>					
Assess pupil size and understand the limitations of doing so at roadside					
Identify and document the general indicators of impairment caused by alcohol, drugs or a combination of both					
Use the General Indicator Matrix (HGN, VGN, LOC, pupil size, general indicators, duration of effects, methods of administration & overdose signs)					
Request appropriate toxicology (sample acquisition & submission)					
Effective use of a Drug Recognition Expert					
Articulate your observations and test interpretations in a courtroom setting					
Communicate with the prosecutor					

**Additional Comments:** \_\_\_\_\_

Based on the information presented in this course, I am confident that I can perform each of the following as part of a case related to a driver suspected of being impaired by alcohol, drugs or a combination of both: **PROSECUTORS ONLY**

ARIDE	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Understand procedures and documentation of appropriate indicators associated with <b>observing the vehicle in motion phase of the detection process</b>					
Understand procedures and documentation of appropriate indicators associated with the <b>personal contact phase of the detection process</b>					
Understand administrative, test and interpretation procedures as well as the documentation associated with the following:					
HGN Test					
VGN Test					
Lack of Convergence Test					
WAT Test					
OLS Test					
Modified Romberg Balance Test					
Understand assessment of pupil size at roadside and associated limitations					
Identify and document general indicators of impairment caused by alcohol, drugs or a combination of both					
Use of the General Indicator Matrix (HGN, VGN, LOC, pupil size, general indicators, duration of effects, methods of administration & overdose signs)					
Utilizing appropriate toxicology results (sample acquisition & submission)					
Effectively use officer interpretations and observations for case preparation and courtroom testimony					
Communicating with the law enforcement officer					
Effective use of a Drug Recognition Expert					
Communicating with toxicologist					

**Additional Comments:** \_\_\_\_\_

Instructors

Please rank the following instructors on a scale of 1 to 5 (1 = Poor and 5 = Excellent) or N/A if it does not apply to the instructor (1 = Poor and 5 = Excellent):

Instructor Name	Facilitated an atmosphere conducive to learning	Familiarity with the subject(s) presented	Presented information in a manner which met the needs of all students	Coaching ability in classroom & practical exercises	Ability to answer questions	Tactfulness in correcting mistakes in practical exercises	Overall rating of the instructor

Please use the below space if you have any additional comments.

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# Advanced Roadside Impaired Driving Enforcement (ARIDE)





# Session 1

## Introduction and Overview "Drugs and Highway Safety"



### *Welcoming Remarks*

***Welcome to the Advanced Roadside Impaired Driving Enforcement (ARIDE) course.***

### *Introductions - Representatives of Host Agencies and Other Dignitaries*

***Dignitary introductions and their welcoming remarks must be kept brief; no more than 10 minutes can be devoted to this.***

### *Faculty Introductions*

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

## Housekeeping

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



### *Paperwork*

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

### *Attendance*

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

### *Breaks*

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

### *Facility*

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

### *Interruptions*

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

## Participant Introductions

- Name
- Agency
- Affiliation
- Experience



***Whenever possible, the instructor should consider using creative and innovative icebreaking techniques.***

***At a minimum, instruct each Participant to stand and give their name, agency affiliation and experience.***

## Learning Objectives

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



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

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

### Content Segments

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

### Learning Activities

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

## Important Note

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



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

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

***Instructor Note: Place extreme emphasis on this point. This program is designed to work in conjunction with the DEC program.***

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

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



## Overall Course Goal

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



### **A. Course Goal**

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

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

1. Understand the signs of impairment related to drugs, alcohol, or a combination of both.
2. Enable them to effectively work with law enforcement in order to reduce the number of impaired driving incidents, serious injury, and fatal crashes.

## Background: High Visibility Enforcement Efforts

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



NHTSA has promoted high visibility enforcement efforts among law enforcement agencies. As a result of this effort, several things happened:

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

Criminal justice professionals such as:

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

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

## Overall Course Objectives

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



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

- Demonstrate, articulate, and properly administer the SFSTs proficiently.
- Define and describe the relationship of drugs to impaired driving incidents.
- Observe, identify, and articulate the observable signs of drug impairment with the established seven drug categories associated with the DEC Program.



## Overall Course Objectives (Cont.)

- **Identify, document and describe indicators observed and information obtained related to impairment which leads to the arrest/release decision**
- **Articulate through testimony impairment related to alcohol, drugs, or a combination of both based on a complete investigation**



- Identify, document and describe indicators observed and information obtained related to impairment which leads to the arrest/release decision.
- Articulate, through testimony, impairment related to alcohol, drugs, or a combination of both based on a complete investigation.

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

## Course Sessions

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



1. Introduction and Overview of Drugs and Highway Safety
2. SFST Update and Review

**Note: See form in Session three of the participant manual.**

3. SFST Proficiency Exam
4. Drugs in the Human Body
5. Observation of the Eyes and Other Sobriety Tests for Impairment.
6. Seven Drug Categories
7. Effects of Drug Combinations
8. Pre and Post Arrest Procedures
9. Legal Issues Associated with Impaired Driving

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

## What Happens when an Officer Comes in Contact with an Impaired Driver?



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

***Ask class to provide some examples before moving forward.***

The officer:

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

## ARIDE Prerequisites

- SFSTs review and update
- Pass SFST proficiency evaluation



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

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

***The participant will be given two opportunities to successfully complete the SFST proficiency; under no circumstance will the participant be allowed to complete the training without satisfactory completion of the proficiency examination.***

***Note: It is recommended that a different instructor administer the second SFST proficiency examination, if necessary.***

## What is a DRUG?

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



### **B. What Is a Drug?**

There are many definitions for the word drug:

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

***Note: 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.***

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

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

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

***Note: The participant will be required to restate this definition verbatim on the final exam.***



## 2012 National Survey Drug Use and Health (NSDUH)

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



### **C. Statistics and Research**

#### *Alcohol and Drug Use*

Social drinking is considered acceptable in many societies.

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

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

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

***Note: This is a self reported survey. There are some issues that need to be discussed. For example: limitations of data collected.***

#### *2003 Research Survey*

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

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

## (NSDUH) Self-Reported Drug Use

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



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

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

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

***Note: Numbers are very conservative due to self reporting.***

## Types of Drugs Commonly Used

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



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



## Driving Under the Influence

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



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

***Ask class for examples specific to their state/locality?***

The surveys tells us:

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

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

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

## IACP/NHTSA Supported Impaired Driving Programs

- Training
  - SFST
  - DECP
  - Prosecuting the Impaired Driver
- Enforcement
  - Selective Traffic Enforcement Programs
- Prosecution/Judges
  - Traffic Resource Prosecutors
  - Judicial Education
- Media
- Evaluation



### D. Impaired Driving Enforcement Programs

IACP/NHTSA supports:

- Training
- Enforcement
- Prosecution
- Adjudication

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

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

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

- SFST
- Advanced Roadside Impaired Driving Enforcement
- DECP
- Prosecuting the Drugged Driver
- Lethal Weapon
- Protecting Lives, Saving Futures

## SFST Course

- **Cornerstone for a system of impaired driving training and enforcement**
- **Foundation for ARIDE and DECP**
- **Should be part of all alcohol and drug impaired driving enforcement initiatives**



