



U.S. DEPARTMENT  
OF TRANSPORTATION

PB2009103452



# **DWI (Driving While Intoxicated) Detection & Standardized Field Sobriety Testing**

**February, 2006 Edition**

**Instructor Manual**





DWI (Driving While Intoxicated)  
Detection & Standardized Field Sobriety Testing  
Instructors Manual  
2006 Edition

U.S. DEPARTMENT OF TRANSPORTATION  
Transportation Safety Institute  
National Highway Traffic Safety Administration

HS 178 R2/06

DWI (Driving While Intoxicated) Detection & Standardized Field Sobriety Testing Instructors  
Manual 2006 Edition, April 2009

This Publication was prepared by the National Highway Transportation Safety Administration of  
the U.S. Department of Transportation and is distributed by the:

National Technical Information Service  
U.S. Department of Commerce  
5285 Port Royal Rd.  
Springfield, VA 22161

ISBN-13: 978-0-934213-66-0

DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING  
TRAINING GOALS AND OBJECTIVES

1. Ultimate Goal

To increase deterrence of DWI violations, and thereby reduce the number of crashes, deaths and injuries caused by impaired drivers.

2. Job Performance Objectives

As a result of this training, students will become significantly better able to:

- a. Recognize and interpret evidence of DWI violations.
- b. Administer and interpret standardized field sobriety tests.
- c. Describe DWI evidence clearly and convincingly in written reports and verbal testimony.

3. Enabling Objectives

In pursuit of the job performance objectives, students will be able to:

- a. Describe the tasks and decisions of DWI detection.
- b. Recognize the magnitude and scope of DWI-related crashes, injuries, deaths, property loss and other social aspects of the DWI problem.
- c. Discuss the deterrence effects of DWI enforcement.
- d. Discuss the DWI enforcement legal environment.
- e. Know and recognize typical vehicle maneuvers and human indicators symptomatic of DWI that are associated with initial observation of vehicles in operation.
- f. Know and recognize typical reinforcing maneuvers and indicators that come to light during the stopping sequence.

- g. Know and recognize typical sensory and other clues of alcohol impairment that may be discerned during face-to-face contact with DWI suspects.
- h. Know and recognize typical behavioral clues of alcohol impairment that may be discerned during the suspect's exit from the vehicle.
- i. Describe the role and relevance of psychophysical testing in pre-arrest screening of DWI suspects.
- j. Describe the role and relevance of preliminary breath testing in pre-arrest screening of DWI suspects.
- k. Know and carry out appropriate administrative procedures for validated divided attention psychophysical tests.
- l. Know and carry out appropriate administrative procedures for the horizontal gaze nystagmus test.
- m. Know and recognize typical clues of alcohol impairment that may be discerned during administration of standardized field sobriety tests.
- n. Describe the factors that may affect the accuracy of preliminary breath testing devices.
- o. Describe the elements of DWI prosecution and their relevance to DWI arrest reporting.
- p. Choose appropriate descriptive terms to convey relevant observations of DWI evidence.
- q. Write clear, descriptive narrative DWI arrest reports.

4. Additional Training Goals and Objectives

- a. If the four-hour (Introduction to Drugs That Impair) or eight-hour (Drugs That Impair Driving) modules are presented as part of the SFST training program, the goals and objectives for those modules are listed in the appropriate manuals.

DWI DETECTION AND STANDARDIZED  
FIELD SOBRIETY TESTING

ADMINISTRATOR'S GUIDE



## PREFACE

The Administrator's Guide provides an introduction and overview of the DWI Detection and Standardized Field Sobriety Testing (SFST) Training Program. The acronym "DWI" means driving while impaired **and is synonymous with the acronym "DUI", driving under the influence.** These terms refer to any and all offenses involving the operation of vehicles by persons under the influence of alcohol and/or other drugs. However, the focus of this curriculum is on the alcohol-impaired driver.

**The procedures outlined in this manual describe how the standardized field sobriety tests (SFSTs) are to be administered under ideal conditions. We recognize that the SFSTs will not always be administered under ideal conditions in the field, because such conditions will not always exist. Even when administered under less than ideal conditions, they will serve as useful indicators of impairment. Slight variations from the ideal, i.e., the inability to find a perfectly smooth surface at roadside, may have some affect on the evidentiary weight given to the results. However, this does not necessarily make the SFSTs invalid.**

Enforcement of alcohol impaired driving is a complex and demanding law enforcement responsibility sufficient to warrant a separate curriculum. This is not to deny or minimize the importance of detecting and arresting drivers impaired by drugs other than alcohol. Indeed, other materials (as referenced in this document) are available from the National Highway Traffic Safety Administration (NHTSA) to improve police officers' skills in **detecting** and **apprehending** drug impaired drivers.

In this regard NHTSA has developed two modules that address drug impaired driving:

- o **"Introduction to Drugs That Impair"** a four-hour overview of drugs other than alcohol that impair.
- o **"Drugs That Impair Driving"** an eight-hour module that provides officers with information on the general observable signs of drug impaired drivers. This module was developed to increase officer awareness of signs of drug impairment and the need to make referrals to Drug Recognition Experts.

Either module is an excellent add-on or follow-up to the DWI Detection and Standardized Field Sobriety Testing training program. Both are highly recommended. **HOWEVER, NEITHER WILL QUALIFY AN OFFICER TO SERVE AS A DRUG RECOGNITION EXPERT (DRE).**

All of the aforementioned impaired driving courses have been approved by the International Association of Chiefs of Police (IACP). National standards have been established by IACP to ensure consistency in the content, delivery, and application of the SFST and drug impaired training. The SFST standards are provided in this Administrator's Guide (see Appendix B).

For more information regarding these impaired driver detection programs, contact your State Office of Highway Safety or your NHTSA Regional Training Coordinator (See Appendices E and F).

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## A. Purpose of This Document

The Administrator's Guide is intended to facilitate planning and implementation of the DWI Detection and Standardized Field Sobriety Testing Course. The core course consists of 16 sessions with two "live" alcohol workshops.

The Guide outlines acceptable options to the "core" training procedures (see "How Flexible Is The Course?", Item 7, page 7). 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.

## B. Overview of the Course

### 1. For whom is the training intended?

Participants should be any officers responsible for DWI enforcement who will actually use all aspects of the training, especially the three standardized field sobriety tests - horizontal gaze nystagmus, walk-and-turn and one-leg stand. Officers selected to attend this training should be aware of the hazards caused by impaired drivers, are motivated to arrest those drivers and their duty assignments enable them to spend the time required to process DWI offenders will benefit substantially from this course.

Some law enforcement agencies have concluded that the subject-matter should be offered only to officers who have amassed substantial on-the-job experience in detecting and arresting impaired drivers. Other agencies have advanced equally strong arguments to support the position that the training is appropriate for recruit-level officers. Either assessment is left up to the individual agencies using this curriculum. However, all user agencies should note that the ability to maintain the skills learned in this course will rapidly diminish if they are not reinforced by frequent "street" application and occasional in-service training. This is not to imply that this training is so complex or confusing that it can only be mastered by exceptionally skilled officers. The techniques of DWI Detection and use of the Standardized Field Sobriety tests can readily be grasped by anyone of average competence, provided they are willing to devote the appropriate time and effort to study and practice.

2. What are the purposes of the training?

The fundamental purpose of this training course is to foster DWI deterrence, i.e., to dissuade people from driving while impaired by increasing the odds that they will be arrested and convicted. This course is based on the assumption that a principal reason for enforcing DWI laws is to deter those who might otherwise be tempted to break the law. If potential DWI violators believe that there is a real risk of being caught, it is reasonable to believe most will refrain from driving while impaired.

Police officers can't possibly detect and arrest all DWI violators. Not all who are arrested will be convicted and punished. However, officers can improve the skills that increase the chances of detecting, arresting, recording, and articulating gathering sufficient evidence to sustain a conviction.

The training is based on the premise that officers perform two fundamental tasks which affect the likelihood of apprehending and convicting impaired drivers. The first of those tasks is Detection. In this course, "detection" is defined as "the entire process of identifying and gathering evidence to determine whether a suspect should be arrested for DWI". DWI detection begins when an officer's attention is drawn to a particular vehicle or its operator. The precipitating events are unlimited. The initial "spark" that causes the officer to focus attention on the particular vehicle may carry with it an immediate, strong suspicion of the possibility of impairment; or, only a slight suspicion of the possibility of impairment; or, depending on the circumstances, no suspicion at all at that time. Regardless, it sets in motion a process in which the officer focuses on the particular individual and has the opportunity to observe and elicit additional evidence.

The detection process ends only when the officer formulates the decision either to arrest or not arrest the individual for DWI. That decision, is based on all of the accumulated evidence. Effective DWI enforcers do not leap immediately to the arrest/no arrest decision. Rather, they proceed carefully through a series of intermediate decisions, each of which can elicit evidence. The course clearly outlines each decision step.

Successful DWI detectors are those officers who know what to look and listen for, who have the skills to ask the right questions and to choose and use the right tests. They are highly motivated and apply their knowledge and skill whenever they contact someone who may be under the influence. In this way they tend to make more DWI arrests and gather the best possible evidence to support their charges.

The second basic task of effective DWI enforcement is Description. Just as detection is the process of collecting evidence, description is the process of articulating evidence. Successful description demands the ability to verbally convey evidence clearly and convincingly. The officer's challenge is to communicate observational evidence to people who weren't there to see, hear or smell the evidence themselves. The officer's tools are words. These words make up the written report and verbal testimony which the officer uses to "paint a word picture" when communicating with the prosecutor, the judge, the members of the jury, and the defense attorney. This skill allows these people to develop a sharp mental image that allows them to "see," "hear," and "smell" the evidence. Successful DWI describers have the verbal skills needed to use descriptive words and phrases to communicate their evidence clearly and convincingly.

This training will help officers become more skillful at detection and description, make more DWI arrests, and obtain more convictions. These actions will lead to greater DWI deterrence through less impaired driving and fewer crashes, injuries and deaths.

3. What will the participants get out of the training?

Participants will learn to: recognize driving behaviors and other indicators commonly exhibited by impaired drivers; become better detectors and better describers by improving their knowledge, attitudes and skills in detecting the impaired driver and articulating their observations; develop a better understanding of the tasks and decisions involved in the DWI detection process; recognize the magnitude and scope of DWI-related crashes, injuries, deaths and property loss, and other social aspects of the DWI problem; understand the deterrent effects of DWI enforcement; have a better understanding of the legal environment relevant to DWI enforcement and use of the three standardized field sobriety tests (SFST); know and recognize typical clues of alcohol impairment that may be detected during face-to-face contact with DWI suspects; know and perform the appropriate administrative procedures for the divided attention psychophysical tests; know and perform appropriate administrative procedures for the horizontal gaze nystagmus test; know and recognize typical clues of alcohol impairment that may be seen during administration of the SFSTs; understand the DWI prosecution requirements and their relevance to DWI arrest reporting.

4. What subject matter does the course cover?

The course presents a substantial body of information relevant to the entire DWI detection process, including the organization, presentation and articulation of the evidence gleaned from that process. It also presents supportive information to bolster the participants' awareness of the importance of effective DWI enforcement.

Key elements of the subject matter include:

- o The involvement of impaired driving in traffic crashes, deaths and injuries, both nationally and within the participants' state(s).
- o The concept of general deterrence of DWI, and evidence of the effectiveness of deterrence in reducing impaired driving.
- o Laws governing DWI and its enforcement within the participants' state(s).
- o The concept of detection as a three-phased process, with specific evidence-gathering and decision-making tasks in each phase.
- o The kinds of evidence of alcohol impairment typically associated with each phase of detection.
- o Concepts and principles of divided attention (psychophysical) testing.
- o Concepts and principles of Horizontal Gaze Nystagmus (HGN) testing.
- o Guidelines for processing suspects arrested for DWI, preparing arrest reports and delivering testimony in DWI trials.

5. What activities take place during the training?

The principal activity of this course is hands-on practice by the participants. In a variety of ways, they spend approximately three-quarters of the total training time actually doing various elements of the detection and description tasks. They observe video-taped presentations of vehicles and operators and gather evidence of impairment. They form decisions, i.e., to stop suspected impaired drivers, to request them to exit their vehicles, to administer standardized field sobriety tests, and to decide to arrest or not arrest them. They write narrative and other reports to document that evidence. They organize and testify to the evidence they have observed. Most significantly, they practice -- again and again -- administering and interpreting the standardized field sobriety tests.

Even though significant time is spent in lectures and demonstrations by instructors, the participants are active participants, never passive listeners.

Among the most important learning activities of the course are the following:

- o Video-taped presentations of vehicles and operators exhibiting indicators associated with the various phases of DWI detection. Participants view the tapes, then identifies and records the clues of possible impairment.

- o Brief "testimony" sessions are conducted where selected participants attempt to give clear, convincing verbal descriptions of the clues observed in the video presentations.
- o "Dry run" practice in administering standardized field sobriety tests. Participants work in small groups, taking turns administering Horizontal Gaze Nystagmus, Walk-and-Turn, and One-Leg Stand to each other.
- o "Controlled drinking" practice(s), in which participants administer the standardized field sobriety tests to volunteers (not members of the class) who have consumed various amounts of alcohol. Participants also practice observing, recording and interpreting test results during these sessions.
- o NHTSA/IACP approved video tapes of the three standardized field sobriety tests being performed by volunteer drinkers are available for options one and two only. These tapes allow participants to practice observing, interpreting and recording the tests.

**NOTE: The IACP strongly believes that conducting live alcohol workshops is the optimal way of achieving the learning objectives of this training.**

- o Report writing exercise, in which participants view a video tape of a simulated DWI detection/arrest sequence and prepare a detailed narrative report.
- o Moot court, in which selected participants "testify", based on the contents of their narrative reports.
- o Written tests, in which participants demonstrate their knowledge of the content subject matter.
- o A field sobriety proficiency examination, in which participants demonstrate their ability to administer Horizontal Gaze Nystagmus, Walk-and-Turn and One-Leg Stand tests.

6. How long does the training take?

The core curriculum consists of 16 sessions that span 22 hours, 45 minutes of instruction, excluding breaks. With additional brief breaks and meal periods, the course requires three full training "days". There is no need to conduct the training for three consecutive days, nor to adhere to a traditional 8:00am - 5:00pm class day schedule. For example:

- o There may be reasons to spread the course over a five-day period or conduct some sessions at night.
- o A five-day sequence, with an average of four-to-five hours' instruction each day, will afford the participants more independent study time and a better opportunity to assimilate the information presented.
- o Scheduling the "controlled drinking" practice sessions at night makes it easier to recruit volunteer drinkers. Also, it allows participants to practice administering the standardized field sobriety tests under more realistic circumstances (most impaired driving arrests occur at night). If weather permits, these practice sessions can be held outdoors to enhance realism.
- o Evening and nighttime training sessions are less susceptible to interruption. A court appearance could cause a student to be absent from a daytime class for several hours. Such absences cannot be tolerated in this course: there is simply no way that a student can achieve the training objectives if several hours of instruction or practice are missed. **SESSIONS MISSED DURING EXCUSED ABSENCES MUST BE MADE UP.**

The sequence and duration of the 16 session are listed below.

<b>Session</b>	<b>Title</b>	<b>Duration</b>
I	Introduction and Overview	30 Minutes
II	Detection and General Deterrence	50 Minutes
III	The Legal Environment	70 Minutes
IV	Overview of Detection, Note Taking and Testimony	50 Minutes
V	Phase One: Vehicle In Motion	90 Minutes
VI	Phase Two: Personal Contact	90 Minutes
VII	Phase Three: Pre-Arrest Screening	40 Minutes
VIII	Concepts & Principles of the Standardized Field Sobriety Tests	200 Minutes
IX	Test Battery Demonstrations	40 Minutes
X	"Dry Run" Practice	50 Minutes
XI	"Testing Subjects" Practice: First Session	120 Minutes
XII	Processing the Arrested Subject and Preparing for Trial	90 Minutes
XIII	Report Writing Exercise and Moot Court	90 Minutes
XIV	"Testing Subjects" Practice: Second Session	120 Minutes
XV	Review and Examinations	110 Minutes
XVI	Program Conclusion	50 Minutes

- o *Officers trained in the NHTSA/IACP-approved SFST curricula, prior to the below revision date, remain qualified to administer and interpret the SFSTs based on their previous training.*

7. How flexible is the course?

All of the training objectives are considered appropriate and essential for police officers who wish to become proficient at detecting evidence of DWI and at describing that evidence in written reports and verbal testimony. All of the subject matter is considered necessary to achieve those objectives. All of the learning activities are needed to ensure that the participants master the subject matter.

This curriculum normally takes about 24 hours to teach. To be recognized by IACP, regardless of hours, the student must have met all of the listed learning goals and performance objectives included in each of the 16 sessions.

This course is "flexible" in that it can easily be **expanded** since it does not cover all dimensions of DWI enforcement. For example, NHTSA has developed two modules addressing impairment by drugs other than alcohol. One module is approximately 4 hours in duration, the other module is approximately 8 hours. Both modules are designed to be completely compatible with this course and are excellent additions to the training whether taught independently or as an add-on.

In recognizing the limitation some agencies have in conducting live alcohol workshop, NHTSA sponsored research involving the use of video-tapes as an alternative training procedure (NOTE: See Attachment C). As a result of this research, NHTSA/IACP will now allow two options to the core curriculum:

OPTION ONE: To substitute NHTSA/IACP approved video tapes of "dosed" subjects for the first alcohol workshop (See Session XI-A) but to conduct the second alcohol workshop "live" as indicated in Session XIV.

OPTION TWO: To substitute NHTSA/IACP approved video tapes of "dosed" subjects for both live alcohol workshops (See Sessions XI-A and XIV-A).

It is critical to note that the purpose of this training is to ensure that participants become proficient in administering and interpreting the standardized field sobriety tests. **Therefore, if either option one or two is selected, each student must maintain a log of every SFST administered.**

Note: During training, the Standardized Field Sobriety Tests (SFST) must be administered each time exactly as outlined in this course. For field conditions, refer to page 1 of the Preface.

### C. Overview of the Curriculum Package

In addition to this Administrator's Guide, the curriculum package for the DWI Detection and Standardized Field Sobriety Testing course consists of the following documents and materials:

- o Instructor's Lesson Plans Manual
- o Visual Aids
- o Student Manual

#### 1. Instructor's Lesson Plans Manual

The Instructor's Lesson Plans Manual is a complete and detailed blue print of what the course covers and of how it is to be taught. It is organized into sixteen modules, each corresponding to one of the course's sessions.

Each module consists of a cover page, an outline page, the lesson plans, and master (paper) copies of the visual aids ("slides") referenced in the lesson plans.

The cover page presents the session's title and the total instructional time required to complete the session.

The cover page presents the session's title and the total instructional time required to complete the session.

The outline page lists the specific learning objectives of the session, i.e., what the participants will be able to do once they have successfully completed the session's learning activities. The outline page also lists the session's major content segments and the principal types of learning activities that take place during the session.

The lesson plans themselves are arranged in a three-column format.

- o The left column contains the training aides, i.e., time frames, visual aides, questions to be asked, etc.
- o The center column contains the "Content", i.e., an outline of what is to be taught.
- o The right column contains "Instructor Notes". They provide guidance concerning how the content is to be taught. The "Instructor Notes" specify, for example, how the instructor is to present the material, involve the participants in the presentation, oversee their practice and ensure that they assimilate the material.

Typical entries on the "Instructor Notes" pages cover:

- o The approximate amount of time to be devoted to each major content segment;
- o Points requiring special emphasis;
- o Specifications and procedures for the hands-on practice opportunities;
- o Personal notes.

The Instructor's Lesson Plans Manual serves, as a means of preparing the instructor to teach the course. Every instructor should review the entire set of lesson plans to become familiar with the content and learning activities and develop a clear understanding of how the course "fits together". Instructors are expected to become thoroughly familiar with every session they are assigned to teach, to prepare acetate copies of the overhead transparencies ("slides"), to assemble all "props" and other instructional equipment referenced in the lesson plans, and to augment the "instructional notes" as necessary to ensure that individual teaching styles and experiences are applied to the content and learning activities.

The Instructor's Lesson Plans Manual serves as an in-class reference document for helping to maintain the sequence and pace of presentations and other learning activities. However, the information contained in the outlines are not to be read verbatim to the participants.

## 2. Visual Aids

Four kinds of audio-visual aids are employed in this course.

- o Wallcharts
- o Dry-erase board/flip-chart presentations
- o "Slides" (PowerPoint slides)
- o Computer-generated presentations
- o Video tapes

The wallcharts are permanently-displayed items. They consist of sketches with brief captions intended to depict major themes and segments of the course. Wallcharts can be handmade, using colored marker pens, on flip-chart sheets.

The sketches and text must be large enough so that they may be viewed from any seat in the classroom.

Master (paper) copies of the recommended wall charts are included in the Instructor's Lesson Plans Manual. Those masters may be photocopied onto acetate to produce overhead transparencies. The transparencies, in turn, can be projected onto flip-chart sheets and traced with colored markers to produce the wallcharts themselves.

The dry-erase board/flip-chart presentations, as outlined in the lesson plans, are self-explanatory.

The "slides" or are simple graphic and/or narrative displays that emphasize key points and support the instructor's presentation. Paper copies of all "slides" referenced in the lesson plans are found in each module of the Instructor's Lesson Plans Manual. The instructor should supplement the slides with locally prepared materials wherever appropriate.

The computer-generated presentations include PowerPoint or other similar programs.

Video tape presentations are provided and referenced in the instructor lesson plans. For example, a 10-minute presentation entitled "Visual Detection of DWI", and a 12-minute video entitled "The Detection of DWI Motorcyclists" are used in Session V.

Other video presentations consist of brief encounters with impaired motorists. These segments cover vehicle in motion observations, face-to-face contacts, and standardized field sobriety testing. Each video taped contact provides the participants an opportunity to practice recognizing and documenting observational evidence of DWI. Subsequent to each contact, selected participants are called upon to practice "testifying" about their observations.

The remainder of the video-tape presentations are classroom lectures-and-demonstrations covering the three standardized field sobriety tests and the NHTSA/IACP approved video-tapes used as options to the controlled drinking workshops in Sessions XI-A and XIV-A. The video-tapes may also serve as a review for graduates of the course.

### 3. DWI Detection and Standardized Field Sobriety Testing Student Manual

The DWI Detection and Standardized Field Sobriety Testing Student Manual serves as a reference source for the course. It provides a set of summary notes on the topical contents of each session.

The Student's Manual is intended to be used during the entire 16 sessions.

## D. General Administrative Requirements

### 1. Facility Requirements

The presentation/demonstration sessions of the DWI Detection and Standardized Field Sobriety Testing course require a classroom with ample table/desk space for each student; an overhead projector and screen; a video tape player and one or more monitors easily visible to all participants; and, a dry-erase board and/or flip-chart. The classroom must have sufficient open space to permit realistic and clearly visible demonstrations of the standardized field sobriety tests. If possible, the participants' tables/desks should be arranged in a U-shaped format, so that the instructors can conduct their demonstration in the open space in the center.

The hands-on practice sessions and the proficiency examinations require additional space consisting of a large open area (free of any obstructions such as tables, chairs, etc.) in which teams of participants can work without interfering with each other. It must be possible to mark straight lines 12 to 15 feet long on the floor to facilitate practicing the Walk-and-Turn test (i.e., strips of easily removable tape). If weather permits, these practice sessions can be held outdoors to enhance realism.

The live "Testing Subjects" Practice Sessions (XI and XIV) require a separate room for the volunteer drinkers and use of one or more accurate breath testing instruments devices for monitoring their blood alcohol concentrations (BACs).

## 2. Instructor Qualifications

SFST instructors **MUST** have successfully completed the NHTSA/IACP approved Standardized Field Sobriety Testing (SFST) training program or its equivalent, and have experience in administering the SFSTs as well as providing testimony in court in the area of DUI/DWI enforcement. Dedicated, qualified instructors are critical to the continued success of the SFST program.

SFST instructors are responsible for observing, evaluating and verifying the performance of SFST candidates throughout the training process. Therefore, only persons experienced in the administration of the SFST battery should become instructors in the SFST training program.

If additional instructors are needed, at least one should be experienced in conducting an alcohol workshop. A ratio of at least one instructor for every 6 participants is recommended. Their responsibilities include coaching participants during the various hands-on practice sessions, and conducting the proficiency examinations during Session XV. All instructors must be fully proficient in administering the standardized field sobriety tests. It also may be beneficial to recruit an experienced DWI prosecutor to assist in conducting certain segments in Session III, The Legal Environment, Session XII, Processing the Arrested Subject and Preparing for Trial, and Session XIII, Report Writing Exercise and Moot Court.

It is preferred that instructors for the **four-hour** "Introduction to Drugs That Impair" module be Drug Recognition Experts. The instructors for the **eight-hour** module "Drugs That Impair Driving" must be DRE instructors or SFST instructors who are certified DREs.

## 3. Class Size Considerations

This course is a highly participative learning experience. Participants need to have ample opportunities to practice applying the skills they are trying to learn; (i.e., observing, testifying, reporting and administration of the standardized field sobriety tests). Participants need substantial individual attention during practice sessions.

The recommended maximum class size is 24 participants. An ideal range would be 15-21.

## E. Guidelines for Controlled Drinking Practice Sessions

The SFST core curriculum requires the participation of volunteers who will consume carefully measured quantities of alcohol and submit to standardized field sobriety tests administered by the participants. Drinking volunteers are an essential resource for the core curriculum. Therefore, careful steps must be taken to ensure the volunteers' safety as well as their contribution to a worthwhile learning experience.

**NOTE: WEAPONS ARE NOT PERMITTED IN THE VICINITY OF ANY DRINKING VOLUNTEER.**

### 1. Criteria to be considered when selecting volunteer drinkers:

- o They cannot be members of the class.
- o **THEY SHOULD NOT BE LAW ENFORCEMENT OFFICERS.**
- o They must be verified to be at least 21 years old, but not over 65 years old.
- o They cannot have any history of alcoholism.
- o They cannot be known to suffer from any medical condition that may be exacerbated by alcohol (such as hypertension or diabetes).
- o They cannot be taking any medication (prescription or otherwise) that might adversely interact with alcohol.
- o They should be in good physical health.

### 2. Managing the Volunteer Drinkers

Transportation must be provided for the volunteers to and from the training session. Under no circumstances may volunteers be permitted to drive from the training session, regardless of their blood alcohol concentration (BAC) at the time of departure. Volunteers should be released only into the custody of responsible, sober persons.

It is suggested that there be a minimum of one drinking volunteer for every three to five participants.

From the time of their arrival until safely disposed of, volunteers must be kept under constant supervision. It is suggested that at least one monitor be present for every four volunteers. Volunteer must be paired with a monitor of the same sex. The aides must monitor the volunteers, serve their drinks, make sure they comply with the schedule, and kept under close observation.

**THE EFFECTIVENESS OF THE VOLUNTEERS AS TRAINING RESOURCES DEPENDS ON THEIR BLOOD ALCOHOL CONCENTRATIONS. IDEALLY, VOLUNTEERS AT ANY SESSION SHOULD ACHIEVE PEAK BACS BETWEEN 0.06 AND 0.14.**

Volunteers should be instructed to refrain from eating two hours prior to their arrival at the training facility. Food in their stomachs may affect the absorption of alcohol into their bloodstreams, and impede your ability to control their BACs.

Volunteers should be brought to the training facility a minimum of three hours before the practice session is scheduled to begin. Each volunteer should be breath tested, have their pulse, blood pressure, and HGN checked and recorded.

NOTE: Additional time may be needed for administrative procedures.

3. Guidelines for achieving target BACs.

The table below indicates the ounces of 80-proof distilled alcoholic beverage that volunteers should consume, in relation to their weight and the "target" peak BAC, during a three (3) hour interval.

<u>Weight (Pounds)</u>	<u>MEN</u>	<u>WOMEN</u>
110	5	4
120	6	5
130	6	5
140	7	5
150	7	6
160	8	6
170	8	7
180	9	7
190	9	7
200	10	8
210	10	8
220	10	8

230	11	9
240	11	9
250	12	10

It is suggested that volunteers consume half of the total allocated amount of alcoholic beverage during the first hour. They should refrain from drinking or smoking prior to any breath test.

NOTE: A volunteer may cease drinking at any time.

#### F. Course Administrative Planning and Preparation Requirements

Course administrative planning and preparation tasks are to:

1. Select officers whom you expect to devote substantial amounts of time to DWI enforcement.
2. Identify the learning objectives that are appropriate for your participants.
3. Tailor the instructional material, as appropriate, to conform to your learning objectives.
4. Select instructors and assign them to teach specific sessions of the course. Review the lesson plans and visual aids with the instructors. Give them sufficient time to prepare.
5. Prepare the instructional facilities by arranging the classroom seating format. Secure the necessary audio visual equipment and materials.
6. If the core curriculum or option one (1) is selected, recruit volunteer drinkers. Arrange for their supervision and transportation and secure the necessary supplies needed for the alcohol workshop(s).

#### G. Standards for Course Completion

In order to successfully complete this course of instruction, participants must pass the written examination and demonstrate proficiency in administering and interpreting the standardized field sobriety tests.

##### 1. The Written Examination

A written knowledge examination (post-test) is in the lesson plans for Session XVI. This test focuses on the administrative and interpretation procedures for the standardized field sobriety tests. Participants must achieve a grade of 80% to successfully complete this training.

NOTE: For retesting requirements refer to IACP National Standards, Section 1.4. (Appendix B)

## 2. Assessing Student Proficiency

Instructors must decide whether individual participants are proficient with the standardized field sobriety tests. This is accomplished by the following:

- o The lesson plans for Session XV (Review and Examinations) set forth a procedure for testing each student's ability to administer the three standardized field sobriety tests properly. "Passing" this test requires that the participants administer the complete test battery at least once, in an instructor's presence, without deleting or erroneously performing any of the critical administrative elements of the tests.

## H. Student Critiques

A student Critique Form is provided to document their ratings of course content and activities at the conclusion of the training. Evaluation of these critiques by the instructors and course coordinator is critical for maintaining a high degree of achievement in learning and delivery. The form is divided into eight parts:

- o Training Objectives
- o Workshop Sessions and Quality of Instruction
- o Course Design
- o Topic Deletions
- o Topic Additions
- o Overall Course Rating
- o Quality of Instruction
- o Final Comments or Suggestions

## I. SFST Field Evaluations

The DWI enforcement performance of officers completing this training should be monitored and evaluated on a regular basis (e.g. every six months). This assessment should examine such factors as:

- o The number of DWI arrests recorded by the graduate.
- o The average BAC of those arrests.
- o The percentage of arrests resulting in DWI conviction.

This information should help document the utility of the course, identify officers who may need refresher training, and secure continuing command-level support for the training.

IACP and NHTSA strongly recommend that officers document all administrations of standardized field sobriety tests. At a minimum, this documentation shall include subject's name, date, results of each test, the officer's classification of subject's BAC and measured BAC, if available. A sample log is included in Session VIII.

**NOTE: If options utilizing video-taped subjects have been used, maintaining the SFST Field Arrest Log is mandatory and extremely important.**

**REMINDER: Only the IACP/NHTSA options tapes are approved for the SFST instruction.**

J. Requests for Information, Assistance or Materials

Please contact your state's Office of Highway Safety, and/or your NHTSA Regional Training Coordinator for help in planning and conducting this training. (See Appendices E or F)



## SYNOPSIS OF THE SFST CURRICULUM

### An Overview of the 16 Sessions

#### Session I - Introduction and Overview

This session has three Segments: "Welcoming Remarks and Objectives", "Administrative Details", and "Pretest".

Give a brief welcome and introduction. Briefly describe your credentials for providing SFST training and carefully state the goals and objectives of the course. This is a **preparation** step, focused in the **cognitive domain** of learning. During this segment have the participants introduce themselves and print their names clearly on name tentcards, so that you will be able to call on them by name.

Next, you must attend to some essential "housekeeping duties", e.g., by notifying participants of the schedule that will be followed, pointing out the locations of rest rooms, lunch rooms, etc.

The final segment is an **evaluation** step in the **cognitive domain**. You will have your participants complete a 10-question pre-test that will allow you to assess how much they already know about DWI Detection and the SFSTs.

#### Session II - Detection and General Deterrence

This session has five Segments: "The DWI Problem", "Physiology of Alcohol", "Concept of General Deterrence", "Relating Detection to Deterrence Potential", and, "Evidence of Effective Detection and Effective Deterrence". In most of these segments, you will present and discuss with your participants some statistical information, which involves the **affective domain**, or attitudes. The second segment, Physiology of Alcohol, is a presentation step in the cognitive domain. It gives participants a brief overview of the nature and affects of alcohol. In this session you will help your participants reach some very important conclusions at the outcome of the course:

First, they will realize that impaired driving is responsible for the deaths and serious injuries of thousands of people in their own states. They have to believe that it is a serious problem that must be solved.

Second, they have to believe that many of the people who drive while impaired will stop doing that, at least some of the time, **if they fear getting caught**. Your participants must see that we can create the fear of being caught.

Finally, they have to believe that this notion of deterrence through fear of arrest really does work. You can show them evidence that it has worked in the past and you can show them how to make it work in the future.

This session is an essential preparation step for the remainder of the training. The participants must realize why it is important for them to improve their skills at DWI detection. But if they don't see the value of what you want them to learn, their learning efficiency will be low.

### **Session III - The Legal Environment**

This session has five Segments: "Basic DWI Statute", "Implied Consent Law", "Illegal Per Se Statute", "Preliminary Breath Testing", and, "Case Law Review".

The entire Session is a **presentation** step in the **cognitive domain**. It is designed to satisfy the well-recognized fact that "you can't enforce the law unless you know the law". The first four segments cover specific types of legislation that either define impaired driving offenses or that regulate the enforcement and prosecution of those offenses. It is the instructor's job to clarify those laws for the participants, so they will understand what they have to prove and how they have to prove it when they arrest someone for impaired driving. Because these laws vary from state to state, **you may have to modify the content of the first four segments to ensure that the information presented accurately reflects the statutes of your participants' jurisdictions.**

The final segment, "Case Law Review" focuses on how courts in various states have treated horizontal gaze nystagmus. You will need to clarify these decisions for your participants so that they understand how they must introduce HGN evidence to ensure its admissibility.

### **Session IV - Overview of Detection, Note Taking and Testimony**

This session is an important **preparation-plus-presentation** step in the **cognitive domain**. It has three Segments. In the first segment, "Three Phases of Detection", you will define an important concept of DWI Detection for your participants. This concept views detection as a continual process of evidence gathering that ends in the arrest decision. The concept forms the basis for nearly all of the sessions that follow. In the second segment, "DWI Investigation Field Notes", you will introduce the participants to a standard note taking guide that they will use in several subsequent hands-on practice sessions. In the final segment, "Courtroom Testimony", you will review requirements and procedures for presenting observed evidence of DWI violations.

## Session V - Phase One: Vehicle in Motion

This session is the first of several sessions in which you will **explain and demonstrate** techniques of detection and testimony, and subsequently coach your participants while they **practice** using those techniques. Both the **cognitive** and **psychomotor domains** of learning are involved.

Session V has five Segments. The first, "Overview: Tasks and Decisions", is a **preparation** step that defines what the patrol officer is supposed to do during the first phase of DWI Detection. The second segment, "Initial Observation: Visual Cues of Vehicle Operation", is a **presentation** step in which you explain and give concrete examples of the most reliable initial indicators of impaired driving. You will introduce fundamental concepts of alcohol impairment in this segment, and you will show two video tapes that portray what research has shown to be the most common visual cues of DWI.

The third segment, "Initial Cues, Recognition and Description", is a **coaching and practice** step. Specifically, your participants will watch video segments of vehicles exhibiting possible indicators of impaired driving, and they will attempt to recognize those indicators and to describe them clearly and convincingly in written notes. Following each video segment, you will select a student who will attempt to give a clear and complete **verbal** description of the observations in a simulated courtroom setting.

In the fourth segment, "Typical Reinforcing Cues of the Stopping Sequence", you will explain and give examples of the kinds of indicators of impairment that may be observed when an officer signals a driver to stop. This sets the stage for the final segment, "Initial and Reinforcing Cues, Recognition and Description". Here again, participants watch video segments of vehicles exhibiting some initial cues of DWI, and subsequently responding to an officer's stop command. The participants attempt to compile accurate and clearly descriptive notes on their observations of the video segments. You choose representative participants to offer verbal descriptions of the observations.

## Session VI - Phase Two: Personal Contact

This session is very similar in structure to Session V. Here again we are involved with both the **cognitive** and **psychomotor domains**, and we conduct the **preparation, presentation** and **coaching and practice** steps of the teaching-learning process. Our focus now, however, is on the recognition and description of clues of impairment that come to light after the suspect's vehicle has come to a stop and the officer comes into face-to-face contact with the suspect.

The first of the six segments of Session VI is "Overview: Tasks and Decision". In that segment, you set the stage by explaining what it is that the officer is supposed to do during initial personal contact with a possible DWI violator. In the second segment, "Typical Investigation Cues of the Driver Interview", you explain and give examples of evidence that officers may obtain through their sense of sight, hearing or smell. In the third segment, "Recognition and Description of Investigation Cues", your participants view a video segment that gives an opportunity to practice recognizing some clues. Subsequently, some members of the class are called upon to "testify" about those observations.

The fourth segment is "Interview/Questioning Techniques". Here, you explain and give demonstrations of simple procedures for questioning suspects that **divide their attention**, in an effort to elicit additional evidence of impairment.

The fifth segment is "Typical Clues of the Exit Sequence". In this segment, you explain and give examples of evidence that might be seen or heard when a suspect responds to an officer's request to exit the vehicle and proceed to roadside. Then, your participants view a brief video that portrays a typical exit sequence, and they practice recognizing and describing the cues exhibited in that sequence.

The final segment is "Recognition and Description of Initial, Reinforcing and Investigation Clues". This is an additional **coaching and practice** segment, in which participants view two video segments in order to recognize and describe the evidence portrayed. These videos are somewhat longer than the ones shown earlier, because they depict the initial sight contact with the vehicles, the stop command and the subsequent stopping sequence, the first face-to-face contact between officer and suspect, the interview of the suspect while still seated in the vehicle, and the exit sequence.

## **Session VII - Phase Three: Pre-Arrest Screening**

This session is a **preparation and presentation** step in the **cognitive and psychomotor domains**. It is in this Session that you first introduce the participants to the administrative procedures for the three standardized field sobriety tests.

The first segment, "Overview: Tasks and Decisions", is a **preparation** step, in which you explain what officers should do when employing SFSTs and preliminary breath tests (if applicable) to investigate suspected DWI violators.

In the second segment, "Divided Attention Tests: Concepts and Examples", you explain the fundamental concept of **divided attention** and its relationship to alcohol impairment, and you give several concrete demonstrations of tests that employ the concept. The two most important of those demonstrations focus on Walk-and-Turn and One-Leg Stand.

The third segment, "Horizontal Gaze Nystagmus: Concept and Demonstration", and the fourth segment, "Vertical Gaze Nystagmus", constitute the participants' initial exposure to **nystagmus**. You explain the phenomenon, and relate it to impairment by alcohol. You give initial demonstrations of administrative procedures for HGN. **Note** this is a very brief introduction to nystagmus the instructor is only setting the stage for Session VIII.

In the fifth segment, "Advantages and Limitations of Preliminary Breath Testing", you will explain the role of PBTs in the DWI Detection process. While you need to do a thorough job in explaining how PBTs can help officers arrive at appropriate arrest/no arrest decisions, it is important that you do not oversell this technology. PBTs need to be presented in their proper context, i.e., something that can help corroborate officers' observations. They must not be viewed by participants as the sole or most important basis for the arrest decision (optional if PBTs are not allowed in your state).

The final segment is "The Arrest Decision". At this time you will briefly review all of the evidentiary concepts covered in Sessions V, VI and VII, and you will stress the importance of basing the arrest decision on all of the evidence gathered during all three phases of DWI Detection.

## **Session VIII - Concepts and Principles of the SFSTs**

In this session you fully explain and repeatedly demonstrate the three SFSTs. It is also at this time that participants begin to practice administering these tests. All three domains of learning, **knowledge, skills and attitudes**, come into play.

The first segment, "Overview: Development and Validity", is a **preparation** step in the **affective** domain. Your goal is to convince your participants that it is worthwhile to learn and use the SFSTs because they have scientific validity, a commodity not shared by any other field sobriety tests.

The second segment is "Horizontal Gaze Nystagmus (HGN)". Here, you present each of the three validated clues of HGN in sequence: Lack of Smooth Pursuit; Distinct and Sustained Nystagmus at Maximum Deviation; and, Onset of Nystagmus prior to 45 Degrees. You demonstrate the proper method of checking for each of these clues and, monitor brief but productive intervals during which your participants practice checking for each clue. You also explain how to interpret the results of an HGN test, i.e., to evaluate whether or not a suspect is impaired based on the HGN clues, and you explain the scientific validity associated with the interpretation of HGN clues.

The third segment, "Walk-and-Turn", is identical in structure to the preceding segment. You explain and repeatedly demonstrate the instructional procedures for administering Walk-and-Turn. You involve participants in these demonstrations, and you coach the participants in properly giving the verbal instructions and physical demonstrations that must accompany the administration of this test. You explain the eight validated clues of impairment for Walk-and-Turn, and you explain how to interpret those clues in accordance with the findings of the validation research. You will set up and monitor practice intervals in which the participants will administer the Walk-and-Turn.

The fourth segment is "One-Leg Stand". It is structured in much the same way as the second and third segments. You will explain and demonstrate how One-Leg Stand is administered. You will explain the four validated clues of impairment for One-Leg Stand, and you will explain how to interpret those clues in accordance with the validation research. You will set up and monitor practice intervals during which the participants will practice administering the One-Leg Stand.

In the fifth segment, "Limitations of the Three Tests", you will explain the circumstances under which each of the SFSTs **might** not be reliable indicators of alcohol impairment.

In the final segment, "Taking Field Notes on the SFSTs", you will explain how to record the observed clues.

## **Session IX - Test Battery Demonstrations**

This session is a **presentation** step in the **psychomotor domain**. Here, you will conduct several complete and careful demonstrations of how the three SFSTs are administered and interpreted. The Session has two Segments. The first is "Live Classroom Demonstrations". You will conduct two complete demonstrations of the three tests, using participants as the test "subjects". Then, you will "talk" a student through a complete demonstration, using another student as the "subject".

The second segment is "Videotape Demonstrations". This videotape demonstrates the correct administration of the Standardized Field Sobriety Tests.

### **Session X - "Dry Run" Practice Session**

This session is a **coaching and practice** step in the **psychomotor** domain. You will assign participants to work in teams, taking turns administering the three tests to one another. You will monitor their work, and provide constructive criticism and commendations, as appropriate.

### **Session XI and Session XI-A - "Testing Subjects" Practice: First Session**

The core curriculum requires a live drinking session. This two-hour session ends the second day of training. It is a **coaching and practice** step in the **psychomotor** domain. Again, you will assign the participants to work in teams. But, instead of testing each other, they will administer the tests to a group of volunteer drinkers **who are not members of the class** and who have been recruited especially for this purpose. The participants will carefully record, and interpret, the volunteers' performance of the tests, and will assess each volunteer's impairment. In the final segment of this Session, "Session Wrap-up", participants will report their assessments of the volunteers, and will be informed of the volunteers' BACs. (Instructions for "dosing" volunteers are in the Administrator's Guide, page 15).

For Options One and Two participants will view the NHTSA/IACP approved video tapes designated for this session. This two hour Session ends the second day of training. It is a **coaching and practice** step in the **psychomotor** domain. You will assign the participants to work in teams. They will practice administration of the SFST on another student, view the video tapes, assess the video-taped subjects' impairment, and record their observations. In the final segment of this Session, "Session Wrap-up", participants will report their assessments of the taped subjects, and will be informed of the subjects' BACs.

**NOTE: The IACP strongly recommends using the core curriculum.**

### **Session XII - Processing the Arrested Suspect and Preparing for Trial**

This session is a **presentation** step in the **cognitive** and **psychomotor** domains. In the first of its five Segments, "The Processing Phase", you will review the tasks officers are supposed to perform when processing persons arrested for DWI. Since these tasks vary somewhat from agency to agency, **you may have to modify the content of this first segment.**

In the second segment, "Preparing the DWI Offense/Arrest Report: Documenting the Evidence", you will overview the kind of information officers should include in their DWI reports. Participants will view a nighttime DWI stop and arrest scenario. They will record their observations on a DWI Investigation Field Notes form. In the third segment, "Narrative DWI Arrest Report", you will present and explain a model report writing format. The narrative DWI Arrest Report will be based on the participants DWI Investigation Field Notes Form.