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

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

### **DWI Detection and Standardized Field Sobriety Testing**

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

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

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

## Foundations of ARIDE

- **DWI Detection Process**
  - **Phase One: Vehicle in Motion**
  - **Phase Two: Personnel Contact**
  - **Phase Three: Pre-arrest Screening**
- **SFST Test Battery**
  - **Horizontal Gaze Nystagmus**
  - **Walk and Turn**
  - **One Leg Stand**

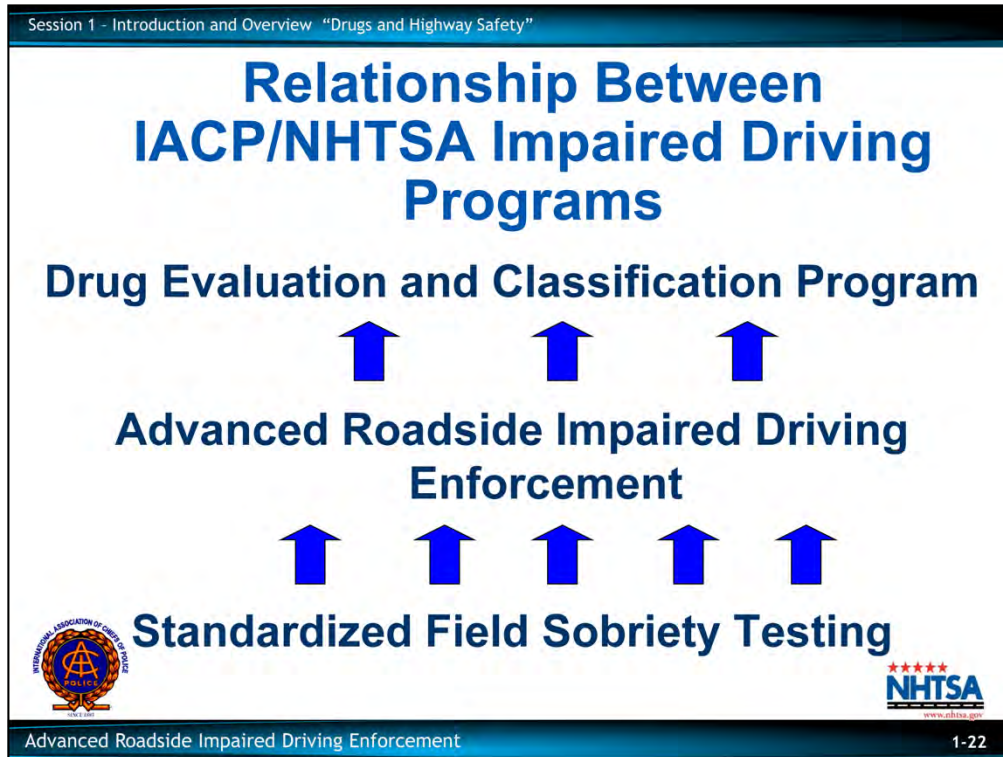


The SFSTs are part of the overall DWI detection process which includes three phases:

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

***Note: Throughout this course we will be discussing concepts related to these three phases.***

The SFST 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 Program*

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

The ultimate goal of the DEC Program is:

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

The DRE officer is trained to:

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

A participant who successfully completes all phases of the DEC Program is known as a Drug Recognition Expert or Drug Recognition Evaluator (DRE).

They can reach reasonably accurate conclusions concerning the category or categories of drug(s), or medical conditions causing the impairment observed in the subject.

Based on these informed conclusions, the DRE officer can request the collection and analysis of an appropriate biological sample (blood, urine, or saliva) to obtain corroborative, scientific evidence of the subject's drug use.



## Difference Between DECP and ARIDE

**DREs are required to:**

- **Complete 72 Hrs of classroom training**
- **Complete field certifications**
- **Pass comprehensive final knowledge examination**



### *Roles and Responsibilities of a Drug Recognition Expert*

To obtain a DRE Certification the law enforcement officer must:

1. Complete 72 hours of classroom training.
2. Complete field certifications.
3. Pass comprehensive final knowledge examination.

## Difference Between DECP and ARIDE (Cont.)

**DREs are required to:**

- **Maintain certification through continuing education**



In order to retain their certification, the DRE must:

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

The State DEC Program state coordinators may place other standards on each DRE that is specific to that state.

## Bridging the Gap

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



### *The ARIDE Course*

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

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

***Note: This sums up the responsibilities and duties of the ARIDE trained officer at the conclusion of this training course.***



## Bridging the Gap (Cont.)

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



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

- This training and subsequent field experience will demonstrate the value of having a DRE on staff in an agency and may serve as motivation for the individual officers to attend a DRE course in the future.
- A subsequent result of this course will facilitate better utilization of DREs in the field.

The desired outcome of the training is:

- The participant will better understand the role of the DRE and will be able to use their expertise more effectively.
- For those communities with no DREs or limited access to their services, this course will help officers make informed decisions related to testing, documentation, and reporting drug-impaired driving cases.

# QUESTIONS?



# Session 2

## Standardized Field Sobriety Testing Review



## Learning Objectives

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



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

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

### Content Segments

- A. SFST Validation Studies
- B. Overview of Selected Types of Nystagmus Standardized Field Sobriety Tests
- C. Horizontal Gaze Nystagmus
- D. Practice HGN
- E. Walk-and-Turn
- F. Practice Walk-and-Turn
- G. One-Leg Stand
- H. Practice One-Leg Stand

### Learning Activities

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

## Overview of Original SFST Validation Studies

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



### **A. Overview of the SFST Validation Studies**

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

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

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

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

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

Primary distinction (Validated at 0.10 BAC)

The recommended battery included the following SFSTs:

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

## Original SCRI SFST Reliability

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



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



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

***Point out that the percentages were from the original research completed by SCRI***

Session 2 - Standardized Field Sobriety Testing Review

## Field Validation Studies

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



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Additional research studies conducted to validate the 3-test battery at 0.08 BAC.

Three SFST field validation studies were:

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

**Note: Keep in mind that when these studies were conducted not all states had 0.08 BAC as their Per Se limit.**

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



## Difference in Results

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



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

- 93% of the time based on the 3-test battery (HGN, WAT, OLS)
- The Florida SFST Field Validation study was undertaken in order to answer the question of 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 3-test battery (HGN, WAT, OLS).

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

The research was done to investigate how well the SFSTs discriminate at BACs below 0.10. Based on the revised arrest and release criteria the officers in the study made correct decisions 91% of the time based on the 3-test battery (HGN, WAT, OLS) at the 0.08 BAC level and above.



## Correct Arrest Decision

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

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



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

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

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

## Correct Decision

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



**Note: The chart and arrest decision data is from the Colorado study.**

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

## Reasons for Incorrect Decisions

- **Arrested and under specified BAC**
  - Exhibited indicators for impairment
  - May have not been selected in the field
- **Not arrested, but over specified BAC**
  - Subjects had higher alcohol tolerance
  - Did not exhibit indicators consistent with specified BAC



The first group was not arrested, but tested above the illegal per se limit, (quadrant II). The reason for no arrest decision:

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

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

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

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

It is important for the officer who is trained in SFST to prepare themselves to understand and explain these statistics in layman terms in order to effectively articulate them to a jury in a courtroom. Note: If you do not know the answer to a defense question you can say, "I DON'T KNOW." Do not testify to something you are not sure of.

## Validation Study Exercise



***Practical Exercise: Instructor, ask for volunteers in the class to articulate these studies.***

***(Exercise)Ask the following question: “According to the original validation studies, is it true that 77 percent of the time HGN is accurate”? Let the participants answer.***

***Answer: That means that 23 percent of the time the test is incorrect and you are arresting subjects that should not be arrested.***

***There should be a prosecutor in the classroom to assist with this exercise. This series should be asked as a defense attorney would.***

# Nystagmus

**Nystagmus is defined as the involuntary jerking of the eyes.**



**Nystagmus** is the involuntary jerking of the eyes.

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

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

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

The ability to recognize horizontal and vertical gaze nystagmus are important tools in impaired driving enforcement.

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

## Categories of Nystagmus

- **Vestibular**
- **Pathological**
- **Neural**
  - Gazed evoked neural nystagmus



### **B. Overview of Selected Types of Nystagmus**

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

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

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

There are over 40 different types of nystagmus.

**Note: In this course we will only be concerned with gazed evoked neural nystagmus.**

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

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



## Gaze Nystagmus

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



### *Gaze Nystagmus*

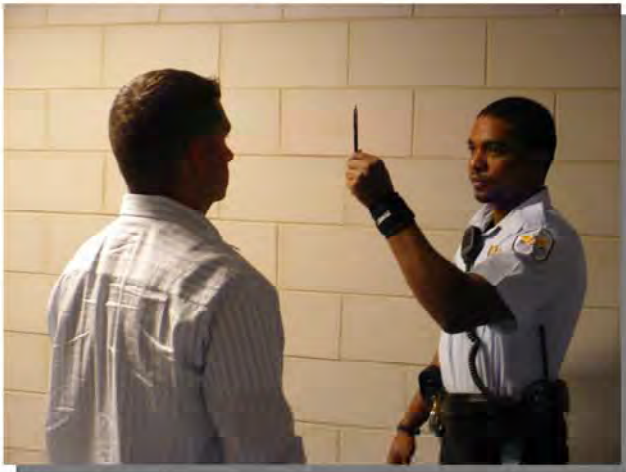
Resting Nystagmus is defined as the involuntary jerking of the eyes as they gaze straight ahead. This condition is not frequently observed. Its presence may indicate Dissociative Anesthetic usage, high levels of an impairing substance for that individual or some other medical problem. If detected, take precautions. As always, exercise sound officer safety techniques and consider calling for medical aid. Note: These are known as DID drugs.

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

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

Session 2 - Standardized Field Sobriety Testing Review

## Horizontal Gaze Nystagmus (HGN)



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### **C. Horizontal Gaze Nystagmus**

Horizontal Gaze Nystagmus is defined as the involuntary jerking of the eyes as they gaze toward the side. (As defined in the March 2013 revision of the SFST curriculum.)

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

HGN becomes observable:

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

In administering the HGN test the subject must focus on a stimulus. This stimulus can be the tip of a pen or similar object that contrasts with the background.

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

**Note: Follow your local policy or recommendations when selecting a stimulus.**



## Administrative Procedures:

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



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

***Instructor: Give examples of why this situation would occur. The ultimate reason for repositioning the suspect is for officer safety, second is to obtain the best possible position to observe the HGN Clues.***

Ask the subject to:

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

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

"I am going to check your eyes."

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

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

## Administrative Procedures (Cont.)

**Beginning with subject's left eye check:**

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

**Total the clues**



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

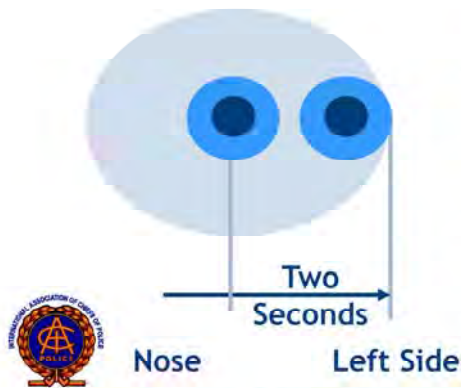
- Check both eyes for equal pupil size and resting nystagmus. Both pupils should be of equal size and there should not be any noticeable nystagmus.
- Take notice if the pupils are noticeably unequal in size or there is noticeable nystagmus at rest. This could be indicative of a medical condition or a head injury.

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

- The speed of the stimulus should be approximately the same speed as checking for lack of smooth pursuit.
- Both eyes should track the stimulus together.
- If the eyes fail to track together, this could be the indication of a possible medical disorder, injury or blindness.

## Three Clues of Horizontal Gaze Nystagmus

### 1. Lack of Smooth Pursuit



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

### *Lack of Smooth Pursuit (LOSP)*

#### **Reference PowerPoint graphic illustration**

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

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

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

## Clue Number 1



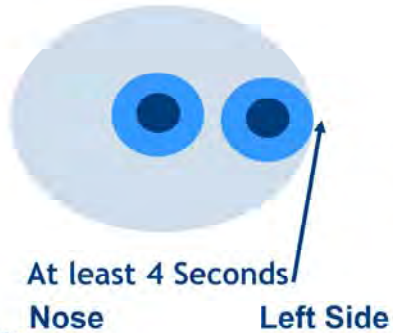
Video - Lack of Smooth Pursuit



***Reference PowerPoint video demonstration – Click picture to start demo.***

## Three Clues of Horizontal Gaze Nystagmus

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



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



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

- At extreme lateral gaze, also known as the endpoint or maximum deviation, the nystagmus is distinct and sustained when the stimulus is held for a minimum of 4 seconds.
- Start again with the individual's left eye.
- Move the stimulus to the individual's left side until there is no more white of the eye visible.
- The eye should not be able to move any further on the horizontal plane.
- Hold the left eye in that position for a minimum of four (4) seconds and not more than 30 seconds.
- Observe the eye for distinct and sustained nystagmus while being held in this position.
- Move the stimulus all the way to the left, back across the individual's face and check the right eye.
- Repeat the procedure until each eye has been checked twice.



## Clue Number 2



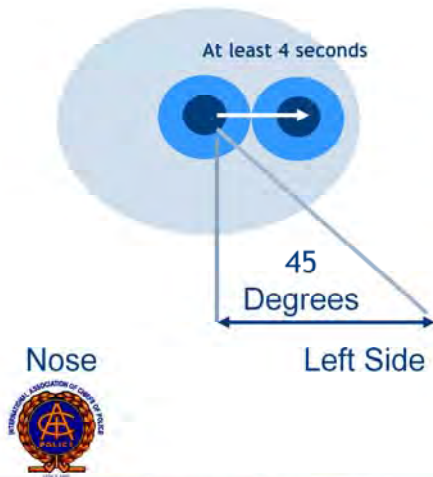
**Video - Distinct and Sustained Nystagmus  
at Maximum Deviation**