The fourth segment is "Case Preparation and Pretrial Conference". You will explain the things officers should do in preparing to testify in DWI cases, and you will emphasize the role of the pretrial conference with the prosecutor in trial preparation. You will show a video tape of a pretrial conference, and discuss the strengths and weaknesses of the officer's preparation with your participants.

The final segment is "Guidelines for Direct Testimony". You will present and explain some "dos and don'ts" of testimony in DWI cases. You will show a video segment of a prepared officer. You will discuss the officer's performance with your participants.

### **Session XIII - Report Writing Exercise and Moot Court**

This session is a **coaching and practice** step in the **psychomotor** domain. In the first segment, "Procedures and Assignments", you will inform the participants that they will view a video portrayal of a typical DWI detection-to-arrest sequence, and must then write a narrative report on that sequence, using the model report format presented in Session XII. In the second segment, "Report Writing Exercise", you will show the video and participants will write their reports.

In the final segment, "Moot Court Exercise", two participants will be selected to "testify" about this "arrest" in a Moot Court setting. **Please note** that the participants selected to testify will do so independently of one another, and they will each be "sequestered" during the other's testimony.

### **Session XIV and XIV-A - "Testing Subjects" Practice: Second Session**

The core curriculum and Option One require this session to contain a live drinking workshop. The procedures for this session are identical to Session XI.

For Option Two participants will view the NHTSA/IACP approved video tapes designated for this session. The procedures for this option are identical to those in Session XI-A.

NOTE: The IACP strongly recommends using the core curriculum.

## Session XV - Review and Proficiency Examinations

This session is a **coaching and practice** and **evaluation** step in the **psychomotor** domain. You will select participants to administer the complete SFST battery, they will also explain and interpret the validated clues for each test. You will constructively critique the participants' demonstrations and explanations, as appropriate. Then, you will show a video segment demonstrating the proper administration of a Standardized Field Sobriety Test. Next, you will formally **test** each student's ability to administer the three tests properly. **Participants may not receive a certificate of completion of this training until they have "passed" the proficiency examination.**

## Session XVI - Written Examination and Program Conclusion

This session is an **evaluation** step in the **cognitive** and **affective** domains. The cognitive evaluation is based on a written examination. The passing grade is 80%. The affective evaluation is based on an anonymous critique form that participants will complete.



*NATIONAL STANDARDS*

*FOR THE*

***STANDARDIZED FIELD SOBRIETY TESTING (SFST)***

*PROGRAM*

Presented by

The International Association of Chiefs of Police  
515 North Washington Street  
Alexandria, Virginia 22314  
703/836-6767

A product of the  
International Association of Chiefs of Police  
Advisory Committee on Highway Safety  
with support from the  
National Highway Traffic Safety Administration

Issue Date  
April 7, 1995

# STANDARDS FOR THE STANDARDIZED FIELD SOBRIETY TESTING (SFST) PROGRAM

## Executive Summary

Since the mid-1970s, the National Highway Traffic Safety Administration (NHTSA), with the cooperation and assistance of the law enforcement community, has conducted research that resulted in the development of a battery of three standardized field sobriety tests (horizontal gaze nystagmus, walk-and-turn, and the one leg stand) to assist police officers in detecting impaired drivers. The program, which was previously termed Improved Sobriety Testing, was initially developed by the Los Angeles Police Department and was validated in laboratory and field studies conducted by the Southern California Research Institute. Training in how to conduct the tests is included in the NHTSA course DWI Detection and Standardized Field Sobriety Testing.

In 1986, the Advisory Committee on Highway Safety of the International Association of Chiefs of Police (IACP) passed a resolution which recommended that law enforcement agencies adopt and implement the field sobriety testing training program developed by NHTSA. As the program has grown, it has become apparent that in order to insure continued success, nationally accepted standards must be established. These standards, which establish criteria for the selection and training of SFST practitioners, would help insure the continued high level of success of the SFST program. In 1992, the IACP Highway Safety Committee recommended the development of this system of nationally accepted standards.

In April of 1992, the IACP and NHTSA sponsored a meeting at the headquarters of IACP in Arlington, Virginia. Persons invited to this meeting included senior SFST instructors from several states, curriculum specialists, and training administrators. The participants met in working groups to reach a consensus concerning the many issues relating to the SFST program and to develop recommended minimum standards to the IACP Advisory Committee on Highway Safety. The standards were drafted and presented to the committee for their review at the midyear meeting in June 1992.

The Advisory Committee on Highway Safety, by resolution, adopted the national standards for the SFST Program. The standards were subsequently approved by voting membership of the IACP.

Presented in this document are standards specifying the requirement for selection and training of SFST practitioners and SFST instructors.

## **I. STANDARDS FOR TRAINING IN STANDARDIZED FIELD SOBRIETY TESTING**

Standards in this section specify the criteria which must be met prior to an individual's completion in the Standardized Field Sobriety Testing (SFST) Program. These criteria outline the knowledge and skills required to be considered for training, as well as the knowledge required for completion of the program.

The current approved curriculum involves a three-day training program. Prior to beginning the training program, participants should have an interest in traffic law enforcement with an emphasis on DUI/DWI. During this training, participants are taught to administer and interpret the results of the SFST battery, including horizontal gaze nystagmus (HGN), walk-and-turn and the one-leg-stand.

Upon completion of this classroom training, the student must pass a comprehensive written examination and successfully complete a proficiency examination witnessed by an SFST instructor.

### **1.1 In order to be considered for training in the SFST, a person shall be employed and under the direct control of a public criminal justice agency or institution involved in providing training services to law enforcement agencies.**

*Commentary:* At the discretion of the agency head or administrator, and with consent of the training authority, other persons may audit or observe any or all portions of the SFST training.

### **1.2 SFST participants shall complete an approved classroom training course which shall, at a minimum, achieve the learning objectives as stated in the IACP-approved training curriculum.**

*Commentary:* This curriculum normally takes about 24 hours to teach. To be recognized by IACP, regardless of hours, the student must have met all of the listed learning goals and performance objectives included in each of the 16 sessions.

Because of the differences in the type and level of training for officers in the detection of impaired substances, agencies should determine the most effective means of providing classroom training in SFST. However, in order to maintain the credibility and integrity of the program, agencies that use a training program other than that currently approved by the IACP must have the alternative curriculum approved by the IACP Advisory Committee on Highway Safety as meeting the required learning objectives. In addition, the IACP Drug Evaluation and Classification Program Technical Advisory Panel, an advisory arm of the Advisory Committee on Highway Safety, will be responsible for providing periodic updates and modifications to the IACP-approved training curriculum. Presently, the core SFST training course is 24 hours in length and includes at least two controlled drinking sessions utilizing volunteer drinkers, (i.e., "live alcohol workshops"). Acceptable options to the "live" workshops involving the use of videotapes have been approved. The acceptable alternatives are (1) to substitute NHTSA/IACP approved videotapes of "dosed" subjects for the first alcohol workshop, but to conduct the second alcohol workshop "live"; or (2) to substitute NHTSA/IACP approved videotapes of "dosed" subjects for both alcohol workshops.

*It is critical to note that the purpose of this training is to ensure that participants become proficient in administering and interpreting standardized field sobriety tests. NHTSA and IACP recognize the limitations some agencies have in conducting live alcohol workshops. If either option is selected, each student must maintain a log of each SFST administered.*

**1.3 All SFST candidates shall attend and complete all classroom portions of an approved SFST curriculum. This shall include satisfactorily completing all assignments and required examinations. Participants shall not be permitted to “test out” of portions of the training nor shall they be permitted to attend only those classes that they have not previously completed.**

*Commentary:* Class sessions missed should be made up at the earliest possible time.

**1.4 In order to satisfactorily complete the classroom portion of the training, SFST candidates must complete the IACP-approved final examination with a score of not less than eighty percent (80%). Candidates scoring less than 80% on the final may be retested one time under the supervision of an SFST instructor. The retest shall be completed not less than 15 nor more than 30 days following the completion of the classroom training.**

*Commentary:* The examination used to retest the candidate shall be an IACP-approved examination and shall not have been administered to the candidate previously. If the candidate does not achieve a passing score on reexamination, the candidate must retake the classroom portion of the training and pass the final examination.

**1.5 Upon completion of training, the candidate must demonstrate the ability to administer the SFSTs in the approved sequence and appropriately document and interpret the results.**

*Commentary:* One of the primary factors in the success of the SFST program has been the emphasis upon a standardized approach. The training stresses the importance of a systematic, structured administration of the SFSTs. This includes completing all portions of the field sobriety tests in the appropriate sequence.

## **II. STANDARDS FOR TRAINING AS INSTRUCTORS IN THE STANDARDIZED FIELD SOBRIETY TESTING PROGRAM**

These instructors will have successfully completed the IACP-approved Standardized Field Sobriety Testing (SFST) training program or its equivalent, and will have experience in administering the SFSTs and in proving testimony in court in the area of DUI/DWI enforcement. Dedicated, qualified instructors are critical to the continued success of the SFST program.

SFST instructors are responsible for observing, evaluating and verifying their performance of SFST candidates throughout the training process. Therefore, only persons experienced in the administration of the SFST battery should become instructors in the SFST training program.

Also addressed in this section are standards for instructors/trainers in the program. These individuals are responsible for training the SFST instructors.

**2.1 Only persons who have successfully completed the IACP-approved DUI Detection and Standardized Field Sobriety Testing training program, or its equivalent, may be designated as SFST instructors.**

**2.2 Any SFST trained person desiring to become an instructor in the SFST Program shall make a written application through and be recommended by their agencies as meeting all requirements to become instructors.**

*Commentary:* The agency head or SFST coordinator shall verify that a candidate instructor meets the prerequisites to enter SFST instructor training. Prerequisites may also include any state, local or agency requirements specified for instructors within the jurisdiction.

**2.3 The candidate instructor shall satisfactorily complete the IACP-approved SFST Instructor School, or an approved equivalent, which shall include both knowledge and practical examination of candidate instructors. IACP/NHTSA - certified DRE instructors are recognized as SFST instructors and are approved to instruct the SFST program.**

*Commentary:* This requirement does not preclude state or local jurisdictions from placing additional requirements on persons assigned to teach in local law enforcement programs.

The IACP Highway Safety Committee shall be responsible for reviewing and evaluating alternative training programs submitted by agencies. Those programs meeting or exceeding the approved learning objectives for instructor training shall be deemed "equivalent".

**2.4 All training sessions conducted as part of the SFST Program shall be coordinated by a designated SFST instructor who has previously instructed, to insure proper conduct and delivery of the approved curriculum.**

**Commentary:** To ensure that all training classes are conducted in accordance with the standards, it is recommended that the instructor coordinating the training have a minimum of one-year experience as a SFST instructor.

**2.5 An instructor trainer (a person who is training instructors) shall have demonstrated proficiency as an instructor.**

**2.6 An instructor trainer must be knowledgeable of and have audited the SFST School and the SFST Instructor School, and must be thoroughly familiar with the SFST student and instructor manuals.**

**Commentary:** An instructor must demonstrate evidence of the satisfactory completion of the IACP/NHTSA-approved Instructor Development Course or equivalent. Instructor trainers must be familiar with the approved SFST Training Program and be thoroughly familiar with the lesson plans for their assigned blocks of instruction.

### **III. SFST REFRESHER TRAINING**

**Commentary:** To assist agencies administer refresher training, a CDROM refresher course has been developed by NHTSA and is available to interested agencies. See Appendix D.



**The Use of Video in Training for  
Standardized Field Sobriety Tests (SFST)**

**A. James McKnight and Elizabeth A. Langston**

**National Public Services Research Institute  
8201 Corporate Drive, Suite 220  
Landover, MD 20785**

**September 1993**

**TECHNICAL REPORT**

**NHTSA Contract No. DTNH22-92-C-05109**

**Prepared for  
U.S. Department of Transportation  
National Highway Traffic Safety Administration  
400 7th Street, S.W.  
Washington, D.C. 20590**

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle The Use of Video in Training for Standardized Field Sobriety Tests (SFST)		5. Report Date September 1993	
		6. Performing Organization Code	
7. Author(s) A.J. McKnight and E.A. Langston		8. Performing Organization Report No.	
9. Performing Organization Name and Address National Public Services Research Institute, 8201 Corporate Drive, Suite 220, Landover, MD 20745		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. DTNH22-91-R-05109	
12. Sponsoring Agency Name and address National Highway Traffic Safety Administration, 400 Seventh Street, S.W. Washington, D.C. 20590		13. Type of Report and Period Covered Final Report 6/91-9/93	
		14. Sponsoring Agency Code	
15. Supplementary Notes Dr. Richard Compton served as Contracting Officer's Technical Representative			
16. Abstract  The NHTSA training program to certify law enforcement officers in administration of Standardized Field Sobriety Tests (SFSTs) includes two "workshops" in which trainees administer sobriety tests to alcohol-dosed subjects has led to consideration of video as an alternative training method. A preliminary study showed that Certified SFST examiners scoring videotaped performance of alcohol-dosed subjects obtained the same results as examiners scoring the subjects directly. An experiment was therefore undertaken to compare three alternative methods of conducting training during the workshops: live alcohol-dosed subjects (alcohol), video-recorded performances of alcohol-dosed subjects (video), and a combination of the video and alcohol methods (video/alcohol). A total of 133 SFST trainees were randomly assigned to the three training methods. The results disclosed extremely small and statistically nonsignificant differences among the three workshop methods in the proficiency with which trainees administered and scored the SFST with alcohol-dosed subjects in a final performance test. It was concluded that video provides an acceptable alternative to live dosed subjects in training law enforcement officers to administer SFSTs.			
17. Key Words Alcohol, Drinking and Driving, Sobriety Tests		18. Distribution Statement Available to the public through the National Technical Information Service, Springfield, VA 22161	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

## **The Role of Video Training**

The use of video tapes in Sessions XIA and XIVA is not intended to imply that video can serve as a “substitute” for training with live dosed subjects. However, a combination of practical and moral obstacles to use of alcohol-dosed subjects in training has threatened to prevent the administration of SFST courses in many jurisdictions. Here the choice is not between video and alcohol workshops but between video and no instruction at all. The results of this study clearly resolve that decision.

**REMINDER: Only the IACP/NHTSA options tapes are approved for this instruction.**

## **The Conclusions of this Study**

From the results of this study, the following conclusions may be offered:

1. Videotaped administration of the Standardized Field Sobriety Test (SFST) of alcohol-dosed subjects can be used as an alternative to the use of live alcohol-dosed subjects in either or both of the current training “workshops” without altering the ability of trainees to administer or score the test.
2. Current SFST training leads to significant gains in knowledge of administration procedures and scoring criteria. However, gains in scoring the Walk-And-Turn and One-Leg-Stand are minimal owing to the objectivity of the scoring criteria.
3. The only significant differences among approaches to teaching the workshop involve the direction of trainee scoring errors on the Walk-And-Turn and One-Leg-Stand, where trainees from the video workshop tend to report slightly fewer impairment clues than Certified Examiners, while those participating in either or both alcohol workshops tend to report more clues.

## **REFERENCES**

- Burns, M.; Moskowitz, H. Final Report on NHTSA Contract No. DOT-HS-8-01999: Methods for Estimating Expected Blood Alcohol Concentration. Washington, DC: NHTSA; 1980.
- Burns, M.; Moskowitz, H. (Southern California Research Institute). Prepared for U.S. Department of Transportation, NHTSA: Psychophysical Tests for DWI Arrest. Springfield, VA: National Technical Information Service; 1977 June; DOT HS 802 424. 126.
- McKnight, A. J.; Marques, P. R. Estimating alcohol impairment from behavioral cues. *Journal of Alcohol Studies*. 1991; 52(5): pp 389-397
- Russ, N. W.; Geller, E. S. Evaluation of a server intervention program for preventing drunk driving. Final Report No. DD-3 ed.; Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Psychology; 1986. 56 pages.

Tharp, V.; Burns, M.; Moskowitz, H. Development and field test of psychophysical tests for DWI arrest; 1981; NHTSA Report # DOT-HS-805-864. Available from NTIS, Springfield, VA 22151.

## **CDRom Refresher Training For The Standardized Field Sobriety Tests**

In support of SFST training the National Highway Traffic Safety Administration (NHTSA) has developed a self-instructional SFST refresher training course using interactive CDRom as the delivery technology.

SFST refresher training can now take place anywhere, anytime, using a desktop personal computer or a laptop computer when offsite. This training targets law enforcement officers at the Federal, state, county and local level who have already taken, **and successfully completed**, the basic SFST classroom training course.

These individuals will now be able to refresh their skills at:

- o recognizing and interpreting evidence of DWI;
- o administering and interpreting the scientifically validated sobriety tests, and
- o describing DWI evidence clearly and convincingly.

The refresher training course provides the user with information regarding recent case law and research studies conducted. Also, it outlines the availability of advanced training in recognizing and understanding the characteristics of drugs that impair driving.

A separate section of the refresher training course is designated for prosecutors. It is intended to assist them in understanding the concepts and principles of SFST.

To obtain a copy of the SFST CDRom Refresher Training Course, please contact your State Office of Highway Safety (Appendix E) or your closest NHTSA Regional Office (Appendix F).



## STATE OFFICES OF HIGHWAY SAFETY

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Dept Of Econ & Comm Affairs  
401 Adams Ave (PO Box 5690)  
Montgomery, AL 36103-5690  
(334) 242-5803  
FAX (334) 242-0712

**Alaska**

Alaska Hwy Safety Planning  
Agency  
450 Whittier St.  
Juneau, AK 99811  
(907) 465-4374  
FAX (907) 465-5860

**Arizona**

Gov's Office of Hwy Safety  
3030 N. Central, Suite 1550  
Phoenix, AZ 85012  
(602) 255-3216  
FAX (602) 255-1265

**Arkansas**

AR State Hwy & Trans. Dept.  
11300 Baseline Rd  
Little Rock, AR 72203-2261  
(501) 569-2648  
FAX (501) 569-2651

**California**

Business, Transportation, and  
Housing Agency  
7000 Franklin Blvd., Suite 440  
Sacramento, CA 95823  
(916) 262-0990  
FAX (916) 262-2960

**Colorado**

Department of Transportation  
4201 E. Arkansas Ave.  
Denver, CO 80222  
(303) 757-9440  
FAX (303) 757-9219

**Connecticut**

Department of Transportation  
PO Box 317546  
2800 Berlin Turnpike  
Newington, CT 06131-7546  
(860) 594-2370  
FAX (860) 594-2374

**Delaware**

Office of Highway Safety  
Public Safety Bldg, Box 1321  
Rte. 113 South & Bay Road  
Dover, DE 19903-1321  
(302) 739-3295  
FAX (302) 739-5995

**District of Columbia**

DC Dept of Public Works  
Frank D. Reeves Center  
2000 14th St., NW, 7th Floor  
Washington, DC 20009  
(202) 671-0492  
FAX (202) 939-7185

**Florida**

Department of Transportation  
605 Suwanne Street, MS-53  
Tallahassee, FL 32399-0450  
(850) 488-3546  
FAX (850) 922-2935

**Georgia**

Gov.'s Office of Hwy. Safety  
1 Park Tower  
34 Peachtree Street, Suite 1600  
Atlanta, GA 30303  
(404) 656-6996  
FAX (404) 651-9107

**Hawaii**

Motor Vehicle Safety Office  
Department of Transportation  
601 Kamokila Blvd, Room 511  
Kapolei, HI 96707  
(808) 692-7650  
FAX (808) 692-7665

**Idaho**

Department of Transportation  
3311 W. State St.  
Boise, ID 83707  
(208) 334-8101  
FAX (208) 334-3858

**Illinois**

Department of Transportation  
PO Box 19245  
3215 Executive Park Drive  
Springfield, IL 62794-9245  
(217) 782-4974  
FAX (217) 782-9159

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Governor's Council on Impaired  
and Dangerous Driving  
ISTA Building, Suite 330  
150 West Market  
Indianapolis, IN 46204  
(317) 232-4220  
FAX (317) 233-5150

**Iowa**

Gov. Traffic Safety Bureau  
307 East Seventh Street  
Des Moines, IA 50319-0248  
(515) 281-3907  
FAX (515) 281-6190

**Kansas**

Bureau of Traffic Safety  
Thacher Building, 3<sup>rd</sup> Floor  
217 SE 4<sup>th</sup> Street  
Topeka, KS 66603  
(785) 296-3756  
FAX (785) 291-3010

**Kentucky**

KY State Police Headquarters  
919 Versailles Road  
Frankfort, KY 40601-9980  
(502) 695-6356  
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**Louisiana**

LA Hwy Safety Commission  
PO Box 66336  
Baton Rouge, LA 70896  
(225) 925-6991  
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Bureau of Highway Safety  
164 State House Station  
Augusta, ME 04333  
(207) 624-8756  
FAX (207) 624-8768

**Maryland**

Office of Traffic and Safety  
7491 Connelley Drive  
Hanover, MD 21076  
(410) 787-4017  
FAX (410) 787-4082

**Massachusetts**

Gov. Highway Safety Bureau  
10 Park Plaza, Suite 5220  
Boston, MA 02116-3933  
(617) 973-8904  
FAX (617) 973-8917

**Michigan**

Office of Hwy. Safety Planning  
4000 Collins Road  
PO Box 30633  
Lansing, MI 48909-8133  
(517) 336-6477  
FAX (517) 333-5756

**Minnesota**

Office of Traffic Safety  
444 Cedar Street, Suite 150  
St. Paul, MN 55101-5150  
(651) 296-9507  
FAX (651) 297-4844

**Mississippi**

Gov.'s Highway Safety Office  
401 North West St., 8th Floor  
Jackson, MS 39225-3039  
(601) 359-7880  
FAX (601) 359-7832

**Missouri**

Division Of Highway Safety  
PO Box 104808  
Jefferson City, MO 65110  
(573) 751-4161  
FAX (573) 634-5977

**Montana**

Department of Transportation  
PO Box 201001  
2701 Prospect Ave., Room 109  
Helena, MT 59620-1001  
(406) 444-3423  
FAX (406) 444-7303

**Nebraska**

Office of Highway Safety  
PO Box 94612  
Lincoln, NE 68509  
(402) 471-2515  
FAX (402) 471-3865

**Nevada**

Office of Traffic Safety  
Dept. of Motor Vehicles  
& Public Safety  
555 Wright Way  
Carson City, NV 89711-0099  
(775) 687-5720  
FAX (775) 687-5328

**New Hampshire**

Highway Safety Agency  
Pine Inn Plaza  
117 Manchester Street  
Concord, NH 03301  
(603) 271-2131  
FAX (603) 271-3790

**New Jersey**

Div. of Highway Traffic Safety  
225 East State Street, CN-048  
Trenton, NJ 08625  
(609) 633-9300  
FAX (609) 633-9020

**New Mexico**

Traffic Safety Bureau  
604 W. San Mateo  
P.O. Box 1149  
Santa Fe, NM 87504-1149  
(505) 827-0427  
FAX (505) 827-0431

**New York**

Gov. Traffic Safety Committee  
Swan St. Bldg., Empire Plaza  
Albany, NY 12228  
(518) 473-9007  
FAX (518) 473-6946

**North Carolina**

Gov. Highway Safety Program  
215 East Lane Street  
Raleigh, NC 27601  
(919) 733-3083  
FAX (919) 733-0604

**North Dakota**

Drivers Lic. & Traf. Safety Div.  
 Department of Transportation  
 608 East Boulevard Avenue  
 Bismarck, ND 58505-0700  
 (701) 328-2601  
 FAX (701) 328-2435

**Ohio**

Office of Gov. Hwy. Safety Rep.  
 PO Box 182081  
 1970 W. Broad Street (43223)  
 Columbus, OH 43218-2081  
 (614) 466-3250  
 FAX (614) 728-8330

**Oklahoma**

OK Highway Safety Office  
 3223 North Lincoln  
 Oklahoma City, OK 73105  
 (405) 521-3314  
 FAX (405) 524-4906

**Oregon**

Transportation Safety Section  
 555 13<sup>th</sup> Street, NE  
 Salem, OR 97310  
 (503) 986-4190  
 FAX (503) 986-4189

**Pennsylvania**

Bureau of Highway Safety and  
 Traffic Engineering  
 555 Walnut Street  
 7<sup>th</sup> Floor, Forum Place  
 Harrisburg, PA 17105-2047  
 (717) 787-7350 or 8069  
 FAX (717) 783-8012

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Gov. Office of Highway Safety  
 345 Harris Avenue  
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 FAX (401) 222-6038

**South Carolina**

Department of Public Safety  
 5400 Broad River Road  
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 James K Polk State Office Bldg  
 505 Deaderick Street, Suite 600  
 Nashville, TN 37243  
 (615) 741-2589  
 FAX (615) 741-9673

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 Austin, TX 78701-2483  
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 Olympia, WA 98504  
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 FAX (304) 558-0391

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 Madison, WI 53707-7936  
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 FAX (608) 267-0441

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 5300 Bishop Blvd., PO Box 1708  
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 (307) 777-4450  
 FAX (307) 777-4250

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Office of Highway Safety  
 Government of American Samoa  
 PO Box 1086  
 Pago Pago, AS 96799  
 (684) 699-1911 or 2911  
 FAX (684) 699-4224

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(671) 646-3211  
FAX (671) 646-3733

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Bureau of Indian Affairs  
Dept. of Interior, Suite 1705  
505 Marquette Avenue, NW  
Albuquerque, NM 87102  
(505) 248-5053  
FAX (505) 248-5064

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55 Broadway - Kendall Square - Code 903  
Cambridge, MA 02142  
(617) 494-3427  
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FAX (744-2532

**Northwest Region**

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915 Second Avenue  
Seattle, WA 98174  
(206) 220-7640  
FAX (206) 220-7651



**ALL MATERIALS ARE MASTERS – COPY AS NEEDED.****ATTENTION: LEAD INSTRUCTOR/COURSE ADMINISTRATOR**

In order to assist the National Highway Traffic Safety Administration in the validation of course materials, the Transportation Safety Institute is requesting your feedback. The purpose of conducting this evaluation is to determine:

- ◆ accuracy and completeness of course materials
- ◆ adequacy of course material design
- ◆ utility of course materials
- ◆ usability of course materials

Course materials are evolving documents which must be updated and refined in detail over the life of the course through a process of review, comment, analysis and revision in order to meet the training requirements of instructors as well as participants.

The attached questionnaire provides the expert users (lead instructors/course administrators) an opportunity to assess the viability of the course materials in relation to its capabilities and constraints. The goal of this questionnaire is to identify and set in motion actions to resolve course implementation issues as early as possible. The review and input that you provide is vital to the success of NHTSA's training mission.

**DIRECTIONS:** Fill out the **Lead Instructor/Course Administrator Questionnaire** at the completion of this course. Use this questionnaire to record your comments about the strengths and weaknesses of the instructional package provided for this course. Please provide detailed answers for each item requiring further explanation. (Use specific examples when available.) In addition, complete an **Instructor Roster and a Participant Roster** (*attachments are provided for your convenience*) **WITHIN 10 DAYS OF CLASS COMPLETION, RETURN BOTH ROSTERS AND QUESTIONNAIRE TO:**

**TRANSPORTATION SAFETY INSTITUTE  
HIGHWAY TRAFFIC SAFETY DIVISION DTI-70  
P.O. BOX 25082  
OKLAHOMA CITY, OK 73125**

If further information is needed, or if you have any questions concerning this evaluation process, contact DTI-70, Phone: (405) 954-3112, FAX: (405) 954-8264.

**INSTRUCTOR ROSTER**

**Course Name:**

**Course Date:**

**Course Location:**

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

(COPY THIS FORM FOR ADDITIONAL NAMES)

**PARTICIPANT ROSTER**

**Course Name:**

**Course Date:**

**Course Location:**

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

Name: _____	Name: _____
Title: _____	Title: _____
Organization: _____	Organization: _____
_____	_____
Mailing Address: _____	Mailing Address: _____
_____ Zip _____	_____ Zip _____
Phone: ____ (____) _____	Phone: ____ (____) _____

(COPY THIS FORM FOR ADDITIONAL NAMES)

## LEAD INSTRUCTOR/COURSE ADMINISTRATOR QUESTIONNAIRE

### ACCURACY AND COMPLETENESS

1. The instructor manual and accompanying course materials **provide sufficient guidance** and information to plan, administer, and teach this course.

Strongly Agree                  Agree                  Disagree                  Strongly Disagree

Comments:

2. The **complete list of training aids**, devices and equipment needed to support this course are listed in the administrator's guide.

Strongly Agree                  Agree                  Disagree                  Strongly Disagree

If not, what needs to be added or deleted?

3. The work session **directions are explained thoroughly** for both instructor and student?

Strongly Agree                  Agree                  Disagree                  Strongly Disagree

Suggestions to clarify directions?

4. Are the instructional materials and media:

- |                                                                                               |     |        |
|-----------------------------------------------------------------------------------------------|-----|--------|
| a. <b>Easy to read and understand?</b>                                                        | Yes | No     |
| b. <b>Easy to use?</b>                                                                        | Yes | No     |
| c. <b>Accurate and complete?</b>                                                              | Yes | No     |
| d. <b>Congruent</b> with stated objectives?                                                   | Yes | No     |
| e. <b>Appropriate to skill and knowledge level</b> of course participants?                    | Yes | No     |
| f. <b>Clear in purpose</b> , goals, and objectives for both participants and instructors?     |     | Yes    |
|                                                                                               |     | N<br>o |
| g. <b>Modern</b> in format and appearance?                                                    | Yes | No     |
| h. <b>Free of extraneous details</b> or distractions?                                         | Yes | No     |
| i. <b>Un-biased</b> (free of gender, ethnic, or racial bias?)                                 | Yes | No     |
| j. <b>Relevant to the instruction</b> (does it provide "real world" highway safety examples?) | Yes | No     |

4. (Continued) Cite specific examples for any “no” response.

## ADAPTABILITY

5. The course material **accommodates all learning styles** (auditory, visual, tactile, etc.)?

Strongly Agree      Agree      Disagree      Strongly Disagree

Comments:

6. The course material and content are adaptable (**some content can be altered in sequence, length, or strategy**) according to the needs of the sponsoring organization? **NOTE:** *Some courses which contain technical or legal information cannot be altered. These courses are excluded from this question. Example: SFST and DEC courses.*

Strongly Agree      Agree      Disagree      Strongly Disagree

Comments:

## USABILITY

7. The course modules are **logically sequenced** in a manner that allows ease of learning.

Strongly Agree      Agree      Disagree      Strongly Disagree

If not, what sequence would you suggest and why?

8. Were there any particular **portions** of the course material or work sessions that participants perceived as “**too difficult**”? If so, list and explain.

9. This course provides sufficient **opportunity for student interaction and participation**.

Strongly Agree            Agree            Disagree            Strongly Disagree

Comments:

10. The course content allows **sufficient work sessions** which reinforce the lecture sessions.

Strongly Agree            Agree            Disagree            Strongly Disagree

Comments:

11. The course content is broken into **logical learning “chunks”** that are easy for participants to comprehend and retain.

Strongly Agree            Agree            Disagree            Strongly Disagree

If you disagree, which segments need revision? Why?

12. Were you able to adhere to the **pre-determined time estimates**? If not, specify which segments need more time, which need less, and why.

## RELEVANCE

13. The course materials will be used as a **future reference and resource tool** for participants.

Strongly Agree            Agree            Disagree            Strongly Disagree

Which materials do you consider the most useful?

14. Do you believe that **additional content segments** are needed for this course? If so, please identify and describe how they will benefit this instruction.

15. Should any of the content **segments** of this course be **eliminated**? If so, which ones and why are they not needed?
  
16. Does this course provide participants with the **skills and knowledge** they needed to improve their job performance? If not, why?
  
17. What **recommendations** would you make for improving this course material?

Additional Comments?



Thirty Minutes

SESSION I  
INTRODUCTION AND OVERVIEW

## SESSION I

### INTRODUCTION AND OVERVIEW

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

- o State the goals and objectives of the course.
- o Describe the course schedule and activities.
- o Demonstrate their pre-training knowledge of course topics.

### CONTENT SEGMENTS



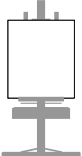



- A. Welcoming Remarks and Objectives
- B. Administrative Details
- C. Pre-Test

### LEARNING ACTIVITIES

- o Instructor-Led Presentations
- o Written Examination



Display I-O (Session Objectives)

Aids	Lesson Plan	Instructor Notes
  <b>10 Minutes</b>   <b>Display</b>	<p><b>I. INTRODUCTION AND OVERVIEW</b></p> <p><b>A. Welcoming Remarks and Objectives</b></p> <ol style="list-style-type: none"> <li>1. Welcome to the DWI Detection and Standardized Field Sobriety Testing Training Program.</li> <li>2. Instructor Introductions <ol style="list-style-type: none"> <li>a. Principal instructor (name, relevant background, etc.)</li> <li>b. Instructor aides and other relevant individuals (names, assignments, etc.)</li> </ol> </li> <li>3. Program Goals/Objectives <ol style="list-style-type: none"> <li>a. Ultimate Goal</li> <li>b. Overview of the DWI Problem</li> <li>c. Job Performance Objectives</li> </ol> </li> </ol>	<p>Total Session Time: Approximately 30 minutes</p> <p><b>Segment A: 10 minutes</b></p> <p>Point out program title on wall chart or dry-erase board.</p> <p>Write names on dry-erase board or flipchart.</p>
 I-1 and I-1A		
 <b>Display</b> I-2A and I-2B		<p>Display a slide illustrating current crash data relating to the DWI problem.</p> <p>I-2B (Local Perspective - Fill in appropriate information)</p>
 <b>Display I-3</b>		<p>Point out that the success or failure of the program will be judged on the basis of participants' improvements in these key abilities.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**



**7 Minutes**

**B. Administrative Details**

1. Seminar schedule (breaks, etc.)
2. Facilities (rest rooms, lunchroom, etc.)
3. Logistics (travel vouchers, etc.)
4. Reading Assignments in Student Manual.
5. Refer to Glossary Located At End of Session I

Develop list of reading assignments for each day and prepare a handout. Reading assignment at end of day one should cover materials presented on day one and day two. Subsequent reading assignments should cover material to be presented on following day. Point out that sessions II - VIII have review questions at the end of each chapter.



**13 Minutes**

**C. Pretest**

1. Purpose of Pre-test - provide a basis for evaluating participants' knowledge gain during the seminar.
2. Distribute pre-tests.
3. Collect completed pre-tests.

Allow participants approximately 10 minutes to complete the pre-test.

NOTE: Redistribute pre-test to participants after they are graded by instructor(s).

GLOSSARY OF TERMS

ALVEOLAR BREATH - Breath from the deepest part of the lung.

BLOOD ALCOHOL CONCENTRATION (BAC) - The percentage of alcohol in a person's blood.

BREATH ALCOHOL CONCENTRATION (BrAC) - The percentage of alcohol in a person's breath, taken from deep in the lungs.

CLUE - Something that leads to the solution of a problem.

CUE - A reminder or prompting as a signal to do something. A suggestion or a hint.

DIVIDED ATTENTION TEST - A test which requires the subject to concentrate on both mental and physical tasks at the same time.

DWI/DUI - The acronym "DWI" means driving while impaired and is synonymous with the acronym "DUI", driving under the influence or other acronyms used to denote impaired driving. These terms refer to any and all offenses involving the operation of vehicles by persons under the influence of alcohol and/or other drugs.

DWI DETECTION PROCESS - The entire process of identifying and gathering evidence to determine whether or not a suspect should be arrested for a DWI violation. The DWI detection process has three phases:

- Phase One - Vehicle In Motion
- Phase Two - Personal Contact
- Phase Three - Pre-arrest Screening

EVIDENCE - Any means by which some alleged fact that has been submitted to investigation may either be established or disproved. Evidence of a DWI violation may be of various types:

- a. Physical (or real) evidence: something tangible, visible, or audible.
- b. Well established facts (judicial notice).
- c. Demonstrative evidence: demonstrations performed in the courtroom.
- d. Written matter or documentation.
- e. Testimony.

FIELD SOBRIETY TEST - Any one of several roadside tests that can be used to determine whether a suspect is impaired.

HORIZONTAL GAZE NYSTAGMUS (HGN) - Involuntary jerking of the eyes, occurring as the eyes gaze to the side.

ILLEGAL PER SE - Unlawful in and of itself. Used to describe a law which makes it illegal to drive while having a statutorily prohibited Blood Alcohol Concentration.

NYSTAGMUS - An involuntary jerking of the eyes.

ONE-LEG STAND (OLS) - A divided attention field sobriety test.

PERSONAL CONTACT - The second phase in the DWI detection process. In this phase the officer observes and interviews the driver face to face; determines whether to ask the driver to step from the vehicle; and observes the driver's exit and walk from the vehicle.

PRE-ARREST SCREENING - The third phase in the DWI detection process. In this phase the officer administers field sobriety tests to determine whether there is probable cause to arrest the driver for DWI, and administers or arranges for a preliminary breath test.

PRELIMINARY BREATH TEST (PBT) - A pre-arrest breath test administered during investigation of a possible DWI violator to obtain an indication of the person's blood alcohol concentration.

PSYCHOPHYSICAL - "Mind/Body." Used to describe field sobriety tests that measure a person's ability to perform both mental and physical tasks.

STANDARDIZED FIELD SOBRIETY TEST BATTERY - A battery of tests, Horizontal Gaze Nystagmus, Walk-and-Turn, and One-Leg Stand, administered and evaluated in a standardized manner to obtain validated indicators of impairment based on NHTSA research.

TIDAL BREATH - Breath from the upper part of the lungs and mouth.

VEHICLE IN MOTION - The first phase in the DWI detection process. In this phase the officer observes the vehicle in operation, determines whether to stop the vehicle, and observes the stopping sequence.

VERTICAL GAZE NYSTAGMUS - An involuntary jerking of the eyes occurring as the eyes are held at maximum elevation.

WALK-AND-TURN (WAT) - A divided attention field sobriety test.

DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING  
PRE-TEST

Name \_\_\_\_\_ Rank \_\_\_\_\_ Date \_\_\_ / \_\_\_ / \_\_\_

Agency \_\_\_\_\_

FOR EACH TEST ITEM, CIRCLE THE LETTER  
CORRESPONDING TO THE CORRECT RESPONSE.

1. The type of alcohol contained in alcoholic beverages is \_\_\_\_\_.
  - A. Methanol
  - B. Isopropanol
  - C. Butyl
  - D. Ethanol
  - E. All of the Above
  
2. The "Illegal Per Se" law makes it an offense to operate a motor vehicle while \_\_\_\_\_.
  - A. Having a statutorily prohibited blood alcohol content.
  - B. Under the influence of alcohol and/or drugs.
  - C. Impaired by alcohol or drugs to the slightest degree.
  - D. Having consumed any alcohol (if the operator is a minor).
  - E. Incapable of safely operating, regardless of cause.
  
3. A good, structured field sobriety test is simple and \_\_\_\_\_.
  - A. Focuses the suspect's attention.
  - B. Interrupts the suspect's attention.
  - C. Captures the suspect's attention.
  - D. Divides the suspect's attention.
  - E. Multiplies the suspect's attention.
  
4. The police officer's principal decision during personal contact with a suspect (Detection Phase Two) usually is \_\_\_\_\_.
  - A. Do I have sufficient grounds to request a chemical test?
  - B. Should I arrest the operator for DWI?
  - C. Is this person the operator of the vehicle?
  - D. Should I instruct the driver to exit the vehicle?
  - E. Is the impairment due to alcohol or drugs?

5. The police officer's principal decision during pre-arrest screening (Detection Phase Three) usually is \_\_\_\_\_.
- A. Do I have sufficient grounds to request a chemical test?
  - B. Should I arrest the operator for DWI?
  - C. Is this person the operator of the vehicle?
  - D. Should I instruct the driver to exit the vehicle?
  - E. Is the impairment due to alcohol or drugs?
6. The word "nystagmus" means \_\_\_\_\_.
- A. Eyes unable to move independently of the head.
  - B. Impaired pupillary contraction ("alcohol dilation effect").
  - C. Gaze fixation ability.
  - D. Vision impairment due to central nervous system depression.
  - E. Involuntary jerking of the eyes.
7. According to law, a person cannot be convicted of DWI/alcohol, if the blood alcohol content is below your state's legal limit.
- A. True
  - B. False
8. In the Walk and Turn test, the suspect must be instructed to take nine steps up the line and \_\_\_ steps back down the line.
- A. Nine
  - B. Any specific number other than nine.
  - C. Eight
  - D. Seven
  - E. Ten
9. Which of the following is (are) validated field sobriety test?
- A. One Leg Stand
  - B. Alphabet
  - C. Coin Pick Up
  - D. Finger Count
  - E. Hand Pat
10. The police officer's principal decision during vehicle in motion (Detection Phase One) usually is \_\_\_\_\_.
- A. Should I stop the vehicle?
  - B. Should I arrest the operator for DWI?
  - C. Is this person the operator of the vehicle?
  - D. Should I instruct the driver to exit the vehicle?
  - E. Is the impairment due to alcohol or drugs?

PRE-TEST ANSWER SHEET

- |    |   |     |   |
|----|---|-----|---|
| 1. | D | 6.  | E |
| 2. | A | 7.  | B |
| 3. | D | 8.  | A |
| 4. | D | 9.  | A |
| 5. | B | 10. | A |



50 Minutes

SESSION II  
DETECTION AND GENERAL DETERRENCE

## SESSION II

### DETECTION AND GENERAL DETERRENCE

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

- o Describe the frequency of DWI violations and crashes.
- o Define General Deterrence.
- o Describe the Relationship between Detection and General Deterrence.
- o Describe a brief history of alcohol;
- o Identify common alcohol types;
- o Describe the physiologic processes of absorption, distribution and elimination of alcohol in the human body;

#### CONTENT SEGMENTS

- A. The DWI Problem
- B. The Concept of General Deterrence
- C. Relating Detection to Deterrence Potential
- D. Evidence of Effective Detection and Effective Deterrence
- E. Physiology of Alcohol

#### LEARNING ACTIVITIES

- o Instructor-Led Presentations
- o Reading Assignments



Display II-O (Session Objectives)



10 Minutes



Display II-1



Display II-2

**II DETECTION & GENERAL DETERRENCE**

**A. The DWI Problem (Local, State and National)**

1. Each year, an average of \_\_\_ people die in this state's traffic crashes.
  
2. Here and throughout the nation, alcohol continues to be the major contributor to traffic fatalities.
  - a. Prior to 1994, nearly half of the drivers who died in crashes had been drinking.
  
  - b. In 2002, alcohol-related fatalities rose to 17,419, representing 41 percent of all traffic fatalities.

Total Session Time:  
Approximately 50 minutes.

Instructor please note: compute figures for the participants' state and/or community from traffic records data. Slide II-1(fill in appropriate information).

NHTSA 2002 FARS data.



Ask participants to suggest reasons why alcohol related crashes are more likely to result in death.

Some reasons:

- o drinking-drivers are more likely to be taking excessive risks (speeding, turning abruptly, etc.)
  
- o drinking-drivers may not react in enough time to slow down prior to crashing.
  
- o drinking-drivers are less likely to use their safety belts.



Display II-3



Display II-4

3. DWI violations and crashes are not simply the work of relatively few "problem drinkers" or "problem drug users": many people commit DWI, at least occasionally.

a. A survey of 9,028 drivers across the country revealed that 14 percent reported they had recently (within last 3 months) operated a motor vehicle "while close to or under the influence of alcohol." Only 2 percent of these drivers said they were stopped while driving after drinking.

b. Random survey of drivers stopped at all hours during one week; 12% had been drinking; 2% had Blood Alcohol Concentration of 0.10 or higher.

c. Random surveys of drivers stopped during late evening - early morning hours on weekends: approximately 10% had Blood Alcohol Concentrations of 0.10 or higher.

d. Special study of drivers leaving bars between 9 p.m. and 2 a.m., Friday and Saturday nights: one out of seven had Blood Alcohol Concentration of 0.10 or higher.

Gallup Survey, September, 1991

Sources: numerous roadside surveys conducted by Alcohol Safety Action Projects.

Source: NHTSA Study, Connecticut, 1976. This study prompted the need for selecting, developing and validating future roadside sobriety tests to be used by police officers.



Display II-5



Display II-6



5 Minutes



Display II-7



Display II-8

- e. It is conservatively estimated that the typical DWI violator commits that offense about 80 times per year.
- f. Miscellaneous Alcohol Facts

**B. Concept of General Deterrence**

1. General deterrence of DWI is based on the driving public's fear of being arrested.
  - a. If enough violators come to believe that there is a good chance that they will get caught, some of them (at least) will stop committing DWI at least some of the time.
  - b. Unless there is a real risk of being arrested, there will not be much fear of arrest.
2. Law enforcement must arrest enough violators to convince the public that they will get caught, if they continue to drive while impaired.