*Reference PowerPoint video presentation – Click on picture to start video.*

## Three Clues of Horizontal Gaze Nystagmus

### 3. Onset of Nystagmus Prior to 45 Degrees



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

#### *Onset of Nystagmus Prior to 45 degrees*

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

## Clue Number 3



Video - Onset of Nystagmus  
Prior to 45 Degrees



***Reference PowerPoint video demonstration – Click on picture to start video***

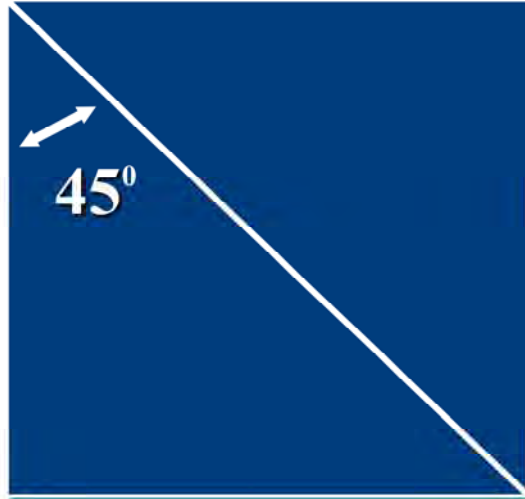


## HGN Onset of Nystagmus Prior to 45 Degrees



*Onset of nystagmus Prior to 45 degrees*

# 45 Degree Template



*45 Degree Template*

## Three Clues of Horizontal Gaze Nystagmus:

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



### *Three Clues of Horizontal Gaze Nystagmus*

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

## Horizontal Gaze Nystagmus Indications

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



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

## Vertical Nystagmus

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



### *Vertical Nystagmus*

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

## Vertical Gaze Nystagmus



Video – Vertical Gaze Nystagmus



***Reference PowerPoint video demonstration – Click on the picture to start the video***

## Test Interpretation

### Three clues in each eye:

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



### D. Practice HGN

***The scoring handout should be disseminated at this time. Located in the Administrative Guide.***

#### *Test Interpretation*

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

#### 1) Lack of Smooth Pursuit

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

#### 2) Distinct and sustained nystagmus at maximum deviation

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

#### 3) Onset of nystagmus prior to 45 degrees

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

**Note: It is important to hold the eye in this position for a minimum of four (4) seconds.**

This jerking must be distinct and sustained.

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



## Documenting HGN Clues

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



### *Documenting the HGN Clues*

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

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

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

Each jurisdiction has come up with techniques and forms to record the results. As long as these forms follow the NHTSA/IACP manuals, they may be used. Listed in your manual is only one example that could be used.

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



## The HGN Test Demonstrated



### *Horizontal Gaze Nystagmus (HGN)*

Clue #1 – Lack of smooth pursuit.

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

Clue #3 – Angle of Onset

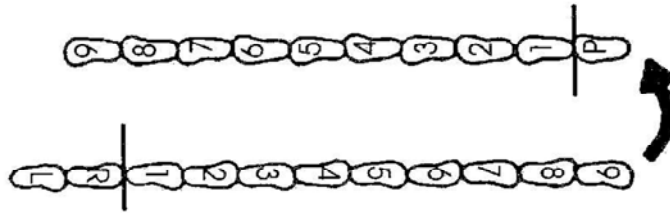
***Point out if the subject's eyes begin to jerk before they have moved to the 30 degree angle, the DRE will not attempt to estimate the angle precisely, but will simply record that the subject exhibits "immediate onset."***

# Walk and Turn



# Walk and Turn

(Divided Attention Test - Mental Task and Physical Task)



1. Instruction Stage
2. Walking Stage



## E. Walk and Turn Test

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

1. Instruction Stage
2. Walking Stage

### *Instruction Stage*

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

### *Walking Stage*

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

## Safety Precautions

- **Keep subject to your left during demonstrations**
- **Never turn back on suspect**
- **Be aware of surroundings**



### *Officer safety precautions*

- Keep subject on your left during demonstration
- Never turn your back on a suspect
- Be aware of surroundings

***Emphasize that the officer should not turn his/her back to the subject for safety reasons.***

## Walk and Turn Test



**Write “Walk and Turn” on the dry erase board or flip-chart.**

**It is suggested a visible line be placed on the floor for use during the demonstration.**

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

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

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

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

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

## Walk and Turn Test Diagram

Walk And Turn Test		Cannot keep balance _____																
		Starts too soon _____																
		<table border="1"> <thead> <tr> <th></th> <th>1st Nine</th> <th>2nd Nine</th> </tr> </thead> <tbody> <tr> <td>Stops Walking</td> <td></td> <td></td> </tr> <tr> <td>Misses Heel-Toe</td> <td></td> <td></td> </tr> <tr> <td>Steps Off Line</td> <td></td> <td></td> </tr> <tr> <td>Raises Arms</td> <td></td> <td></td> </tr> <tr> <td>Actual Steps Taken</td> <td></td> <td></td> </tr> </tbody> </table>		1st Nine	2nd Nine	Stops Walking			Misses Heel-Toe			Steps Off Line			Raises Arms			Actual Steps Taken
	1st Nine	2nd Nine																
Stops Walking																		
Misses Heel-Toe																		
Steps Off Line																		
Raises Arms																		
Actual Steps Taken																		
Describe Turn	Cannot Do Test (explain)																	



***Demonstrate how the steps are taken, counting out loud and demonstrating the turn. Emphasize that the DRE should not turn his/her back to the subject for safety reasons.***

***You must demonstrate several heel-to-toe steps, and you must demonstrate the turn.***

- The subject must be told to watch his or her feet while walking, and to count the steps out loud.
- The subject must be told to keep their arms at the sides at all times.
- The subject must be told not to stop walking until the test is completed.
- The subject should be asked if he/she understands the instructions.
- Once the subject acknowledges his/her understanding of the instructions, instruct the subject to begin the test.
- If the subject stops or fails to count out loud or watch his/her feet, remind him/her to perform these tasks. This interruption will not affect the validity of the test and is essential for evaluating divided attention.

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

## Walk and Turn Test Clues

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



Look for the following clues each time the Walk-and-Turn test is administered.

1. Cannot keep balance while listening to the instructions.
  - a. Record this clue if the individual does not maintain the heel-to-toe position throughout the instructions.
  - b. Do not record this clue if the suspect sways or uses the arms to balance but maintains the heel-to-toe position.

**Note: Feet must actually break apart.**

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



## Walk and Turn Test Clues (Cont.)

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

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



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

***Instructor Note: There may be times when the suspect takes a wrong number of steps or begins the heel-to-toe walk with the wrong foot resulting in a turn on the right foot instead of the left. If this occurs the suspect would normally be assessed a clue for an incorrect number of steps and not assessed a clue for an improper turn if the turn was made using a series of small steps as instructed and the suspect did not lose his/her balance while attempting the turn.***”;

***This scoring is consistent with the original research and training conducted the Southern California Research Institute and with the administration and scoring of the Walk and Turn test in the San Diego Field Study.***

8. Incorrect number of steps. Record if the individual takes more or fewer than nine steps in either direction.

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



## Documenting the Walk and Turn Test Clues

- **Note clue by placing a slash on assessment form**
- **Considerations:**
  - **Straight line**
  - **Dry, hard, level, non-slippery surface**
  - **Room for nine heel-to-toe steps**



### *Documenting the Walk and Turn Clues*

Each clue is noted by placing a slash in the appropriate place on the assessment form. For example: If the individual raised their arms twice and stepped off the line three times, they would be considered to have demonstrated “two” clues.