Pose this question to class: "How do we convince the public that there is a good chance of being arrested for DWI?" Gently guide the discussion to bring out the fact that an appreciable number of violators must be arrested if others are to believe there is a real risk that they will be arrested.



10 Minutes

**C. Relating Detection to Deterrence Potential**

1. How much deterrence is enough?
  - a. Question Number 1: How many DWI violators do we have to arrest in order to convince an appreciable proportion of them that there is a real risk that they will be arrested?
  - b. Question Number 2: Are we presently arresting enough violators in this state to convince them that there is a real risk of being caught?
2. Estimates from around the country: For every DWI violator arrested, there are between 500 and 2,000 undetected DWI violations.
  - a. Question Number 3: If the chances of being arrested are one in 2,000, do you believe that the average DWI violator will fear arrest?
  - b. Question Number 4: Why is the DWI arrest-to-violation ratio so low?



Pose question #1, and solicit responses from representative participants.



Pose question #2, and solicit responses from representative participant.



Pose question #3 to class. Draw an analogy - compare with attempting to house-break a puppy by punishing the puppy only once every 2,000 times it "messes" on the carpet.



Pose question #4 to the class. Gently guide the discussion to bring out two possibilities:

- o DWI violators vastly outnumber police officers.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display II-9**



**Display II-10**



**5 Minutes**



**Display II-11**

- c. Police officers sometimes fail to recognize and arrest a DWI violator.
- d. Ft. Lauderdale (Florida) BAC study (1975): only 22% of traffic violators with BACs between 0.10 and 0.20 were arrested for DWI.
- e. Implication: For every DWI violator actually arrested three others are contacted by police officers, face-to-face, but are released without arrest.
- f. Significant improvement in arrest rate could be achieved if officers were more skilled at DWI detection.

**D. Evidence of Effective Detection and Effective Deterrence**

- 1. Several enforcement programs have succeeded in achieving significant DWI deterrence.
  - a. Weekend Enforcement Program, Stockton, California (late 1970's):
    - o arrests up 500%.
    - o crashes down 34%.

- o Some officers not well trained in DWI detection.

Instructor please note: In the Ft. Lauderdale study, breath tests were administered to traffic violators by research staff members, after police officers had completed their investigations of the violators. Officers failed to detect 78% of the DWI violators they investigated.

**POINT OUT HERE: THIS STUDY WAS THE REASON FOR NHTSA DEVELOPING THIS COURSE.**

Summarize Stockton program effectiveness.

Point out that this level of deterrence was achieved with an arrest/violation ratio of about 1-in-400.

- o DWI drivers down from 9% on road to 6% on road.

2. This same, or better, degree of effectiveness can happen here.

Point out that the keys to success are:

- (a) Better training in detection skills.
- (b) Willingness to arrest every DWI violator who is detected.

Solicit participants' questions concerning general deterrence.



**20 Minutes**



**Display  
II-12**

### **E. Physiology of Alcohol**

1. A Brief Overview of Alcohol
  - a. The word "Alcohol" refers to a number of distinct but similar chemicals.
    - (1) Each of the chemicals that is called an "alcohol" is composed of the three elements, hydrogen, carbon and oxygen.
    - (2) Each type of "alcohol" is a drug within the scope of our definition.
    - (3) But only one can be tolerated by the human body in substantial quantities.

Clarification: All "alcohols" are chemicals that impair driving ability.

Clarification: Most "alcohols" are highly toxic, and will cause blindness or death if consumed in significant quantities.

Only one is intended for human consumption.



**Display**  
II-13

b. Three of the more commonly-known "alcohols" are Methyl, Ethyl and Isopropyl.

(1) Methyl Alcohol, also known as Methanol, or "wood alcohol".

(2) Ethyl Alcohol, also known as Ethanol, or "beverage alcohol".

(3) Isopropyl Alcohol, also known as isopro-panol, or "rubbing alcohol".

c. Ethanol is the type of alcohol on which we will focus, because it is the only type intended for human consumption.

(1) Ethanol is the active ingredient in beer, wine, whiskey and other alcoholic beverages intended for drinking.

(2) Like all "alcohols", ethanol is composed of hydrogen, carbon and oxygen.

(3) Chemists use a number of different symbols to represent ethanol.



**ASK PARTICIPANTS:**  
What are the names of some of the chemicals that are "alcohols"?

**EMPHASIZE:** Ethanol is the only kind of alcohol that humans can tolerate in significant quantities.



**Display**  
II-14



**Display**  
II-15

- d. We will use the symbol "ETOH".
- e. Ethanol has been around for a long time. People drank it long before they learned to write.
- f. Ethanol is a naturally-occurring drug. That is, it is produced in nature through a process called fermentation.
- (1) In fermentation, spores of yeast, carried by the wind, come in contact with fruit or grain that has fallen to the ground.
- (2) Sugars in the fruit or grain chemically react with the yeast, and produce ethanol.
- g. Today, most fermentation takes place on purpose, under controlled conditions.
- h. Through the process of fermentation, we can produce a beverage that has, at most, about 14% ethanol.

Instructor, for your information: The "ET" represents "ethyl", and the "OH" represents an oxygen atom and hydrogen atom, bonded together in what the chemists refer to as the "hydroxy radical". All alcohols have an hydroxy radical in their molecules.

Selectively reveal the first part of the overhead only.

POINT OUT that humans almost certainly first encountered ethanol that had been produced accidentally in this fashion.



ASK PARTICIPANTS:  
"Why can't fermentation produce a higher ethanol concentration than 14%?"

**Aids**

**Lesson Plan**

**Instructor Notes**

- (1) When the ethanol concentration reaches 14% yeast dies so fermentation stops.
- (2) If we want to have a higher concentration ethanol beverage, we have to use another step in the production.
- i. Distillation is the process used to produce a higher concentration of ethanol.
  - (1) In distillation, a fermented beverage is heated to the point where the ethanol begins to boil.
  - (2) The ethanol vapor is collected and allowed to cool until it turns back into a liquid.
  - (3) By repeating the process of heating the liquid and collecting and cooling the vapors, higher and higher concentrations of ethanol can be produced.
  - (4) Ethanol beverages that are produced by distillation are called distilled spirits.
- j. Over the centuries in which people have produced ethanol, some standard-sized servings of different beverages have evolved.

Reveal the lower part of Overhead II-15.

POINT OUT that ethanol starts to boil at a lower temperature than does water.



ASK PARTICIPANTS to name some "distilled spirits" (e.g., whiskey; vodka; gin; rum; etc.)

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
II-16

(1) Beer is usually served in 12-ounce cans or bottles. Since beer averages an alcohol concentration of four percent, a can or bottle contains a bit less than one-half ounce of pure ethanol.

(2) Wine typically is served in a four-ounce glass. At an alcohol concentration of 12 percent, the glass of wine also has just a bit less than one-half ounce of pure ethanol.

(3) Whiskey and other distilled spirits are dispensed in a "shot" glass, which usually contains one and one-quarter ounces of liquid.

(4) Since whiskey usually has an alcohol concentration of 40%, a "shot" of whiskey has exactly one-half ounce of pure ethanol.

k. Standard-sized servings of beer, wine and whiskey all pack the same "punch".

2. Physiologic Processes

a. Alcohol is the most abused drug in the United States.

b. Alcohol is a central nervous system depressant:

Reveal only the "beer" part of the overhead.

Reveal the "wine" part of Overhead II-16.

Reveal the "whiskey" part of Overhead II-16.

POINT OUT that the "proof" of a distilled spirit is equal to twice the ethanol concentration.

SOLICIT participants comments and questions on this overview of alcohol.



**Display**

II-17

**Aids**

**Lesson Plan**

**Instructor Notes**

- (1) It doesn't impair until it gets into the brain.
- (2) It can't get into the brain until it first gets into the blood.
- (3) It can't get into the blood until it first gets into the body.
- c. There are a number of ways in which alcohol can get into the body.
  - (1) It can be injected into a vein, via hypodermic needle.
  - (2) It can be inhaled, i.e., alcohol fumes can be brought into the lungs, and some molecules will pass into the blood.
  - (3) But the vast majority of times that alcohol gets into the body, it gets there via drinking.
- d. Once the alcohol is in the stomach, it will take two routes to get into the blood.

POINT OUT that a person would have to inhale concentrated alcohol fumes for a prolonged period of time in order to develop a significant blood alcohol concentration.



**Display**  
II-18

- (1) One interesting thing about alcohol is that it is able to pass directly through the stomach walls.

POINT to that "route of passage" on Overhead II-18.

(2) Under normal conditions, about 20% of the alcohol a person drinks gets into the blood by diffusing through the walls of the stomach.

(3) But most of the alcohol usually passes through the base of the stomach into the small intestine, from which it passes quickly into the blood.

e. Another interesting thing about alcohol is that it does not have to be digested before it can move from the stomach to the small intestine.

(1) When a person eats food, the food must remain for a time in the stomach.

(2) Acids and enzymes in the stomach must begin to break down the food to prepare it to pass to the lower portion of the gastrointestinal tract.

(3) While the initial digestive process is underway, a muscle at the base of the stomach will constrict, and shut off the passage to the small intestine.

POINT to that "route of passage" on Overhead II-18.

(4) That muscle is called the pylorus, or pyloric valve.

f. Since alcohol doesn't have to be digested, the pylorus does not constrict when alcohol enters the stomach.

(1) If we drink on an empty stomach, the pylorus stays wide open.

(2) The alcohol will pass immediately through the base of the stomach, into the small intestine, and quickly move into the bloodstream.

g. But what will happen if there is food in the stomach when the person drinks alcohol?

(1) Food will cause the pylorus to constrict.

(2) While the pylorus is closed, nothing will move from the stomach to the small intestine.

(3) Any alcohol that is in the stomach will be "trapped" there, along with the food.

POINT to the pylorus on Overhead II-18.



POSE this question to the class.



Display  
II-19

(4) The alcohol will not get into the blood as quickly, and the blood alcohol concentration will not get as high, as if the drinking had been done on an empty stomach.

(5) While the alcohol is trapped in the stomach, the acids and enzymes will start to react with it and break it down.

(6) By the time the pylorus opens, some of the alcohol will have been chemically changed, so there will be less available to get into the blood.

h. Once alcohol gets into the blood, the blood will carry it to the various tissues and organs of the body.

(1) Alcohol is attracted to water. The blood will deposit the alcohol in all the parts of the body where water is found.

(2) Parts of the body that have a lot of water will receive a lot of alcohol.

(3) Parts of the body that have only a little water will receive little alcohol.

SOLICIT participants' comments and questions about the absorption of alcohol into the blood.

Reveal top part of overhead only.

Now reveal lower part of Overhead II-19.

## Aids

## Lesson Plan

## Instructor Notes



**Display**  
II-20

- i. Which parts of the body have a lot of water?
  - (1) The brain
  - (2) The liver
  - (3) Muscle Tissue
  - (4) The Kidney
  
- j. Which parts contain very little water?
  - (1) Bones
  - (2) Fatty tissue
  
- k. The muscle tissue will receive a relatively high proportion of the alcohol that a person drinks.
  
- l. The fatty tissue will receive very little of the alcohol.
  
  
- m. Here is an interesting and significant difference between men and women: pound-for-pound, the average male has much more water in his body than the average female.
  - (1) The female body has more fatty tissue than does the male body.
  
  - (2) Pound-for-pound, the average female has more fat and less muscle than does the average male.



POSE this question, and solicit responses from participants. Then, display the first part of Overhead II-20 (Which Parts ..)



POSE this question and solicit responses from participants. Then, display the second part of Overhead II-20.

POINT to "muscle tissue" on Overhead II-20.

POINT to "fatty tissue" on Overhead II-20.

NOW REVEAL the last part of Overhead II-20 (The average..)



ASK participants to suggest why this significant difference exists.

Clarification: the female's extra fatty tissue serves as a "shock absorber" and thermal insulator to protect a baby in the womb.



**Display**  
II-21

(3) Since fatty tissue has very little water, the average female, pound-for-pound, has less water than the average male.

(4) This means that the average woman has fewer places in her body in which to deposit the alcohol she drinks.

n. The woman's blood alcohol concentration will be higher than the man's, because she has less water in which to distribute the alcohol.

o. As soon as alcohol gets into the body, the body begins working to get rid of it.

(1) Some alcohol is simply **expelled directly** from the body, i.e., on the breath, in the sweat, in urine, etc.

(2) Relatively little of the alcohol we drink is directly expelled from the body.

(3) The body eliminates most of the alcohol by chemically breaking it down.



**ASK PARTICIPANTS:**  
Suppose a woman and a man who weigh exactly the same drink exactly the same amount of alcohol under exactly the same conditions. Who will reach the higher BAC?

Solicit participants' comments and questions about the distribution of alcohol in the body.

Reveal only the top part of the overhead.

Reveal the middle part of the overhead.

Clarification: Only about 2-10% of the alcohol we consume is directly excreted in the breath, urine, etc.



**ASK PARTICIPANTS:**  
What organ in the body is primarily responsible for chemically breaking the alcohol down?

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
II-22

(4) The liver is primarily responsible for breaking down, or metabolizing, the alcohol.

p. Metabolism of alcohol actually consists of a slow, controlled **burning** of the alcohol.

(1) In the burning process, the alcohol combines with oxygen.

(2) The liver has an enzyme called **alcohol dehydrogenase**, which helps to speed up the reaction of oxygen with the alcohol.

(3) The reaction of alcohol with oxygen ultimately produces carbon dioxide and water, which can be directly expelled from the body.

Reveal the bottom part of the overhead.

Instructor, for your information: Some metabolism of alcohol also takes place in other parts of the body, including the brain. But the liver does the vast majority of the job.

Reveal the first "bullet" of the overhead.

Reveal the second "bullet" of the overhead.

Clarification: The enzyme does not react with the alcohol itself, but simply makes it easier for the oxygen to react with the alcohol. The technical term for something that helps a chemical reaction while not itself taking part in the reaction is a **catalyst**. Alcohol dehydrogenase is a catalyst for the metabolism of alcohol.

Reveal the third "bullet" of the overhead.

(4) The speed with which the liver burns alcohol varies from person to person, and will change from time to time for any particular person.

(5) **BUT ON THE AVERAGE:** Due to metabolism, a person's BAC will drop by about 0.015 per hour.

q. For the average male, a BAC of 0.015 is equal to the alcohol content of about two-thirds of a "standard drink".

(1) i.e., about two-thirds of a can of beer.

(2) or about two-thirds of a glass of wine, or two-thirds of a shot of whiskey.

r. For the average woman, a BAC of 0.015 is equal to the alcohol content of only one-half of a "standard drink".

(1) So the average male can "burn up" about two-thirds of a drink in an hour.

(2) But the average female can only burn up about one-half of a drink in an hour.

(3) If an average man

Reveal the final "bullet" of the overhead.



**POSE** this problem to the class: Suppose a person reaches a peak BAC of 0.15. How long will it take for his or her body to eliminate all of the alcohol?  
**Answer: ten hours** [0.15-(X hours)(0.015/hour) X = 10]

**Note:** The term BAC is used in the manual. However, it should be understood to refer to either Blood Alcohol Concentration (BAC) or Breath Alcohol Concentration (BrAC) depending on the legal requirements of the jurisdiction.



**Display**  
II-23

drinks a can of beer, it will take him about an hour and one-half to burn up that alcohol; if a woman does the same thing, it will take her about two hours.

s. How can we speed up the metabolism of alcohol?

(1) We can't speed it up.

(2) Drinking coffee won't help.

(3) A cold shower won't help.

(4) Exercise won't help.

t. The liver takes its time burning up the alcohol.

3. Dose-Response Relationships

a. What does "**Blood Alcohol Concentration**" mean?

(1) Blood alcohol concentration means the number of **grams** of alcohol that are found in every **100 milliliters** of a person's blood.

(2) A gram is a measure of weight; it takes almost 500 grams to make a pound.



POSE this question to the class.


Solicit participants' comments and questions about the elimination of alcohol from the body.

Reveal only the question at the top of the overhead.

Solicit participants' responses.

Reveal the middle part of Overhead II-23.

Instructor, for your information: It actually takes 454 grams to make a pound.

	<p>(3) A milliliter is a measure of <u>volume</u>. It takes about 500 milliliters to make a pint.</p> <p>(4) The so-called "illegal limit" of BAC in all states is 0.08.</p> <p>(5) If a person has a BAC of 0.08, it means there are 0.08 grams of pure ethanol in every 100 milliliters ("percent") of his/her blood.</p> <p>b. How much alcohol does a person have to drink to reach a BAC of 0.08?</p> <p>(1) Take an average male weighing 175 pounds and in reasonably good physical shape.</p> <p>(2) Assume he does his drinking on an empty stomach.</p> <p>(3) It is estimated that a person would have to consume four cans of beer, four glasses of wine or four shots of 80-proof whiskey in a fairly short period of time to reach a BAC of 0.08.</p>	<p>Example: A 12-ounce can of beer has about 350 milliliters.</p> <p>Reveal the bottom part of Overhead II-23.</p> <p>The term "percent" is sometimes informally used because the concentration is determined in units of one hundred. However, instead of being a true "percent", the actual units are measured in mass (grams) of ethanol per volume (milliliters) of blood.</p> <p> POSE this question to the class.</p> <p>NOTE: There are numerous physiological variables that can affect BAC such as gender, weight, stomach contents, medical/health, metabolic rate, etc.</p>
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Aids	Lesson Plan	Instructor Notes
	<p>(4) Review questions are located at end of Session II (Optional Test).</p> <p>(5) In terms of pure ethanol, that would amount to just about two and one-half fluid ounces, or about two shot glasses.</p> <p>(6) If one of the shot glasses was filled with <b>pure ethanol</b> and the other half-filled, there would be enough of the drug to bring an average man's BAC to 0.08.</p> <p>(7) So answer this: Does it take a <u>lot</u> of ethanol to impair a person, or only a <u>little</u>?</p> <p>c. In one respect, it certainly doesn't take much ethanol to impair: Just two full shot glasses will more than do the trick for a full-sized man.</p> <p>d. <b>BUT COMPARED TO OTHER DRUGS</b>, it takes an enormous quantity of ethanol to cause impairment.</p> <p>Physiology of Alcohol Participant Review</p> <p>- Name three different chemicals that are alcohols.</p>	<p>DISPLAY two standard-sized shot glasses, filled with water.</p> <p>HOLD up the two shot glasses while posing the next question.</p> <p>Solicit participants' responses to the question.</p> <p>HOLD up the glasses again.</p> <p>Methyl, Ethyl and Isopropyl. (or, Methanol, Ethanol and Isopropanol.) (or, Wood Alcohol, Beverage Alcohol, and</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>- Which of these is beverage alcohol, intended for human consumption?</li> <li>- What is the chemical symbol for beverage alcohol?</li> <li>- What is the name of the chemical process by which beverage alcohol is produced naturally?</li> <li>- What is the name of the process used to produce high-concentration beverage alcohol?</li> <li>- Multiple Choice: "Blood alcohol concentration is the number of _____ of alcohol in every 100 milliliters of blood."  A. grams B. milligrams C. nanograms</li> <li>- True or False: Pound-for-pound, the average woman contains more water than does the average man.</li> <li>- What do we mean by the "proof" of an alcoholic beverage?</li> <li>- Every chemical that is an "alcohol" contains what three elements?</li></ul>	<p>Rubbing Alcohol.)</p> <p>Ethanol is the beverage alcohol, intended for human consumption.</p> <p>The four-letter chemical symbol is ETOH.</p> <p>Fermentation</p> <p>Distillation</p> <p>Correct answer is <u>A</u>, "grams".</p> <p>The statement is <u>false</u>. The average woman actually has a good deal less water, pound-for-pound, than does the average man. She is about 55% water, he is about 68%.</p> <p>"Proof" means <u>twice</u> the ethanol percentage of the beverage. For example, 80-proof vodka is 40% ethanol.</p> <p>The three elements common to all alcohols are: carbon, hydrogen and oxygen.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>- True or False: Most of the alcohol that a person drinks is absorbed into the blood via the small intestine.</li> <li>- What is the name of the muscle that controls the passage from the stomach to the lower gastrointestinal tract?</li> <li>- True or False: Alcohol can pass directly through the stomach walls and enter the bloodstream.</li> <li>- Multiple Choice: Suppose a man and a woman who both weigh 160 pounds arrived at a party and started to drink at the same time. And suppose that, two hours later, they both have a BAC of 0.10. Chances are ....  A. he had more to drink than she did. B. they drank just about the same amount of alcohol. C. he had less to drink than she did.</li> <li>- In which organ of the body does most of the metabolism of the alcohol take place?</li> <li>- What is the name of the enzyme that aids the metabolism of alcohol?</li></ul>	<p>The statement is <u>true</u>. Under normal conditions, about 80% of the ethanol in the stomach will pass through the pyloric valve into the small intestine, from which it will quickly move into the bloodstream.</p> <p>The muscle is called the pylorus, or pyloric valve.</p> <p>The statement is <u>true</u>. Usually, about 20% of the ethanol a person drinks diffuses through the stomach walls to enter the blood.</p> <p>Correct answer is <u>A</u>, "more".</p> <p>The liver is where most metabolism takes place.</p> <p>Alcohol dehydrogenase is the enzyme that serves as a catalyst for alcohol's metabolism in the liver.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

- Multiple Choice: Once a person reaches their peak BAC, it will drop at a rate of about \_\_\_ per hour.

- A. 0.025
- B. 0.015
- C. 0.010

- True or False: It takes about thirty minutes for the average 175-pound man to "burn off" the alcohol in one 12-ounce can of beer.

Correct answer is B, "0.015"  
(But remember: This is an average value, with wide variations among individuals.)

The statement is false. The average 175-pound man will need 90 minutes to metabolize the alcohol.

## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. The average DWI violator commits that violation \_\_\_\_ times a year.
2. In typical enforcement jurisdictions one DWI violation in \_\_\_\_ results in arrest.
3. In the Fort Lauderdale study, police officers arrested \_\_\_\_ percent of the drivers they contacted whose BACs were .10 to .20.
4. Name three different chemicals that are **alcohols**. Which of these is **beverage alcohol**, intended for human consumption? What is the chemical symbol for beverage alcohol?
5. What is the name of the chemical process by which beverage alcohol is produced **naturally**? What is the name of the process used to produce **high-concentration** beverage alcohol?
6. Multiple Choice: "Blood alcohol concentration is the number of \_\_\_\_\_ of alcohol in every 100 milliliters of blood."
  - A. grams
  - B. milligrams
  - C. nanograms
7. True or False: Pound-for-pound, the average woman contains more water than does the average man.
8. What do we mean by the "proof" of an alcoholic beverage?
9. Every chemical that is an "alcohol" contains what three elements?
10. True or False: Most of the alcohol that a person drinks is absorbed into the blood via the small intestine.
11. What is the name of the muscle that controls the passage from the stomach to the lower gastrointestinal tract?
12. True or False: Alcohol can pass directly through the stomach walls and enter the bloodstream.