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

### *Considerations*

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

### Notes:

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

**\*\*PRACTICAL EXERCISE\*\***



### **G. Practice Walk and Turn**

***The scoring handout should be disseminated at this time. Located in the Administrative Guide.***

Session 2 - Standardized Field Sobriety Testing Review

## Walk and Turn Test Criterion

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



Advanced Roadside Impaired Driving Enforcement 2-40

***Cue the Dry Lab workshop tapes to the beginning of tests for one subject. This subject should be used to demonstrate the tests throughout this section.***

***Show only the Walk and Turn Session of the video. Stop the tape when the WAT is complete.***

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

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

# The Walk and Turn Demonstrated



***Solicit questions regarding the Walk and Turn test.***

# One Leg Stand

## Divided Attention Test

### Mental Task and Physical Task

1. Instruction Stage
2. Balance and Counting Stage



## **F. One Leg Stand**

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

1. Instructional stage
2. Balancing and counting

*Instructional Stage:*

1. Balancing and Counting
2. Listening to instructions

*The Balancing Stage:*

1. Balancing
2. Short-term memory

## Administrative Procedures

### Instruction Stage:

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



### *Administrative Procedures*

1. Initial positioning and verbal instructions

***Point out that it is recommended to give the following verbal instructions:***

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

**Note: Make sure subject verbally acknowledges understanding.**

## Administrative Procedures (Cont.)

### Balance and Counting Stage:

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



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



### *Instructions for the Balancing and Counting Stage*

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

- The test has two stages, the instructions stage and the balance and counting stage.
- During the instructions stage, the subject must stand with the feet together, arms at the side, facing the examiner.
- Demonstrate the stance that the “subject” is required to maintain.
- The subject must be told that they will have to stand on the left foot, and raise the right foot approximately 6 inches off the ground, with the right leg held straight and the raised foot parallel to the ground.
- The examiner must demonstrate the one-leg stance.
- Emphasize that the subject must maintain the foot elevation throughout the test.
- If the subject lowers his/her foot, he/she should be instructed to raise it.
- The subject must be told that they must look at the elevated foot during the test.
- Emphasize that the examiner should not look at his or her own foot while giving the instructions; for safety reasons, the examiner must keep the eyes on the subject at all times.
- The subject must be told that they will have to count out loud in the following manner: “one thousand one, one thousand two, one thousand three” and so on until told to stop.
- After giving the instructions, the examiner should ask the “subject” if they understand.
- Note: If the subject puts the foot down, remind the subject to pick the foot up again and continue counting from the point at which the foot touched.



## One Leg Stand Test Evaluation

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

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



### *Test Evaluation*

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

1. Puts foot down

**Note: Explain if necessary.**

2. Uses arms to balance

**Note: More than 6 inches from their side.**

3. Sways while balancing

**Note: Side to side, back to front, or circular motion.**

4. Hopping



## One Leg Stand Test Documentation and Considerations

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



### *Documentation*

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

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

### *Considerations*

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

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

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

**Note: The original research indicated that individuals over 65 years of age or 50 pounds or more overweight may have difficulty performing this test.**

## One Leg Stand Test Criterion

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



### *One-Leg-Stand Test Criterion*

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

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

## The One Leg Stand Demonstrated



### **\*\*PRACTICAL EXERCISES\*\***

#### **G. Practice One Leg Stand**

***The scoring handout should be disseminated at this time. Located in the Administrative Guide. At this point the instructor should have the Dry Lab workshop video cued to the beginning of tests for one subject. This subject should be used to demonstrate the tests throughout this section.***

# QUESTIONS?



# Session 3

## Standardized Field Sobriety Testing Proficiency Examination



## Learning Objectives

**Demonstrate knowledge and proficiency in administering the Standardized Field Sobriety Test battery**



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

- Demonstrate knowledge and proficiency in administering the SFST battery.

## SFST Proficiency

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



### *Explanation for Proficiency*

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

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

NHTSA, IACP, and the courts have recognized the importance of proficiency as it relates to the detection, arrest, and prosecution of impaired drivers.

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

There are several factors that can affect a law enforcement officer's SFST proficiency.

They include the following:

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



## SFST Proficiency (Cont.)

### Remember!!!!

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



### *SFST Proficiency Examination*

***DO NOT offer this aid, however keep in mind many law enforcement officers carry pocket instructions on duty. If they approach you then they should be allowed to use them. If this is the case, they will be allowed to use them during the proficiency examination. The participant must be able to demonstrate their ability to administer the SFST battery without the aid of any reference materials and from memory.***

- The participant will be given only two opportunities to do the SFST battery.
- If the participant fails their first attempt, they will be given the opportunity to practice on their own or with another participant within a reasonable amount of time not to exceed the end of the first day.
- The instructor will not assist or coach the participant in any manner during the proficiency examination.
- The instructor will correct the participant after the completion of all three tests, but will not correct the participant during the tests.

***Utilize proficiency examination form located in the participant manual and the administrator's guide.***

- Utilize proficiency examination form located in the participant manual and the administrator's guide.
- A "**check**" will be placed in the space provided for each step completed according to the SFST manual.
- An "**X**" will be placed in the space if the participant does not perform the step according to the SFST manual.

## SFST Proficiency (Cont.)

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



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

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

**If the participant does not pass the second proficiency examination they will not be allowed to continue in the training.**

# QUESTIONS?



# Session 4

## Drugs in the Human Body



## Learning Objectives

- Describe the basic purpose and functions of selected major systems in the human body.
- Identify methods of ingestion and general effects of drugs
- Identify medical conditions, which may mimic alcohol and/or drug impairment
- Identify the seven drug categories



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

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

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

**Content Segments**

- A. Drugs in the Human Body
- B. Overview of selected major systems of the human body:
  - Basic purpose and function,
  - Muscular, Urinary, Respiratory, Digestive, Nervous, Circulatory Systems
- C. Homeostasis
- D. Identify methods of ingestion and general effects of drugs
- E. Medical conditions which may mimic alcohol and drug impairment
- F. Seven drug categories and the basis for dividing drugs into these specific groups
- G. Blank Drug Indicator Matrix

**Learning Activities**

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

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

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



### A. Drugs in the Human Body

This process is dependent, in part, on:

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

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



## This Session Will...

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



This session is designed to provide the participant with:

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



## Pharmacokinetics

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

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



### *Pharmacokinetics*

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

As stated in the objectives, this session will also:

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

## What is a Drug?

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



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

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

### *Drug*

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

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

# Psychoactive

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

- Perception
- Mood
- Consciousness
- Behavior



## *Psychoactive*

A psychoactive drug or substance:

Is a chemical that alters brain/body function, resulting in temporary changes in perception, mood, consciousness, or behavior.

Such drugs are often used for:

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

## Major Systems of the Human Body

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine



### **B. Introduction of Selected Systems of the Human Body**

There are ten systems in the human body:

- Muscular
- Urinary
- Respiratory
- Digestive
- Endocrine

## Major Systems of the Human Body (Cont.)

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



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

## In Order to Illustrate The Impact of Drugs

- **Methods of Ingestion**
- **Onset of Effects**
- **Duration of Effects**
- **Elimination**



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

- Ingestion
- Onset
- Duration of effects
- Elimination

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

# Muscular System

- Heart
- Smooth Muscles
  - “involuntary”
- Striated Muscles
  - “voluntary”



## Muscular System

The body has three types of muscles:

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

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

The impact of drugs and alcohol on the muscular system can often be observed during the walk and turn, one-leg stand test, as well as during general observations.