13. Multiple Choice: Suppose a man and a woman who both weigh 160 pounds arrived at a party and started to drink at the same time. And suppose that, two hours later, they both have a BAC of 0.10. Chances are ....
- A. he had more to drink than she did.
  - B. they drank just about the same amount of alcohol.
  - C. he had less to drink than she did.
14. In which organ of the body does most of the metabolism of the alcohol take place?
15. What is the name of the enzyme that aids the metabolism of alcohol?
16. Multiple Choice: Once a person reaches his or her peak BAC, it will drop at a rate of about \_\_\_\_\_ per hour.
- A. 0.025
  - B. 0.015
  - C. 0.010
17. True or False: It takes about thirty minutes for the average 175-pound man to "burn off" the alcohol in one 12-ounce can of beer.

One Hour and Ten Minutes

SESSION III  
THE LEGAL ENVIRONMENT

## SESSION III

### THE LEGAL ENVIRONMENT

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

- o State and discuss the elements of DWI offenses.
- o Discuss the provisions of the implied consent law.
- o Discuss the relevance of chemical test evidence.
- o Discuss precedents established through case law.

#### CONTENT SEGMENTS

- A. Basic DWI Statute: Driving While Under The Influence
- B. Implied Consent Law and Presumptions
- C. Illegal Per Se Statute: Driving With A Proscribed Blood Alcohol Concentration
- D. Preliminary Breath Testing
- E. Case Law Review

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Reading Assignments



Display III-O (Session Objectives)



70 Minutes

**III LEGAL ENVIRONMENT**

(Time varies with the complexity and variation of your state's laws relating to drinking-driving and DWI enforcement).

**INSTRUCTOR PLEASE NOTE: The lesson plans for this module are based on a generic set of drinking-driving laws, patterned after the Uniform Vehicle Code. Significant modification may be required to adapt this module to the current statutes of your state.**



10 Minutes

**A. Basic DWI Statute: Driving While Under the Influence**

1. Elements of the offense: it is unlawful for any person to...
  - a. operate or be in actual physical control of...
  - b. any vehicle...
  - c. within this state...
  - d. while under the influence of alcohol and/or any drug.
  
2. In order to arrest someone for a basic DWI violation, officer must have probable cause to believe that all four elements are present.

Discuss meaning/interpretation of "operational/actual physical control."

Discuss meaning of "vehicle".

i.e., public or private property anywhere in the state.



Ask class: "What does under the influence mean?" Probe for a variety of responses.

Note: If DWI is not a criminal offense, burden of proof is less than "beyond a reasonable doubt."



Display  
III-1



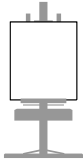
20 Minutes

3. In order to convict a person of DWI, the arresting officer must establish beyond a reasonable doubt that all four elements were present.
4. In particular, the arresting officer must establish that the accused was "under the influence".
  - a. Courts have generally held that "under the influence" means the ability to operate a vehicle has been affected, or impaired.
  - b. To convict a person of DWI, the arresting officer must be able to show that the person's capability of safe operation has been impaired.

**B. Implied Consent Law and Presumptions**

1. The question of how much impairment constitutes too much impairment is not completely clear.
  - a. Some courts have held that impairment of driving to the slightest degree means the person is "under the influence."
  - b. Other courts have insisted on evidence of substantial driving impairment before they will convict someone of DWI.

Emphasize: Participants must be prepared to articulate the impairment exhibited by the defendant at the time of the stop.



**Display**  
III-2

- c. The element of "under the influence" thus historically was (and remains) very difficult to prove.
- 2. The principal purpose of the Implied Consent Law is to encourage people arrested for DWI to submit to chemical test, to provide scientific evidence of alcohol and/or drug influence.
- 3. Key features/elements of the Implied Consent Law generally include:
  - a. Any person who operates a motor vehicle upon the public highways of this state...
  - b. Shall be deemed to have given consent to a chemical test...
  - c. For the purpose of determining the alcohol and/or drug content of that person's blood...
  - d. When arrested for any acts alleged to have been committed while the person was operating or in actual physical control of a vehicle while under the influence of alcohol and/or any drug.
- 4. If a person so arrested refused to submit to the chemical test, no test shall be given.

Write "Implied Consent Law" on dry-erase board or flipchart.

NOTE: Present here the information relative to your state.

NOTE: Some states use breath alcohol concentration (BrAC).

Point out that the Implied Consent Law requires the driver to submit to a chemical test(s). The law provides penalties for refusal to submit to the test(s).



Display  
III-3



Display  
III-4

- a. However, the law provides that the person's driver's license may be suspended or revoked.
  - b. The provision for the license suspension (or revocation) exists to encourage DWI arrestees to submit to the test, so that valuable chemical evidence may be obtained.
5. Legal presumptions define the significance of scientific chemical test evidence. They are provided by your state's statutes.
- a. If test shows blood alcohol concentration is \_\_\_\_ or more: it shall be presumed that the person is under the influence.
  - b. If test shows BAC is \_\_\_\_ or less: it shall be presumed that the person is not under the influence.
  - c. If test shows BAC is more than \_\_\_\_ but less than \_\_\_\_, there is no presumption as to whether the person is or is not under the influence.
6. Key Point: As far as establishing that the person was "under the influence" is concerned, The weight of the chemical test evidence is presumptive, not conclusive.

The right to refuse the test is not an unlimited right: the license action is the "price" of the refusal.

NOTE: Statutory presumption levels vary from state to state.  
**Know your state law!**

Insert here: \_\_\_\_\_ your state statutory levels.

NOTE: Specific laws concerning underage drinkers or commercial motor vehicle operators should be addressed here.

Point out that, even though there is no presumption of alcohol influence in that range, the test result is still competent, admissible evidence.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
III-5**



**Display  
III-6**

a. If there is no evidence to the contrary, the court may accept the legal presumption, and conclude that the person was or was not under the influence on the basis of the chemical test alone.

b. However, other evidence (such as testimony concerning observations of the accused's driving, demeanor, appearance, speech, etc.) may be sufficient to overcome the presumptive weight of the chemical test.

c. Question number one: is it possible for a person whose blood alcohol concentration was above the per se or presumptive level to be acquitted of DWI?

d. Question number two: is it possible for a person whose blood alcohol concentration was below the per se or presumptive level to be convicted of DWI?

e. Summary point: The chemical test provides presumptive evidence of alcohol influence, but does

Example:

- o chemical test result 0.13;
- o arresting officer's testimony concerning defendant's driving, appearance, actions, etc., is sketchy or unclear;
- o defendant and/or other witnesses testify that defendant drove, acted, spoke, etc., in a normal fashion;
- o result: not guilty.

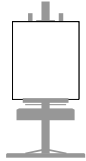
Example:

- o chemical test result 0.05;
- o arresting officer provides clear, descriptive testimony concerning defendant's impaired driving, stuporous appearance, slurred speech, difficulty in balancing, inability to perform field sobriety tests, etc.
- o result: guilty.

Solicit participant's questions concerning the nature and legal significance of "presumptive evidence."



5 Minutes

Display  
III-7

not provide conclusive evidence.

**C. Illegal Per Se Statute:  
Driving with a Prohibited  
Blood Alcohol Concentration**

1. Illegal Per Se is another drinking-driving offense, related to, but different from DWI.
  
2. Elements of the Offense: it is unlawful for any person to...
  - a. operate or be in actual physical control of...
  - b. any vehicle...
  - c. within this state...
  - d. while having a blood alcohol concentration at or above state's level.
  
3. Illegal Per Se makes it an offense, in and of itself, to drive while having a BAC at or above state's level.
  - a. To convict someone of an Illegal Per Se violation, it is not necessary to establish that the driver was under the influence.
  - b. It is sufficient to establish that the driver's BAC was at or above state's level while operating a vehicle in this

Instructor please note: If your state does not have an Illegal Per Se law, you may wish to skip this segment.

Write "Illegal Per Se" on dry-erase board or flipchart.


Compare and contrast these elements with the elements of DWI.

Point out that "Per Se" roughly translates as "in and of itself."

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>state.</p> <p>4. The Illegal Per Se law does not replace the DWI law: the two statutes work side-by-side.</p> <ul style="list-style-type: none"><li>a. The two laws define two separate offenses.</li><li>b. One law makes it an offense to drive while under the influence of alcohol and/or any drug.</li><li>c. The other law makes it an offense to drive while having more than a certain percentage of alcohol in the blood.</li><li>d. Since there is an Illegal Per Se law, why is it necessary to retain the old DWI law?</li></ul> <p>5. For the Illegal Per Se offense, the chemical test result is <u>conclusive</u> evidence.</p> <p>6. Principal purpose of Illegal Per Se law is to facilitate <u>prosecution</u> of drinking-driving</p>	<p> Pose the question to the class. Probe for responses until at least the following points have emerged:</p> <ul style="list-style-type: none"><li>o some suspects refuse to submit to chemical testing;</li><li>o some violators are under the influence of drugs other than alcohol;</li><li>o some are under the influence of alcohol at BACs below state's level.</li></ul> <p>Contrast with the DWI offense.</p> <p>NOTE: Instructors must know their state law.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>offenders.</p> <ul style="list-style-type: none"><li>a. The law reduces the state's burden of proof.</li><li>b. Not necessary to show that defendant was "under the influence."</li><li>c. Sufficient to show that defendant's BAC was at or above state's level.</li></ul> <p>7. However, Illegal Per Se law doesn't really make drinking-driving <u>enforcement</u> any easier.</p> <ul style="list-style-type: none"><li>a. Officer must still have probable cause to believe that the suspect is under the influence before the arrest can be made.</li><li>b. Implied Consent law requires that suspect <u>already be arrested</u> before the suspect is deemed to have given consent to submit to the chemical test.</li><li>c. Implied Consent law also requires that the arrest be made for "acts alleged to have been committed while operating a vehicle while under the influence..."</li></ul> <p>8. Summary point: police officers dealing with drinking-driving suspects must continue to rely primarily on their own powers of <u>detection</u> to determine whether or not an arrest should be made.</p>	<p>NOTE: Instructor should review your state's policy.</p> <p>i.e., not required to demonstrate that the defendant's ability to drive was affected.</p> <p>NOTE: Sufficient grounds for making the stop must be articulated.</p> <p>Remind participants that allegation is more than mere suspicion: requires probable cause to believe the offense has been committed.</p>
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5 Minutes

- a. Usually, it is impossible to obtain a legally admissible chemical test result until after the suspect is arrested.
- b. In some cases, suspects will refuse the chemical test after being arrested; then, the case will depend strictly on the officer's observations and testimony.
- c. While making a DWI arrest, an officer should always assume that the suspect will refuse the chemical test.
- d. The officer should strive to organize and present all observations in the written report and in verbal testimony, in such a clear and convincing fashion that the violator will be convicted regardless of whether the test is taken and regardless of the test result.

**D. Preliminary Breath Testing: Obtaining an indication of suspect's BAC prior to arrest**

1. Purpose of the law: The preliminary breath testing law permits a police officer to request a DWI suspect to submit to an on-the-spot breath test prior to arresting the suspect for DWI.
2. Application of the law: When an officer has reason to believe...

NOTE: Stress the importance of thorough documentation, i.e., "The DWI Investigative Field Notes" that will be explained in Session IV.

**Instructor please note:** If your state does not have a preliminary breath testing law, skip this segment.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>a. From the manner in which a person is operating or has operated a motor vehicle...</li> <li>b. That the person has or may have committed the offense of operating while under the influence...</li> <li>c. The officer may request that person to provide a sample of breath for a preliminary test of the alcohol content of the blood...</li> <li>d. Using a device approved for this purpose.</li> </ul> <p>3. Application of preliminary breath test results.</p> <ul style="list-style-type: none"> <li>a. The preliminary breath test shall be used for helping to determine whether an arrest should be made.</li> <li>b. Results of the preliminary breath test may not be used as evidence against the defendant in court.</li> </ul> <p>4. There may be penalties for refusal to submit to the preliminary breath test.</p> <ul style="list-style-type: none"> <li>a. License action (suspension, etc.)</li> <li>b. Fine</li> <li>c. Other penalty provisions</li> </ul>	<p><u>Please note:</u> Preliminary breath testing laws differ significantly from one state to another. Substantial modification of this segment of lesson plans may be needed to reflect your state's laws accurately.</p> <p>Instructor please note: Outline the statutory/ administrative penalties for PBT refusal in your state, if any.</p>

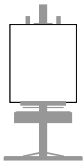
**Aids**

**Lesson Plan**

**Instructor Notes**



**30 Minutes**



**E. Case Law Review**

The following cases are landmark court decisions relevant to the admissibility of the SFSTs including Horizontal Gaze Nystagmus.

Challenges to the admissibility have been based on:

1. Scientific validity and reliability.
2. Relationship of HGN to specific BAC level.
3. Officer training, experience, and application.

The National Traffic Law Center (NTLC) has a list of every state's Appellate Court/ Supreme Court case addressing HGN and SFST issues. The materials are available to law enforcement at [www.ndaa.org/apri/NTLC](http://www.ndaa.org/apri/NTLC) or by phone (703) 549-4253.

See Blake case.

See Loomis case.

See Murphy case.  
See Homan case.  
See Smith

NOTE: Prepare the following matrix on the dry-erase board or flipchart using Blake, Loomis, Murphy, Homan, and Smith. Refer to Attachment A to select case law applicable to your state.

<u>CASE NAME</u>	<u>STATE</u>	<u>YEAR</u>	<u>APPELLATE/ SUPREME COURT</u>	<u>ADMISSIBLE</u>	<u>EVIDENCE OF BAC</u>
Blake					
Loomis					
Murphy					
Homan					
Smith					

4. State vs. Blake

- a. This is considered a landmark case on HGN,

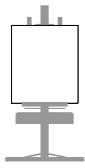
Write "Arizona; 1986" opposite **Blake** on the matrix.

Place a large asterisk on the matrix next to **Blake**.

**Aids**

**Lesson Plan**

**Instructor Notes**

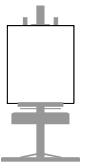


because it was the **first State Supreme Court-level** ruling.

- b. The Arizona Supreme Court found that HGN satisfies the **Frye** standards for evidence to corroborate, or attack, the issue of a suspect's impairment.
  
- c. In effect, in the **Blake** case, the Arizona Supreme Court took judicial notice of HGN: Henceforth, in Arizona, it is not necessary to introduce expert scientific testimony to secure the admissibility of HGN.
  
- d. The court also set standards governing the training of officers who would be qualified to testify about HGN.
  
- e. The Court also explicitly found that HGN **cannot** be used to establish BAC quantitatively in the absence of a chemical test.

5. People vs. Loomis

- a. Court held that the officer was not entitled to testify as either a lay or expert witness about HGN, or to give his opinion about the defendant's BAC.



Write "**Frye Standards**" on the dry-erase board or flipchart. Clarification: The **Frye** case (decided by the U.S. Supreme Court) set the standards governing the admissibility of "new" scientific evidence.


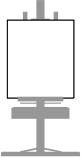
Under "Admissibility" opposite **Blake**, write "**Absolutely YES**".

Under "Evid of BAC" opposite **Blake**, write "**Absolutely NO**".

Write "California; 1984" opposite Loomis on the matrix.

Point out that the arresting officer attempted to use the onset angle to give a quantitative estimate of BAC. The court would not accept it.

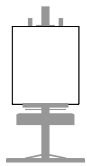
Under "Evid of BAC" opposite **Loomis**, write **NO**.

Aids	Lesson Plan	Instructor Notes
	<p>b. Court held that HGN is new form of scientific evidence that will be allowed only when there is preliminary showing of its general acceptance in the scientific community.</p> <p>6. State vs. Murphy</p> <p>a. The court ruled that the results of a HGN test could be admitted into evidence because HGN was one of the SFSTs and the observations of intoxication obtained from the test were objective in nature.</p> <p>b. The court noted that the officer was properly trained to administer the test and that there was no need that an officer be specially qualified to be able to interpret the results.</p> <p>c. The court also ruled that HGN test results could not be used to determine a specific BAC level.</p>	<p>Point out that the officer's testimony clearly demonstrated that he was not properly trained in HGN, and didn't really understand how the test is to be given.</p> <p>Under "Admissibility?" opposite <b>Loomis</b>, write <b>NO</b>.</p> <p>Write "Iowa; 1990" opposite <b>Murphy</b> on the matrix.</p> <p>Under "Appellate Court Case" write <b>"YES"</b>.</p> <p>Under "Admissibility" opposite <b>Murphy</b> write <b>"YES"</b>.</p>
	<p>7. State vs. Homan</p> <p>a. The court ruled that SFSTs conducted in a manner that departs from the methods established by NHTSA are "inherently unreliable."</p>	<p>Under "Evidence of BAC" write <b>"NO"</b>.</p> <p>Write "Ohio; 2000" opposite <b>Homan</b> on the matrix.</p> <p>Under "Supreme/Appellate Court" write <b>"YES"</b>.</p> <p>Under "Admissibility" write <b>"NO"</b>.</p> <p>Under "Evidence of BAC" write <b>"NO"</b>.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**



- b. The court noted the statement in the NHTSA Participant Manual which states “if any of the SFST elements is changed, the validity of the tests is compromised.”
- c. This decision was based upon an older edition of this manual and was a strict interpretation by the court. The phrase in question only applied to the use of SFSTs for training purposes.

8. Smith vs. Wyoming

- a. For the purpose of establishing probable cause, an officer may testify to the results of field sobriety tests (including HGN) if it is shown that the officer has been adequately trained and conducted them in substantial accordance with that training.
- b. Deficiencies in the administration of the SFSTs go to the weight accorded the evidence and not to its admissibility.

9. Summary of HGN Case Law.

Note: “FOR TRAINING PURPOSES, THE SFSTs ARE NOT AT ALL FLEXIBLE. THEY MUST BE ADMINISTERED EACH TIME, EXACTLY AS OUTLINED IN THE COURSE.”

Regarding Homan and State vs. Schmitt, 101 Ohio St 3d 19, 2004.

Also: See SFST Instructor’s Manual, Session VII, page 4, Instructor’s Notes column.

See the Administrator’s Guide, page 8, number 8.

Note: The Homan decision does not preclude officers from testifying to observations even if SFSTs are barred. See *Ohio v. Schmitt*, 101 Ohio St.3d 79, 2004.

Write “Wyoming; 2000” opposite **Smith** on the matrix.

Under “Supreme/Appellate Court” write “**SUPREME**”.

Under “Admissibility” opposite Smith write “**YES**”.

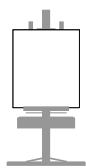
Under “Evidence of BAC” opposite Smith write “**N/A**”.

Solicit participants' questions and comments about case law.

**Aids**

**Lesson Plan**

**Instructor Notes**



- a. The prevailing trend, in recent years, is for courts to admit HGN as evidence of impairment, provided the proper scientific foundation has been laid.
- b. But courts consistently reject all attempts to introduce HGN as evidence of a quantitative BAC.

10. Case Law of Relative Importance.

- a. State vs. Ricke
  - (1) The court held that HGN test results could be admitted into evidence to **corroborate chemical test evidence** that a person was operating a motor vehicle with a BAC level at or above 0.10.
  - (2) The court also held that HGN results could be admitted as **independent proof** for the offense of DWI.
- b. State vs. City Court of City of Mesa
  - (1) The court ruled that in cases where there is no chemical test to determine a BAC level, HGN test results can be admitted the same as of field sobriety tests to show a **neurological dysfunction**, one cause of which could be the ingestion of alcohol.

NOTE: For further information, contact: American Prosecutors Research Institute's National Traffic Law Center, 99 Canal Center Plaza, Suite 510, Alexandria, Virginia, 22314, (703) 549-4253 to obtain a copy of Frye v. Federal Rules, May 1994 (an in-depth discussion of Frye).

Write each case on dry-erase board or flipchart.

Write "AZ; 1989" on dry-erase board or flipchart.

Write "In An Illegal Per Se Case" on dry-erase board or flipchart.

Cannot be used as evidence of specific BAC level.

Write "AZ; 1990" on dry-erase board or flipchart.

Write "No Chemical Test - HGN Admissible".

Write on dry-erase board or flipchart - "Cannot be used as evidence of specific BAC level".

NOTE: Use Attachment B for any relevant discussion.

## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. The elements of the Basic DWI Law are:
  - a.
  - b.
  - c.
  - d.
2. If DWI is a criminal offense, the standard of proof is \_\_\_\_\_  
\_\_\_\_\_
3. The purpose of the Implied Consent Law is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Under the Implied Consent Law, chemical test evidence is \_\_\_\_\_  
\_\_\_\_\_ evidence.
5. The Illegal Per Se Law makes it unlawful to \_\_\_\_\_  
\_\_\_\_\_
6. The PBT law permits a police officer to request a driver suspected of DWI to \_\_\_\_  
\_\_\_\_\_
7. PBT results are used to help determine \_\_\_\_\_  
\_\_\_\_\_

**American Prosecutors Research Institute  
National Traffic Law Center**

**HORIZONTAL GAZE NYSTAGMUS  
STATE CASE LAW SUMMARY**

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**INTRODUCTION**

The following state case law summary contains the seminal cases for each state, the District of Columbia and the Federal courts on the admissibility of HGN. Three main issues regarding the admissibility of the HGN test are set out under each state: evidentiary admissibility, police officer testimony, and purpose and limits of the HGN test results. The case or cases that address each issue are then briefly summarized and cited.

**Alabama**

**I. Evidentiary Admissibility**

HGN is a scientific test that must satisfy the *Frye* standard of admissibility. The Supreme Court of Alabama found that the State had not presented “sufficient evidence regarding the HGN test’s reliability or its acceptance by the scientific community to determine if the Court of Criminal Appeals correctly determined that the test meets the *Frye* standards.”

*Malone v. City of Silverhill*, 575 So.2d 106 (Ala. 1990).

**II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

**III. Purpose and Limits of HGN**

The Court did not address this issue.

**Alaska**

**I. Evidentiary Admissibility**

HGN is a scientific test. It is generally accepted within the relevant scientific community.