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

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



## Urinary System

- Two Kidneys
- Urethra
- Bladder



### Urinary System

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

It consists of:

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

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

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

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

# Respiratory System

- The Diaphragm
- The Lungs



## Respiratory System

The primary organs of the respiratory system are:

- Diaphragm
- Lungs

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

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

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

***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 shallow breathing***

## Digestive System

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



### Digestive System

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

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

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

***Example: Alcohol dehydrogenase breaks down alcohol into carbon dioxide and water.***

# Nervous System

- Brain
- Spinal Cord
- Nerves
  - Neurotransmitters



## Nervous System

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

It consists of:

- Brain
- Spinal cord
- Nerves

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

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

- Sight
- Hearing
- Smell
- Taste
- Touch

Through sensations of temperature, pressure, pleasure and pain.

## Nervous System

- Brain
- Spinal Cord
- Nerves
  - Neurotransmitters



The nervous system also enables reasoning, memory and emotions.

The central nervous system sends impulses that cause muscles to contract and glands to secrete, and it works with all body systems to integrate all physiological processes so that normal functions can be maintained.

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

The Central Nervous System (CNS) is one of the body's major control systems and the brain is the center of that system.

# Circulatory System

- Heart
- Blood Vessels
- Blood



## Circulatory System

The circulatory system consists of

- Heart
- Blood vessels
- Blood

The heart pumps blood throughout the body transporting:

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

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

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

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

## Brain

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



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

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

This is the way nerve cells share information.

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

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

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

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



## Limbic System of the Brain

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



All drugs of abuse, such as nicotine, cocaine, and marijuana, impacts the limbic system of the brain.

The limbic system generates:

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

It responds to pleasurable experiences by releasing the neurotransmitter dopamine.

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

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

# Homeostasis

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

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



## C. Homeostasis

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

***Point out that "homeo" means similar or the same elements and "stasis" means balance.***

***Point out that the rhythm of the heart, breathing, constancy of body temperature, and the steady level of blood pressure under specific circumstances or conditions are all manifestations of homeostatic mechanisms at work within the body.***

As we have discussed earlier in this session, the human body is made up of systems.

They are in a dynamic equilibrium.

Under normal circumstances, systems seek a balance in which internal change continuously compensates for external change in a feedback control process to keep conditions relatively level.

## Examples of Homeostasis

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



### Examples of Homeostasis

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

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

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

## The Resulting Interaction of Drugs and Alcohol

- **Speed Up**
- **Slow Down**
- **Become confused**



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

- Speed up
- Slow down
- Become confused

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

## Methods of Ingestion and General Effects of Drugs

**Ingestion – Act of taking food or other  
substance into the body through the  
mouth**



### **D. Methods of Ingestion and General Effects of Drugs**

In general terms, ingestion is:

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

# Ingestion

**Any manner by which a drug or alcohol enters the human body**



For the purpose of this course:

We will use the term ingestion to describe any manner by which a drug or alcohol enters the human body whether it be orally or otherwise administered.

## Ingestion Methods

- Oral – Through the mouth
- Injection – Intravenously



### *Oral*

Oral ingestion is administered through the mouth.

### *Injection*

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

### ***Give some examples of behavior and physical characteristics of injection sites***

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.



## Ingestion Methods (Cont.)

- **Insufflation - Snorted**



### *Insufflation*

The act of introducing a substance by inhaling through the nose for the purpose of intranasal absorption through the mucous membrane.

For a substance to be effective when insufflated it must be in a water soluble powder so it can be readily absorbed through the mucous membranes.

This method is commonly referred to as “snorting”.

## Drug Categories Introduced Through Insufflation

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



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

- Stimulants
- Hallucinogens
- Dissociative Anesthetics
- Narcotic Analgesics

## Ingestion Methods (Cont.)

- **Inhalation – Huffing, sniffing, smoking**
- **Transdermal – Absorbed through the skin**



### *Inhalation*

The act of introducing a substance directly into the respiratory system through the nose and mouth for the purpose of absorbing the substance through the alveoli in the lungs.

This is a very rapid method of absorption and is often referred to as huffing, sniffing, or smoking.

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

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

## Transdermal Administration

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



### *Transdermal*

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

***An example of a drug prescribed to be transmitted through the skin is the birth control patch and nicotine patch.***

Drugs which are able to be administered transdermally can be administered accidentally through contact.

Some selected Hallucinogens, Dissociative Anesthetics, and Narcotic Analgesics can be administered transdermally.

***Point out to the participants the importance of officer safety indicated in their manual.***

***Example: Wear protective glasses, masks, and gloves when searching subjects and vehicles.***

## Medical Conditions Which May Mimic Drug Impairment

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



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

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

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

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

## Head Trauma

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



### *Head Trauma*

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

- Disorientation
- Confusion
- Lack of coordination
- Slowed responses
- Speech impairment
- Other gross indicators of alcohol or drug influence

Because the injury usually affects one side of the brain more than the other, disparities usually will be evident in the subject's eyes.

Sometimes the pupils will be noticeably different in size or one eyelid may droop while the other appears normal.

Additionally, the eyes may not be able to track equally while focusing on a stimulus.

## Stroke

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



### *Stroke*

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

Stroke victims often will have:

Pupils that are noticeably different in size. One pupil may remain fixed and exhibit no visible reaction to light, while the other reacts normally.

Paralysis, physical weakness and other observable signs are often more predominant on one side of the body than the other.

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



## Diabetes

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



### *Diabetes*

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

This condition is referred to as insulin shock.

A diabetic in insulin shock may:

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

# Conjunctivitis

**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**



## *Conjunctivitis*

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

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

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

## Shock

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



### *Shock*

Shock is a life-threatening condition that occurs when the body is not getting enough blood flow.

This can damage multiple organs and lead to death.

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

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

## Multiple Sclerosis

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



### *Multiple Sclerosis*

Victims of Multiple Sclerosis (MS) and other degenerative muscular disorders may lack coordination or exhibit gait ataxia, tremors, slurred or garbled speech, and many of the other gross motor indicators of intoxication.

Unlike subjects impaired by alcohol and/or drugs, MS sufferers usually appear alert.