*Ballard v. Alaska*, 955 P.2d 931, 939 (Alaska Ct. App. 1998).

**II. Police Officer Testimony Needed to Admit HGN Test Result**

A police officer may testify to the results of HGN testing as long as the government establishes a foundation that the officer has been adequately trained in the test.

*Ballard*, 955 P.2d at 941.

### **III. Purpose and Limits of HGN**

HGN testing is “a reliable indicator of a person’s alcohol consumption and, to that extent, HGN results are relevant.” The court cautioned that the HGN test could not be used to correlate the results with any particular blood-alcohol level, range of blood-alcohol levels, or level of impairment. *Ballard*, 955 P.2d at 940.

#### **Arizona**

##### **I. Evidentiary Admissibility**

HGN is a scientific test that needs to satisfy the *Frye* standard of admissibility. State has shown that HGN satisfies the *Frye* standard. *State v. Superior Court (Blake)*, 718 P.2d 171, 181 (Ariz. 1986) (seminal case on the admissibility of HGN).

##### **II. Police Officer Testimony Needed to Admit HGN Test Result**

“The proper foundation for [admitting HGN test results] . . . includes a description of the officer's training, education, and experience in administering the test and showing that proper procedures were followed.”

*Arizona ex. rel. Hamilton v. City Court of Mesa*, 799 P.2d 855, 860 (Ariz. 1990).

*See also Arizona ex. Rel. McDougall v. Ricke*, 778 P.2d 1358, 1361 (Ariz. Ct. App. 1989).

### **III. Purpose and Limits of HGN**

HGN test results are admissible to establish probable cause to arrest in a criminal hearing. *State v. Superior Court (Blake)*, 718 P.2d at 182.

“Where a chemical analysis has been conducted, the parties may introduce HGN test results in the form of estimates of BAC over .10% to challenge or corroborate that chemical analysis.”

*Ricke*, 778 P.2d at 1361.

When no chemical analysis is conducted, the use of HGN test results “is to be limited to showing a symptom or clue of impairment.”

*Hamilton*, 799 P.2d at 858.

#### **Arkansas**

##### **I. Evidentiary Admissibility**

Novel scientific evidence must meet the *Prater* (relevancy) standard for admissibility. Because law enforcement has used HGN for over thirty-five years, a *Prater* inquiry is not necessary as the test is not “novel” scientific evidence. *Whitson v. Arkansas*, 863 S.W.2d 794, 798 (Ark. 1993).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

## **III. Purpose and Limits of HGN**

HGN may be admitted as evidence of impairment, but is not admissible to prove a specific BAC. *Whitson*, 863 S.W.2d at 798.

### **California**

#### **I. Evidentiary Admissibility**

HGN is a scientific test and the *Kelly/Frye* “general acceptance” standard must be applied. *California v. Leahy*, 882 P.2d 321 (Cal. 1994). *California v. Joehnk*, 35 Cal. App. 4<sup>th</sup> 1488, 1493, 42 Cal. Rptr. 2d 6, 8 (Cal. Ct. App. 1995).

“...[A] consensus drawn from a typical cross-section of the relevant, qualified scientific community accepts the HGN testing procedures....”  
*Joehnk*, 35 Cal. App. 4<sup>th</sup> at 1507, 42 Cal. Rptr. 2d at 17.

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer testimony is insufficient to establish “general acceptance in the relevant scientific community.” *Leahy*, 882 P2d. at 609. Also see *People v. Williams*, 3 Cal. App. 4<sup>th</sup> 1326 (Cal. Ct. App. 1992).

Police officer can give opinion, based on HGN and other test results, that defendant was intoxicated. Furthermore, police officer must testify as to the administration and result of the test. *Joehnk*, 35 Cal. App. 4<sup>th</sup> at 1508, 42 Cal. Rptr. 2d at 18.

#### **III. Purpose and Limits of HGN**

HGN may be used, along with other scientific tests, as some evidence that defendant was impaired. *Joehnk*, 35 Cal. App. 4<sup>th</sup> at 1508, 42 Cal. Rptr. 2d at 17.

HGN test results may not be used to quantify the BAC level of the defendant. *California v. Loomis*, 156 Cal. App. 3d Supp. 1, 5-6, 203 Cal. Rptr. 767, 769-70 (1984).

## **Connecticut**

### **I. Evidentiary Admissibility**

Proper foundation must be established in accordance with *Daubert* prior to the introduction of HGN test results. *State v. Russo*, 773 A.2d 965 (Conn. App. Ct. 2001).

Also see, *Connecticut v. Merritt*, 647 A.2d 1021, 1028 (Conn. App. Ct. 1994). HGN must meet the *Frye* test of admissibility. In this case, the state presented no evidence to meet its burden under the *Frye* test.

HGN satisfies the *Porter* standards and is admissible. (In *State v. Porter*, 698 A.2d 739 (1997), the Connecticut Supreme Court held the *Daubert* approach should govern the admissibility of scientific evidence and expressed factors to be considered in assessing evidence.)  
*Connecticut v. Carlson*, 720 A.2d 886 (Conn. Super. Ct. 1998).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Must lay a proper foundation with a showing that the officer administering the test had the necessary qualifications and followed proper procedures. *Connecticut v. Merritt*, 647 A.2d 1021, 1028 (Conn. App. Ct. 1994).

### **III. Purpose and Limits of HGN**

HGN test results can be used to establish probable cause to arrest in a criminal hearing.  
*Connecticut v. Royce*, 616 A.2d 284, 287 (Conn. App. Ct. 1992).

## **Delaware**

### **I. Evidentiary Admissibility**

HGN evidence is scientific and must satisfy the Delaware Rules of Evidence standard.  
*Delaware v. Ruthardt*, 680 A.2d 349, 356 (Del. Super. Ct. 1996).

HGN evidence is acceptable scientific testimony under the Delaware Rules of Evidence.  
*Ruthardt*, 680 A.2d at 362.

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer may be qualified as an expert to testify about the underlying scientific principles that correlate HGN and alcohol. Delaware police receiving three-day (twenty-four hour) instruction on HGN test administration are not qualified to do this.  
*Ruthardt*, 680 A.2d at 361-62.

Police officer testimony about training and experience alone, without expert testimony, is not enough foundation to admit HGN test results.  
*Zimmerman v. Delaware*, 693 A.2d 311, 314 (Del. 1997).

### **III. Purpose and Limits of HGN**

HGN test results admissible to show probable cause in a criminal hearing.  
*Ruthardt*, 680 A.2d at 355.

HGN test results admissible to show probable cause in a civil hearing.  
*Cantrell v. Division of Motor Vehicles*, 1996 Del. Super. LEXIS 265 (Del. Super. Ct. Apr. 9, 1996).

HGN test results cannot be used to quantify the defendant's BAC. However, they can be used as substantive evidence that the defendant was "under the influence of intoxicating liquor."  
*Ruthardt*, 680 A.2d at 361-62.

### **District of Columbia**

#### **I. Evidentiary Admissibility**

The Court does not address this issue.

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court used the case law of other jurisdictions to come to the conclusion that the Officer in the case could testify as an expert on the administration and the results of the HGN test. Therefore, in this case, the evidence was properly admitted using the Officer as the expert. See *Karamychev v. District of Columbia*, 772 A. 2d 806 (D.C. App. 2001).

### **III. Purpose and Limits of HGN**

The Court has not yet addressed this issue.

### **Florida**

#### **I. Evidentiary Admissibility**

The 3<sup>rd</sup> District Court found HGN to be a "quasi-scientific" test. Its application is dependent on a scientific proposition and requires a particular expertise outside the realm of common knowledge of the average person. It does not have to meet the *Frye* standard because HGN has been established and generally accepted in the relevant scientific community, and has been *Frye* tested in the legal community. The court took judicial notice that HGN is reliable based on supportive case law from other jurisdictions, numerous testifying witnesses and studies submitted. It is "no longer 'new or novel' and there is simply no need to reapply a *Frye* analysis."

*Williams v. Florida*, 710 So. 2d 24 (Fla. Dist. Ct. App. 1998).

The 4<sup>th</sup> District Court found HGN to be a scientific test. However, because it is not novel, the *Frye* standard is not applicable. However, “[e]ven if not involving a new scientific technique, evidence of scientific tests is admissible only after demonstration of the traditional predicates for scientific evidence including the test’s general reliability, the qualifications of test administrators and technicians, and the meaning of the results.” Without this predicate, “the danger of unfair prejudice, confusion of issues or misleading the jury from admitting HGN test results outweighs any probative value.” The state did not establish the appropriate foundation for the admissibility of HGN test results.

*Florida v. Meador*, 674 So. 2d 826, 835 (Fla. Dist. Ct. App. 1996), *review denied*, 686 So. 2d 580 (Fla. 1996).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

“We take judicial notice that HGN test results are generally accepted as reliable and thus are admissible into evidence once a proper foundation has been laid that the test was correctly administered by a qualified DRE [Drug Recognition Expert].”

*Williams*, 710 So. 2d at 32.

Also see *Bown v. Florida*, 745 So. 2d 1108 (Fl. Dist. Ct. App. 1999) which expands *Williams*. Allows trooper to explain HGN, but district requires confirmatory blood, breath or urine test before admitting HGN into evidence.

No evidence presented as to the police officer’s qualifications nor administration of the HGN test in this case.

*Meador*, 674 So. 2d at 835.

## **III. Purpose and Limits of HGN**

The HGN test results alone, in the absence of a chemical analysis of blood, breath, or urine, are inadmissible to trigger the presumption provided by the DUI statute, and may not be used to establish a BAC of .08 percent or more.

*Williams*, 710 So. 2d at 36.

## **Georgia**

### **I. Evidentiary Admissibility**

The HGN test is admissible as a “scientifically reliable field sobriety evaluation” under the *Harper* “verifiable certainty” standard. *Manley v. Georgia*, 424 S.E.2d 818, 819-20 (Ga. Ct. App. 1992).

HGN testing is judicially noticed as a scientifically reliable test and therefore expert testimony is no longer required before the test results can be admitted.

*Hawkins v. Georgia*, 476 S.E.2d 803, 808-09 (Ga. Ct. App. 1996).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer, who received specialized training in DUI detection and worked with a DUI task force for two years, was permitted to testify that, in his opinion, defendant was under the influence. *Sieveking v. Georgia*, 469 S.E.2d 235, 219-20 (Ga. Ct. App. 1996).

A Police officer who testifies to the results, administration, and procedure of HGN may be cross-examined about those areas even if the state only offers him as a POST-certified officer. This is because the analysis and expertise needed for HGN go far beyond those needed by a lay person who observes the walk and turn or one leg stance tests. *James v. State*, 2003 WL 1540235 (Ga. App.).

## **III. Purpose and Limits of HGN**

HGN test can be admitted to show that the defendant “was under the influence of alcohol to the extent that it was less safe for him to drive.” *Sieveking*, 469 S.E.2d at 219.

## **Hawaii**

### **I. Evidentiary Admissibility**

HGN is a scientific test. The HGN test is reliable under the Hawaii Rules of Evidence and admissible as “evidence that police had probable cause to believe that a defendant was DUI.” Judicial notice of the “validity of the principles underlying HGN testing and the reliability of HGN test results” is appropriate. HGN test results can be admitted into evidence if the officer administering the test was duly qualified to conduct the test and the test was performed properly. *Hawaii v. Ito*, 978 P.2d 191 (Haw. Ct. App. 1999).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Before HGN test results can be admitted into evidence in a particular case, however, it must be shown that (1) the officer administering the test was duly qualified to conduct and grade the test; and (2) the test was performed properly in the instant case. *Hawaii v. Ito*, 978 P.2d 191 (Haw. Ct. App. 1999), *See also Hawaii v. Toyomura*, 904 P.2d 893, 911 (Haw. 1992) and *Hawaii v. Montalbo*, 828 P.2d. 1274, 1281 (Haw. 1992).

### **III. Purpose and Limits of HGN**

HGN test can be admitted as “evidence that police had probable cause to believe that a defendant was DUI.” *Hawaii v. Ito*, 978 P.2d 191 (Haw. Ct. App. 1999).

## **Idaho**

### **I. Evidentiary Admissibility**

HGN test results admitted under the Idaho Rules of Evidence. Rule 702 is the correct test in determining the admissibility of HGN. *State v. Gleason*, 844 P.2d 691, 694 (Idaho 1992).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Officer may testify as to administration of HGN test, but not correlation of HGN and BAC. *State v. Garrett*, 811 P.2d 488, 493 (Idaho 1991).

### **III. Purpose and Limits of HGN**

“HGN test results may not be used at trial to establish the defendant's blood alcohol level . . . Although we note that in conjunction with other field sobriety tests, a positive HGN test result does supply probable cause for arrest, standing alone that result does not provide proof positive of DUI...”  
*Garrett*, 811 P.2d at 493.

HGN may be “admitted for the same purpose as other field sobriety test evidence -- a physical act on the part of [defendant] observed by the officer contributing to the cumulative portrait of [defendant] intimating intoxication in the officer's opinion.”  
*Gleason*, 844 P.2d at 695.

## **Illinois**

### **I. Evidentiary Admissibility**

HGN meets *Frye* standard of admissibility.  
*People v. Buening*, 592 N.E.2d 1222, 1227 (Ill. App. Ct. 1992).

Despite the ruling of the *Buening* appellate court, the Fourth District Court of Appeals declined to recognize HGN's general acceptance without a *Frye* hearing. The court criticized the *Buening* court for taking judicial notice of HGN's reliability based on the decisions of other jurisdictions.  
*People v. Kirk*, 681 N.E.2d 1073, 1077 (Ill. App. Ct. 1997).

The state supreme court held that the state was no longer required to show than an HGN test satisfied the Frye standard before introducing the results of the test into evidence. Absent proof by the defense that the HGN test was unsound, the State only had to show that the officer who gave the test was trained in the procedure and that the test was properly administered. *The People of the State of Illinois v. Linda Basler*, 740 N.E.2d 1 (Ill. 2000), 2000 Ill. LEXIS 1698 (Ill. 2000). (Plurality Opinion) According to Fourth Circuit, a Frye hearing must be held for HGN to be admitted. *People v. Herring*, 762 N.E.2d 1186.

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

“A proper foundation should consist of describing the officer's education and experience in administering the test and showing that the procedure was properly administered.”

*Buening*, 592 N.E.2d at 1227.

## **III. Purpose and Limits of HGN**

HGN test results may be used to establish probable cause in a criminal hearing.

*People v. Furness*, 526 N.E.2d 947, 949 (Ill. App. Ct. 1988).

HGN test results admissible to show probable cause in a civil hearing.

*People v. Hood*, 638 N.E.2d 264, 274 (Ill. App. Ct. 1994).

HGN test results may be used “to prove that the defendant is under the influence of alcohol.”

*Buening*, 592 N.E.2d at 1228.

## **Indiana**

### **I. Evidentiary Admissibility**

Results of properly administered HGN test are admissible to show impairment which may be caused by alcohol and, when accompanied by other evidence, will be sufficient to establish probable cause to believe a person may be intoxicated. *Cooper v. Indiana*, 751 N.E.2d 900, 903 (Ind. Ct. App. Feb. 2002)

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

The proper foundation for admitting HGN evidence should consist of describing the officer’s education and experience in administering the test and showing that the procedure was properly administered.

*Cooper*, 751 N.E.2d at 903.

The question of whether a trained officer might express an opinion that defendant was intoxicated based upon the results of field sobriety tests was not before the court, and thus, the court expressed no opinion concerning the admissibility of such testimony. *Cooper*, 751 N.E. 2d at 902, n. 1.

### **III. Purpose and Limits of HGN**

HGN test results, when accompanied by other evidence, will be sufficient to establish probable cause that the person may be intoxicated. *Cooper*, 751 N.E.2d at 903.

## **Iowa**

### **I. Evidentiary Admissibility**

HGN admissible as a field test under the Iowa Rules of Evidence. “[T]estimony by a properly trained police officer with respect to the administration and results of the horizontal gaze nystagmus test are admissible without need for further scientific evidence.”

*State v. Murphy*, 451 N.W.2d 154, 158 (Iowa 1990).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer may testify about HGN test results under Rule 702 if the officer is properly trained to administer the test and objectively records the results.

*Murphy*, 451 N.W.2d at 158.

### **III. Purpose and Limits of HGN**

HGN test results may be used as an indicator of intoxication. *Murphy*, 451 N.W.2d at 158.

## **Kansas**

### **I. Evidentiary Admissibility**

HGN must meet *Frye* standard of admissibility and a *Frye* hearing is required at the trial level. There was no *Frye* hearing conducted and the appellate court refused to make a determination based on the record it had. *State v. Witte*, 836 P.2d 1110, 1121 (Kan. 1992).

HGN test has not achieved general acceptance within the relevant scientific community and its exclusion was appropriate. *State v. Chastain*, 960 P.2d 756 (Kan. 1998).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

### **III. Purpose and Limits of HGN**

The Court did not address this issue.

## **Kentucky**

### **I. Evidentiary Admissibility**

HGN test results admitted due to defendant’s failure to object.

*Commonwealth v. Rhodes*, 949 S.W.2d 621, 623 (Ky. Ct. App. 1996).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

## **III. Purpose and Limits of HGN**

The Court did not address this issue.

### **Louisiana**

#### **I. Evidentiary Admissibility**

HGN meets *Frye* standard of admissibility and with proper foundation may be admitted as evidence of intoxication.

*State v. Breitung*, 623 So. 2d 23, 25-6 (La. Ct. App. 1993).

*State v. Regan*, 601 So. 2d 5, 8 (La. Ct. App. 1992).

*State v. Armstrong*, 561 So. 2d 883, 887 (La. Ct. App. 1990).

The standard of admissibility for scientific evidence is currently the Louisiana Rules of Evidence.

*State v. Foret*, 628 So. 2d 1116 (La. 1993).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer may testify as to training in HGN procedure, certification in the administration of HGN test and that the HGN test was properly administered. *Armstrong*, 561 So. 2d at 887.

## **III. Purpose and Limits of HGN**

The HGN test may be used by the officer “to determine whether or not he [needs] to ‘go any further’ and proceed with other field tests.”

*Breitung*, 623 So. 2d at 25.

HGN test results may be admitted as evidence of intoxication.

*Armstrong*, 561 So. 2d at 887.

### **Maine**

#### **I. Evidentiary Admissibility**

Because the HGN test relies on greater scientific principles than other field sobriety tests, the reliability of the test must first be established. Either *Daubert* or *Frye* standard must be met.

*State v. Taylor*, 694 A.2d 907, 912 (Me. 1997).

The Maine Supreme Court took judicial notice of the reliability of the HGN test to detect impaired drivers.

*Taylor*, 694 A.2d at 910.

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

“A proper foundation shall consist of evidence that the officer or administrator of the HGN test is trained in the procedure and the [HGN] test was properly administered.”

*Taylor*, 694 A.2d at 912.

## **III. Purpose and Limits of HGN**

HGN test results may only be used as “evidence of probable cause to arrest without a warrant or as circumstantial evidence of intoxication. The HGN test may not be used by an officer to quantify a particular blood alcohol level in an individual case.”

*Taylor*, 694 A.2d at 912.

## **Maryland**

### **I. Evidentiary Admissibility**

HGN is scientific and must satisfy the *Frye/Reed* standard of admissibility. The Court of Appeals took judicial notice of HGN's reliability and its acceptance in the relevant scientific communities.

*Schultz v. State*, 664 A.2d 60, 74 (Md. Ct. Spec. App. 1995).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer must be properly trained or certified to administer the HGN test. [NOTE: In *Schultz*, the police officer failed to articulate the training he received in HGN testing and the evidence was excluded.]

*Schultz*, 664 A.2d at 77.

### **III. Purpose and Limits of HGN**

HGN testing may not be used to establish a specific blood alcohol level.

*Wilson v. State*, 723 A.2d 494 (Md. Ct. Spec. App. 1999).

## **Massachusetts**

### **I. Evidentiary Admissibility**

HGN is scientific and is admissible on a showing of either general acceptance in the scientific community or reliability of the scientific theory. See *Commonwealth v. Lanigan*, 641 N.E.2d 1342 (Mass. 1994). HGN test results are inadmissible until the Commonwealth introduces expert testimony to establish that the HGN test satisfies one of these two standards. *Commonwealth v. Sands*, 675 N.E.2d 370, 373 (Mass. 1997).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

“[T]here must be a determination as to the qualification of the individual administering the HGN test and the appropriate procedure to be followed.” In this case there was no testimony as to these facts, thus denying the defendant the opportunity to challenge the officer’s qualifications and administration of the test. *Sands*, 675 N.E.2d at 373.

## **III. Purpose and Limits of HGN**

The Court did not address this issue.

## **Michigan**

### **I. Evidentiary Admissibility**

Court found that HGN test is scientific evidence and is admissible under the *Frye* standard of admissibility.

*State v. Berger*, 551 N.W.2d 421, 424 (Mich. Ct. App. 1996).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Only foundation necessary for the introduction of HGN test results is evidence that the police officer properly performed the test and that the officer administering the test was qualified to perform it. *Berger*, 551 N.W.2d at 424.

### **III. Purpose and Limits of HGN**

HGN test results are admissible to indicate the presence of alcohol.

*Berger*, 551 N.W.2d at 424 n.1.

## **Minnesota**

### **I. Evidentiary Admissibility**

Court found that HGN meets the *Frye* standard of admissibility.

*State v. Klawitter*, 518 N.W.2d 577, 585 (Minn. 1994).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officers must testify about their training in and experience with the HGN test.

*See generally Klawitter*, 518 N.W.2d at 585-86.

### **III. Purpose and Limits of HGN**

HGN admissible as evidence of impairment as part of a Drug Evaluation Examination in the prosecution of a person charged with driving while under the influence of drugs.

*See generally Klawitter*, 518 N.W.2d at 585.

## **Mississippi**

### **I. Evidentiary Admissibility**

HGN is a scientific test. However, it is not generally accepted within the relevant scientific community and is inadmissible at trial in the State of Mississippi.

*Young v. City of Brookhaven*, 693 So.2d 1355, 1360-61 (Miss. 1997).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officers cannot testify about the correlation between the HGN test and precise blood alcohol content.

*Young*, 693 So.2d at 1361.

### **III. Purpose and Limits of HGN**

HGN test results are admissible only to prove probable cause to arrest.

*Young*, 693 So.2d at 1361.

HGN test results cannot be used as scientific evidence to prove intoxication or as a mere showing of impairment. *Young*, 693 So.2d at 1361.