## Other Medical Conditions

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



### *Other Medical Conditions*

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

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

## Behavioral Conditions

- Exercise
- Excitement
- Fear
- Anxiety
- Depression



### *Behavioral Conditions*

There are some behavioral conditions that may affect vital signs:

- Exercise
- Excitement
- Fear
- Anxiety
- Depression

## Seven Drug Categories - Review

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



### F. Introduction to the Seven Drug Categories

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

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

Based on this definition of “drug”, the DEC program divided drugs into seven categories. These drug categories are based on the observable signs and symptoms they produce. The following is a brief description of each category:

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



## Seven Drug Categories – Review (Cont.)

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



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

# Drug Indicator Matrix

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



## G. Blank Drug Indicator Matrix

# QUESTIONS?



## Session 5

# Observation of the Eyes and Additional Tests for Drug Impairment



## Learning Objectives

- **State the purposes of various eye examinations used in the ARIDE Curriculum, which includes Vertical Gaze Nystagmus (VGN), and Lack of Convergence (LOC)**
- **Discuss Vertical Gaze Nystagmus**
- **Discuss Lack of Convergence**



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

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

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

## Learning Objectives (Cont.)

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



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

### CONTENT SEGMENTS

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

### LEARNING ACTIVITIES

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

## Vertical Gaze Nystagmus (VGN)

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



### A. Discuss Vertical Gaze Nystagmus

*Discuss Vertical Gaze Nystagmus*

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



## Documenting Observations

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

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



### *Documenting Observations*

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

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

## Administration and Interpretation of Additional Roadside Sobriety Tests

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

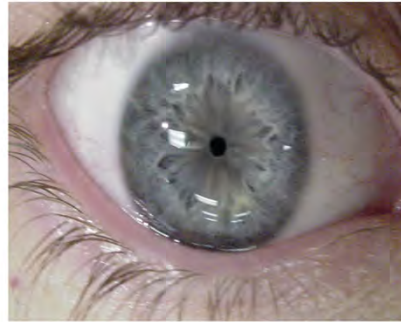


***Point out that certain drugs categories cause the pupils to react in specific ways.***

***Point out other drug categories usually do not cause those reactions.***

## Pupil Size Observation

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



### **B. Describe the Difference in Pupil Size**

#### *Pupil Size Observation*

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

- The pupil is basically a circular hole in the middle of the iris, which regulates the amount of light that passes through into the retina.
- The pupils of the eyes continually adjust in size to accommodate different lighting conditions and refocus according to focal length.
- When placed in a darkened environment, the pupils will normally expand in size, or dilate, to allow the eyes to capture as much light as possible.
- When the lighting conditions are very bright, the pupils will normally shrink or constrict, to limit the amount of light that passes through and to keep the eyes from being over stimulated.

## Limits on Constriction and Dilation

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



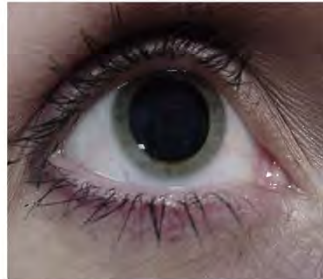
- This process of constriction and dilation normally occurs within certain limits.
- This course trains officers to recognize the noticeable differences in the pupils.
- When ingested, each of the seven drug categories has a predictable effect on the eyes, which will be discussed in the subsequent sections.

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

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

## Dilated Pupils

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



### *Dilated Pupils*

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

## Constricted Pupils

**When pupils are smaller than expected for the given lighting conditions, resulting in a very small opening in the center of the eye**



### *Constricted Pupils*

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

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

### ***Conduct practical exercise***

***Line participants up along a wall, have each individual participant walk down the line observing the pupils of each individual.***

***Line the participants up around the room and allow the participants to observe other participants pupils in various lighting conditions.***



## Lack of Convergence



### C. Discuss Lack of Convergence

*Lack of Convergence (LOC)*



## Lack of Convergence

**(LOC) is the inability of an individual to cross their eyes when focusing on a stimulus as it is moved towards the bridge of their nose**

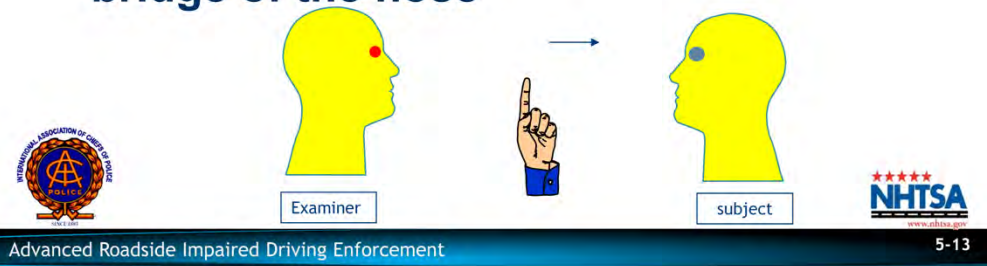


### *Definition of LOC*

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

## LOC Testing Procedure

- **Begin by moving the stimulus in a circle in front of the subject's face**
- **Observe the eyes to verify that the subject is tracking the stimulus**
- **Slowly move the stimulus in toward the bridge of the nose**



### *Administration of LOC*

#### Instructional Stage

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

***Remind the participants that prior to conducting the check for Lack of Convergence the DRE should determine if the subject to be tested routinely wears eyeglasses for reading and near visual task and if so, are the reading glasses available for the test. If so, ensure that the eyeglasses are worn for the check for LOC.***

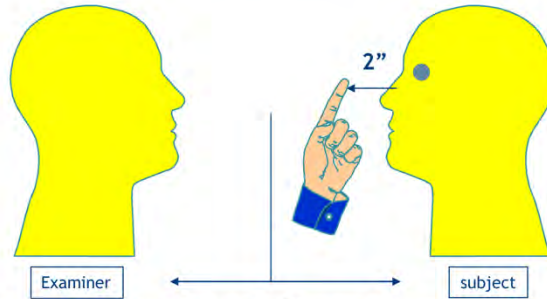
## Normal Convergence

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



### *Test Interpretation*

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



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



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

## Drug Categories That Usually Induce LOC

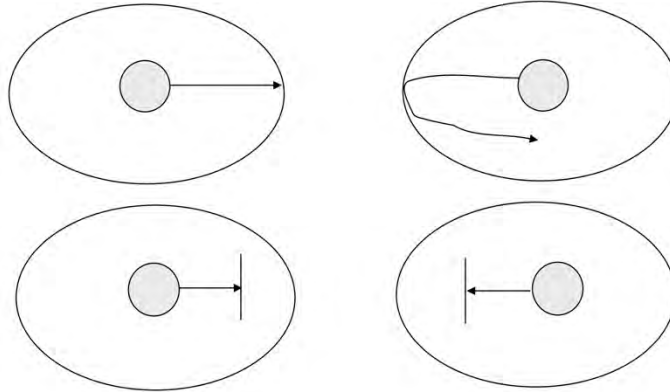
- **CNS Depressants**
- **Inhalants**
- **Dissociative Anesthetics**
- **Cannabis**



The following drug categories usually will induce Lack of Convergence:

- CNS Depressants
- Inhalants
- Dissociative Anesthetics
- Cannabis

## LOC Present



### *Left Eye Unable to Converge*

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

### *Both Eyes Unable to Converge*

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

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

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

### ***Conduct Practical Exercise***

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

***The participants should draw a picture of what the eyes did during the administration of LOC. Note: Eyelid and body tremors***

***Conduct PowerPoint exercise after the practical exercise is complete***



## Modified Romberg Balance Test

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



### **D. Modified Romberg Balance Test**

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

Since part of the Modified Romberg Balance test checks for balance, care should be taken to ensure the test is conducted on a level surface and in an environment, which is appropriate for this type of test when conducted at roadside.

***Emphasize that the officer must not instruct the subject as to how they are to estimate the passage of 30 seconds.***

***Point out that some drugs tend to "speed up" the subject's internal clock, so that the subject may open the eyes after only 10 or 15 seconds have gone by. Other drugs may "slow down" the internal clock, so that the subject keeps the eyes closed for 60 or more seconds. And, sometimes the drugs confuse the subject to the point where they won't remember to open the eyes until instructed to do so by the officer.***

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



## Three Parts of Modified Romberg Balance Test

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



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

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

## Stages of Modified Romberg Balance Test

- **Instruction stage**
- **Balancing stage**



There are two stages to the Modified Romberg Balance test:

- Instruction stage
- Balancing stage

## Instruction Stage

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



### *Administrative Procedures*

#### *Instruction Stage*

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

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

## Instruction Stage (Cont.)

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



### *Instruction Stage (Cont.)*

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

Note: Demonstrate this without closing your eyes.

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

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

7. Ask the subject if they understand the instructions.

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

## Balancing Stage

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



### *Balancing Stage*

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



## Balancing Stage (Cont.)

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



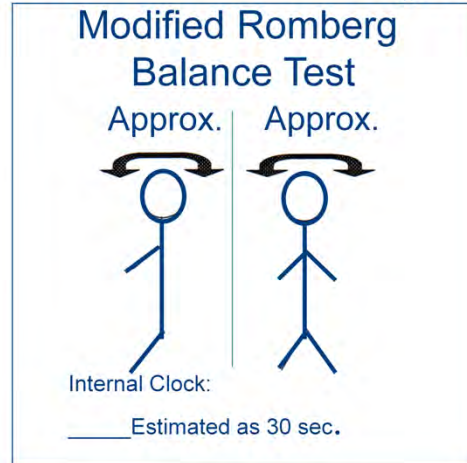
### *Balancing Stage (Cont.)*

6. When the subject opens his/her eyes ask, “How much time was that?”

Note: Make sure to document their “exact” verbal response.

7. Record how much time actually elapsed from the start of the test until the subject opened the eyes or was told to stop.

## Modified Romberg Balance Test Diagram



### *Instructor-Lead Demonstrations*

***One instructor should administer a complete Modified Romberg Balance test to another instructor.***

***Solicit participants' questions.***

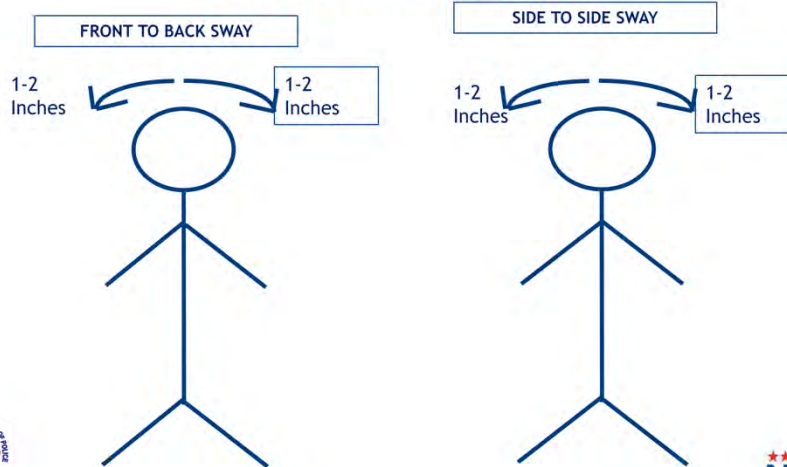
***Select a participant to participate in the demonstration.***

***The instructor should administer a complete Modified Romberg Balance test to the participant.***

***Thank the participant for his or her participation and solicit questions.***



## Test Interpretation and Documentation



### *Recording Results of the Modified Romberg Balance Test*

***Instruct participants to refer to the “Modified Romberg Test Diagram” in their participant manuals.***

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

- The amount that the subject sways.
- The actual amount of time that the subject keeps the eyes closed.
- To record swaying, the officer must estimate how many inches the subject sways, either front-to-back or left-to-right, or both.

Example: If the subject sways approximately two inches toward the left and approximately two inches toward the right, the officer should write the number “2” on each side of the “stick figure” that shows left-to-right movement. To record the subject’s time estimate, simply write the number of seconds that the subject kept his or her eyes closed.

## Relationships to the Categories

	CNS Dep.	CNS Stim.	Hall.	Dissoc. Anest.	Narc. Analg.	Inhalant	Cannabis
HGN	Present	None	None	Present	None	Present	None
VGN	Present (1)*	None	None	Present	None	Present	None
LOC	Present	None	None	Present	None	Present	Present
Pupil Size	Normal (2)*	Dilated (4*)	Dilated (4)*	Normal	Constricted	Normal (3)*	Dilated (4)*

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



### E. Relationship Between the Eye Observations and the Drug Categories

#### *Eye Observations*

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

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

We have included a chart to assist the law enforcement officer in recognizing signs of alcohol, drug, or a combination of both alcohol and drug impairment relative to eye observations.

This chart or any of the other information presented in this course relative to a specific drug category is not meant to encourage the officer to connect their observations to a specific drug category.

## Caution

- **Although effects displayed in the table are what you will usually find when observing a subject impaired by various types of drugs, you may not always find them**
- **Not everyone is affected the same way by drugs**



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

*Important Note: (Caution)*

*Although effects displayed in the table are what you will **usually** find when observing a subject impaired by various types of drugs, you **may not always** find them.*

*Not everyone is affected the same way by drugs. You need to remember this when describing drug effects. It is best "never to say never" and "always avoid saying always."*

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

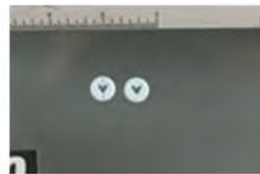
# QUESTIONS?



# Session 6



## Seven Drug Categories





## Learning Objectives

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



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

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

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

### Content Segments

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

### Learning Activities

- Instructor-Led Presentation
- Instructor-Led Presentation

## Learning Objectives (Cont.)

- Describe conditions which may mimic the signs and symptoms associated with each drug category
- List the indicators which may emerge during the three phases of the DWI detection process which may indicate the subject is under the influence of a drug(s)



- Describe conditions which may mimic the signs and symptoms associated with each drug category.
- List the indicators which may emerge during the three phases of the DWI detection process (vehicle in motion, personal contact and pre-arrest screening) which may indicate the subject is under the influence of a drug(s).

**Note: Ask class what the most used and abused drug is?**

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

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



## Seven Categories of Drugs

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



### **A. Overview of the Drug Categories**

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

*Seven Categories of Drugs:*

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

# Seven Drug Categories

## CNS Depressants



### *Identification of CNS Depressants*

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

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

## Alcohol - The Most Familiar CNS Depressant



***Pose question to class:***

***What body functions could depressants affect?***

## Identification of a CNS Depressant

**Depressants slow down the activity of an individual's brain and central nervous system**



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

## Identification of a CNS Depressant (Cont.)

CNS Depressants initially affect:

- Speech
- Coordination
- Mobility



The depressant category initially affects a persons functions:

- Speech
- Coordination
- Mobility

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

## Doses greater than Therapeutic levels

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

- **Heartbeat**
- **Blood Pressure**
- **Breathing**



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

The systems affected are:

- Heartbeat
- Body temperature
- Breathing

In addition to alcohol, the depressant category also includes:

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

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