## **Missouri**

### **I. Evidentiary Admissibility**

Court found that HGN test meets the *Frye* standard of admissibility. *State v. Hill*, 865 S.W.2d 702, 704 (Mo. Ct. App. 1993), *rev'd on other grounds*, *State v. Carson*, 941 S.W.2d 518, 520 (Mo. 1997).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer must be adequately trained and able to properly administer the test.

*Hill*, 865 S.W.2d at 704.

See also, *Duffy v. Director of Revenue*, 966 S.W. 2d 372 (Mo. Ct. App. 1998). HGN not admitted at trial because the administering officer was not aware of how to properly score the test and interpret its results.

### **III. Purpose and Limits of HGN**

HGN can be admitted as evidence of intoxication. *Hill*, 865 S.W.2d at 704.

## Montana

### I. Evidentiary Admissibility

Court found that HGN is neither new nor novel; thus, *Daubert* does not apply. Court still finds that HGN must meet the state's rules of evidence that are identical to the Federal Rules of Evidence. *Hulse v. DOJ, Motor Vehicle Div.*, 961 P.2d 75, 88 (Mont. 1998).

### II. Police Officer Testimony Needed to Admit HGN Test Result

The court held that before an arresting officer may testify as to HGN results, a proper foundation must show that the officer was properly trained to administer the HGN test and that he administered the test in accordance with this training. Before the officer can testify as to the correlation between alcohol and nystagmus, a foundation must be established that the officer has special training in the underlying scientific basis of the HGN test.

*Hulse*, 961 P.2d 75 (Mont. 1998).

See Also, *State v. Crawford*, 315 Mont. 480, 68 P.3d 848 (2003), in which the court ruled that the officer's credentials were sufficient to establish his expertise, along with evidence that he was previously qualified as an expert. They relied on *Russette* (2002 MT 200), stating that to establish an expert's qualifications, the proponent of the testimony must show that the expert has special training or education and adequate knowledge on which to base an opinion.

### III. Purpose and Limits of HGN

HGN test results admissible as evidence of impairment.

*State v. Clark*, 762 P.2d 853, 856 (Mont. 1988).

## Nebraska

### I. Evidentiary Admissibility

HGN meets the *Frye* standard for acceptance in the relevant scientific communities, and when the test is given in conjunction with other field sobriety tests, the results are admissible for the limited purpose of establishing impairment that may be caused by alcohol.

*State v. Baue*, 607 N.W.2d 191 (Neb. 2000)

### II. Police Officer Testimony Needed to Admit HGN Test Result

A police officer may testify to the results of HGN testing if it is shown that the officer has been adequately trained in the administration and assessment of the HGN test and has conducted the testing and assessment in accordance with that training. *State v. Baue*, 607 N.W.2d 191 (Neb. 2000)

### **III. Purpose and Limits of HGN**

“Testimony concerning **HGN** is admissible on the issue of impairment, provided that the prosecution claims no greater reliability or weight for the **HGN** evidence than it does for evidence of the defendant's performance on any of the other standard field sobriety tests, and provided further that the prosecution makes no attempt to correlate the **HGN** test result with any particular blood-alcohol level, range of blood-alcohol levels, or level of impairment.”

*State v. Baue*, 607 N.W.2d 191 (Neb. 2000) (quoting *Ballard v. State*, 955 P.2d 931, 940 (Alaska App. 1998))

### **New Hampshire**

#### **I. Evidentiary Admissibility**

In *State v. Dahoo* (Dec. 20, 2002), the N.H. Supreme Court ruled that the HGN test is admissible under N.H. Rule of Evidence 702 and *Daubert* for the limited purpose of providing circumstantial evidence of intoxication. HGN test is a scientifically reliable and valid test.

N.H. Supreme Court ruled their findings binding in *Dahoo* and that courts “will not be required to establish the scientific reliability of the HGN.”

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

“Since we have already determined that the scientific principles underlying the HGN test are reliable, a properly trained and qualified police officer may introduce the HGN test results at trial.” *State v. Dahoo*, 2002 N.H. LEXIS 179.

### **III. Purpose and Limits of HGN**

“HGN results cannot be introduced at trial for the purpose of establishing a defendant’s BAC level....[T]he results are not sufficient alone to establish intoxication.” *State v. Dahoo*, Id.

### **New Jersey**

#### **I. Evidentiary Admissibility**

In New Jersey, the party offering the results of a scientific procedure into evidence must comply with Frye and show that the procedure is generally accepted in the relevant scientific communities. A party may prove this general acceptance via “(1) testimony of knowledgeable experts[,] (2) authoritative scientific literature[, or] (3) [p]ersuasive judicial decision.” Based on the testimony of Dr. Marcelline Burns and Dr. Jack Richman, the Court found the HGN test to be generally accepted and the results thus admissible. The Court also noted the “significant number” of jurisdictions that have accepted the HGN test as admissible scientific evidence. *State v. Maida*, 2000 N.J. Super. LEXIS 276 (N.J. Super. Ct. Law Div. 2000).

**\*But See**, *State v. Doriguzzi*, 760 A.2d 336 (N.J. Super. 2000), which held that HGN is scientific evidence that must meet Frye Standard. However, in each trial, sufficient foundation evidence must be laid by expert testimony to assure defendants that a conviction for DUI, when based in part on HGN testing, is grounded in reliable scientific data. In this case, the appellate court reversed defendant's conviction because at trial no such foundation was presented. The court found that because HGN testing has not achieved general acceptance in the community, it is not a matter of which a court can take judicial notice.

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

## **III. Purpose and Limits of HGN**

The Court found the HGN test admissible "as a reliable scientific indicator of likely intoxication."

### **New Mexico**

#### **I. Evidentiary Admissibility**

HGN is a scientific test. New Mexico follows the *Daubert* standard, which requires a showing of reliability before scientific evidence can be admitted. The court held that a scientific expert must testify to the underlying scientific reliability of HGN and that a police officer cannot qualify as a scientific expert. Because the State failed to present sufficient evidence regarding the HGN test's reliability, the court remanded the case stating it would be appropriate for the trial court, on remand, to make the initial determination of whether HGN testing satisfies *Daubert*. In addition, the court found HGN to be "beyond common and general knowledge" and declined to take judicial notice of HGN reliability. *State v. Torres*, 976 P.2d 20 (N.M. 1999).

*State v. Lasworth*, 42 P.3d 844 (Ct. App. N.M. 2001), cert. denied (2002). Results of HGN test were inadmissible at trial (*State v. Torres*, 976 P.2d 20 (N.M. 1999)). The State needed to prove that HGN was both valid and reliable.

State called Dr. Marceline Burns as a witness (reliability) but did not call an expert in a discipline such as biology or medicine to explain how the amount of alcohol a person consumes correlates with HGN (validity).

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officers can qualify as non-scientific experts based on their training and experience. Non-scientific experts may testify about the administration of the test and specific results of the test provided another scientific expert first establishes the reliability of the scientific principles underlying the test. In order to establish the "technical or specialized knowledge" required to qualify as an expert in the administration of the HGN test, "there must be a showing: (1) that the expert has the ability and training to administer the HGN test properly, and (2) that the expert did, in fact, administer the HGN test properly at the time and upon the person in question."

*State v. Torres*, 976 P.2d 20 (N.M. 1999).

*State v. Lasworth*, 42 P.3d 844 (Ct. App. N.M. 2001), cert. denied (2002). Court believed that state had to show that presence of HGN (BAC above .08) correlates with diminishment of driver's mental or physical driving skills (which it failed to do) & a correlation between presence of HGN and BAC above or below .08 (which it did through testimony of Dr. Burns). Court did not preclude use of results of HGN to establish probable cause for arrest or to establish grounds for administering a chemical BAC test.

### **III. Purpose and Limits of HGN**

The Court did not address this issue.

## **New York**

### **I. Evidentiary Admissibility**

Prue holds that HGN test results are admissible under *Frye* standard of "general acceptance." *People v. Prue*, Indictment No. I-5-2001, Franklin County Court (November 2001).

In *Gallup*, the court said that it was only necessary to conduct a foundational inquiry into the techniques and the tester's qualifications for admissibility. *People v. Gallup*, Memorandum and order #13094, 302 A.D.2d 681 (3<sup>rd</sup> Dept)( 2003).

The Court allowed the introduction of HGN and the results because it was properly administered and the burden of establishing that HGN is a reliable indicator of intoxication is generally accepted in the relevant scientific community was satisfied. *People v. William Miley*, NYLJ 12/6/02 p.30 col. 6 (Nassau Co. Ct 2002).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

The People must lay a proper evidentiary foundation in order for HGN results to be admissible at trial.

### **III. Purpose and Limits of HGN**

The Court held that HGN is generally accepted in the relevant scientific community as a reliable indicator of intoxication.

## **North Carolina**

### **I. Evidentiary Admissibility**

HGN is a scientific test. It "does not measure behavior a lay person would commonly associate with intoxication but rather represents specialized knowledge that must be presented to the jury by a qualified expert." As a result, "until there is sufficient scientifically reliable evidence as to the correlation between intoxication and nystagmus, it is improper to permit a lay person to testify as to the meaning of HGN test results." *State v. Helms*, 504 S.E.2d 293 (N.C. 1998).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Testimony of one police officer, whose training consisted of a “forty hour training class dealing with the HGN test”, was inadequate foundation for admission of HGN test results.

*Helms*, 504 S.E.2d 293 (N.C. 1998).

## **III. Purpose and Limits of HGN**

HGN test results are evidence of impairment. *Helms*, 504 S.E.2d 293 (N.C. 1998).

## **North Dakota**

### **I. Evidentiary Admissibility**

Court found that HGN test is admissible as a standard field sobriety test.

*City of Fargo v. McLaughlin*, 512 N.W.2d 700, 706 (N.D. 1994).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer must testify as to training and experience and that the test was properly administered.

*City of Fargo*, 512 N.W.2d at 708.

### **III. Purpose and Limits of HGN**

“ . . . HGN test results admissible only as circumstantial evidence of intoxication, and the officer may not attempt to quantify a specific BAC based upon the HGN test.”

*City of Fargo*, 512 N.W.2d at 708.

## **Ohio**

### **I. Evidentiary Admissibility**

HGN test is objective in nature and does not require an expert interpretation.

*State v. Nagel*, 506 N.E.2d 285, 286 (Ohio Ct. App. 1986).

Court determined that HGN was a reliable indicator of intoxication without specifically ruling on whether HGN meets *Frye* or some other standard of admissibility.

*State v. Bresson*, 554 N.E.2d 1330, 1334 (Ohio 1990).

Court held that SFSTs, including HGN, must be administered in *strict compliance* with NHTSA’s directives in order for the test results to be admissible. *State v. Homan*, 732 N.E.2d 952 (Ohio 2000).

However, the Ohio Supreme Court ruled that the Homan decision does not preclude officers from testifying to observations even if SFSTs are barred. *Ohio v. Schmitt*, 101 Ohio St. 3d 79, 2004.

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer need only testify to training in HGN procedure, knowledge of the test and ability to interpret results. *Bresson*, 554 N.E.2d at 1336.

## **III. Purpose and Limits of HGN**

HGN can be used to establish probable cause to arrest and as substantive evidence of a defendant's guilt or innocence in a trial for DUI, but not to determine defendant's BAC. *Bresson*, 554 N.E.2d at 1336.

## **Oklahoma**

### **I. Evidentiary Admissibility**

HGN test results excluded because state failed to lay adequate foundation regarding HGN's scientific admissibility under the *Frye* standard of admissibility. Police officer's testimony alone was insufficient. *Yell v. State*, 856 P.2d 996, 996-97 (Okla. Crim. App. 1993).

The *Daubert* rationale replaces the *Frye* standard as the admissibility standard for scientific evidence. *Taylor v. State*, 889 P.2d 319, 328-29 (Okla. Crim. App. 1995).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer testified to training on how to administer HGN test and how the test was administered in this case. Officer also testified as to his training in analyzing HGN test results. *Yell*, 856 P.2d at 997.

## **III. Purpose and Limits of HGN**

If HGN testing was found to satisfy the *Frye* standard of admissibility, HGN test results would be considered in the same manner as other field sobriety test results. HGN test results are inadmissible as scientific evidence creating a presumption of intoxication. *Yell*, 856 P.2d at 997.

## **Oregon**

### **I. Evidentiary Admissibility**

HGN test results are admissible under the Oregon Rules of Evidence. HGN test results are scientific in nature, are relevant in a DUI trial, and are not unfairly prejudicial to the defendant. *State v. O'Key*, 899 P.2d 663, 687 (Or. 1995).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

“Admissibility is subject to a foundational showing that the officer who administered the test was properly qualified, that the test was administered properly, and that the test results were recorded accurately.” *O'Key*, 899 P.2d at 670.

## **III. Purpose and Limits of HGN**

“... HGN test results are admissible to establish that a person was under the influence of intoxicating liquor, but is not admissible...to establish a person's BAC....” *O'Key*, 899 P.2d at 689-90.

Officer may not testify that, based on HGN test results, the defendant's BAC was over .10. *State v. Fiskan*, 909 P.2d 206, 207 (Or. Ct. App. 1996).

## **Pennsylvania**

### **I. Evidentiary Admissibility**

The state laid an inadequate foundation for the admissibility of HGN under the *Frye/Topa* standard. *Commonwealth v. Moore*, 635 A.2d 625, 629 (Pa. Super. Ct. 1993).  
*Commonwealth v. Apollo*, 603 A.2d 1023, 1028 (Pa. Super. Ct. 1992).  
*Commonwealth v. Miller*, 532 A.2d 1186, 1189-90 (Pa. Super. Ct. 1987).

Testimony of police officer is insufficient to establish scientific reliability of HGN test. *Moore*, 635 A.2d at 692.  
*Miller*, 532 A.2d at 1189-90.

Testimony of behavioral optometrist did not establish general acceptance of HGN test. *Apollo*, 603 A.2d at 1027-28.

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

County detective certified as HGN instructor. Court did not comment on whether this would be enough foundation to allow the detective to testify about HGN test results. *Moore*, 635 A.2d 629.

Police officer had one-day course on HGN. Court did not comment on whether this would be enough foundation to allow the officer to testify about HGN test results. *Miller*, 603 A.2d at 1189.

### **III. Purpose and Limits of HGN**

Not addressed by court.

## **South Carolina**

### **I. Evidentiary Admissibility**

HGN admissible in conjunction with other field sobriety tests. By implication, HGN is not regarded as a scientific test. *State v. Sullivan*, 426 S.E.2d 766, 769 (S.C. 1993).

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer given twenty hours of HGN training. *Sullivan*, 426 S.E.2d at 769.

### **III. Purpose and Limits of HGN**

HGN test results admissible “to elicit objective manifestations of soberness or insobriety . . . [E]vidence from HGN tests is not conclusive proof of DUI. A positive HGN test result is to be regarded as merely circumstantial evidence of DUI. Furthermore, HGN test shall not constitute evidence to establish a specific degree of blood alcohol content.” *Sullivan*, 426 S.E.2d at 769.

## **South Dakota**

### **I. Evidentiary Admissibility**

If it can be shown that a horizontal gaze nystagmus test was properly administered by a trained officer, such evidence should be admitted for a jury to consider at trial along with evidence of the other accepted field sobriety tests administered in South Dakota. *STATE v. HULLINGER*, 2002 SD 83; 649 N.W.2d 253 (S.D.S.Ct. 2002); 2002 S.D. LEXIS 99

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Officer may testify if properly trained and test properly administered. At the pretrial hearing, the State presented three witnesses: 1) Monte Farnsworth, training director for the Office of Highway Safety at the Division of Criminal Investigation Law Enforcement Training Academy; 2) Deputy Ludwig; and 3) Dr. Larry Menning, optometrist and expert witness. South Dakota follows a *Daubert* standard in use of expert witnesses.

### **III. Purpose and Limits of HGN**

The Court did not address this issue.

## **Tennessee**

### **I. Evidentiary Admissibility**

HGN is a scientific test. To be admissible at trial, such evidence must satisfy the requirements of Tenn. Rules of Evidence 702 and 703. State provided an inadequate amount of evidence to allow the court to conclude that HGN evidence meets this standard. *State v. Murphy*, 953 S.W.2d 200 (Tenn. 1997).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

HGN must be offered through an expert witness. To qualify as an expert, a police officer must establish that he is qualified by his “knowledge, skill, experience, training or education” to provide expert testimony to “substantially assist the trier of fact to understand the evidence or determine a fact in issue.” Although the court did not rule out the possibility that the officer can be considered an expert, the court set a high level of proof. In this case, the court felt that although the officer had attended law enforcement training in DUI offender apprehension and the HGN test, this training was not enough to establish him as an expert. *State v. Grindstaff*, 1998 Tenn. Crim. App. Lexis 339 (March 23, 1998).

## **III. Purpose and Limits of HGN**

The Court did not address this issue.

### **Texas**

#### **I. Evidentiary Admissibility**

HGN admissible under the Texas Rules of Evidence. *Emerson v. State*, 880 S.W.2d 759, 769 (Tex. Crim. App. 1994).

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

A police officer must qualify as an expert on the HGN test, specifically concerning its administration and technique, before testifying about a defendant’s performance on the test. Proof that the police officer is certified in the administration of the HGN test by the Texas Commission on Law Enforcement Officer Standards and Education satisfies this requirement. *Emerson*, 880 S.W.2d at 769.

#### **III. Purpose and Limits of HGN**

HGN admissible to prove intoxication, but not accurate enough to prove precise BAC. *Emerson*, 880 S.W.2d at 769.

### **Utah**

#### **I. Evidentiary Admissibility**

HGN test admissible as other field sobriety test. Court reserved judgment as to the scientific reliability of HGN. *Salt Lake City v. Garcia*, 912 P.2d 997, 1001 (Utah Ct. App. 1996).

#### **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer need only testify as to training, experience and observations when HGN admitted as a field test. *Garcia*, 912 P.2d at 1001.

### **III. Purpose and Limits of HGN**

Admissible as any other field sobriety test. *Garcia*, 912 P.2d at 1000-01.

#### **Washington**

##### **I. Evidentiary Admissibility**

It is “undisputed” in the relevant scientific communities that “an intoxicated person will exhibit nystagmus”. HGN testing is not novel and has been used as a field sobriety test for “decades” and is administered the same whether investigating alcohol impairment or drug impairment. Thus, the use of HGN in drug and alcohol impaired driving cases is acceptable. *State v. Baity*, 140 Wn.2d 1, 991 P.2d 1151 (Wash. 2000).

“[T]he *Frye* standard applies to the admission of evidence based on HGN testing, unless . . . the State is able to prove that it rests on scientific principles and uses techniques which are not ‘novel’ and are readily understandable by ordinary persons.” The state failed to present any evidence to this fact and the court declined to take judicial notice of HGN. *State v. Cissne*, 865 P.2d 564, 569 (Wash. Ct. App. 1994).

##### **II. Police Officer Testimony Needed to Admit HGN Test Result**

The Court did not address this issue.

### **III. Purpose and Limits of HGN**

The Court did not address this issue.

#### **West Virginia**

##### **I. Evidentiary Admissibility**

The state did not present evidence for the court to reach “the question of whether the HGN test is sufficiently reliable to be admissible.” However, the court did conclude “that even if the reliability of the HGN test is demonstrated, an expert’s testimony as to a driver’s performance on the test is admissible only as evidence that the driver was under the influence. Estimates of blood alcohol content based on the HGN test are inadmissible.” *State v. Barker*, 366 S.E.2d 642, 646 (W. Va. 1988).

The West Virginia Supreme Court modified *State v. Barker* to the extent that the *Daubert* analysis of FRE 702 is applicable to the question of admissibility of expert testimony under the West Virginia Rules of Evidence Rule 702. *Wilt v. Buracker*, 443 S.E. 2d 196 (W.Va. 1993).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Police officer's training consisted of a one-day, eight-hour training session conducted by the state police. Officer testified to giving the HGN test about 100 times. Court did not reach question of whether this would be enough to allow the officer to testify about the HGN test results. *Barker*, 366 S.E.2d at 644.

## **III. Purpose and Limits of HGN**

HGN test results admissible to show probable cause in a civil hearing. *Muscatell v. Cline*, 474 S.E.2d 518, 525 (W. Va. 1996). *Boley v. Cline*, 456 S.E.2d 38, 41 (W. Va. 1995).

“[I]f the reliability of the HGN test is demonstrated, an expert's testimony as to a driver's performance on the test is admissible only as evidence that the driver was under the influence,” the same as other field sobriety tests. *Barker*, 366 S.E.2d at 646.

## **Wisconsin**

### **I. Evidentiary Admissibility**

The court held that the HGN test results are admissible in this case because the test results were not the only evidence. The results were accompanied by the expert testimony of the officer. *State v. Zivcic*, 598 N.W.2d 565 (Wisc. Ct. App. 1999). **See also**, *State v. Maxon*, 633 N.W. 2d 278 (Wisc. Ct. App. 2001)

### **II. Police Officer Testimony Needed to Admit HGN Test Result**

A police officer who is properly trained to administer and evaluate the HGN test can testify to the test results. A second expert witness is not needed. *State v. Zivcic*, 598 N.W.2d 565 (Wisc. Ct. App. 1999).

### **III. Purpose and Limits of HGN**

The Court did not address this issue.

## **Wyoming**

### **I. Evidentiary Admissibility**

SFSTs, including HGN, are admissible to establish probable cause when administered in *substantial compliance* with NHTSA guidelines. Strict compliance is not necessary. The court took judicial notice of the number of states that allow HGN evidence on the basis of the “officer’s training, experience and ability to administer the test”. *Smith v. Wyoming*, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

A police officer that is properly trained to administer and evaluate the HGN test can testify to HGN results.

*Smith v. Wyoming*, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

## **III. Purpose and Limits of HGN**

HGN test results are admissible to show probable cause.

*Smith v. Wyoming*, 2000 Wyo. LEXIS 202 (Wyo. October 4, 2000).

## **United States**

### **I. Evidentiary Admissibility**

*U.S. V. Eric D. Horn*, 185 F. Supp. 2d 530 (D. Maryland 2002) In this case, U.S. District Court in Maryland made the first application of the newly revised FRE 702 to the HGN and other SFSTs.

Results of properly administered WAT, OLS and HGN, SFSTs may be admitted into evidence in a DWI/DUI case only as circumstantial evidence of intoxication or impairment but not as direct evidence of specific BAC.

Officer must first establish his qualifications to administer the test - training and experience, not opinion about accuracy rate of test or causal connection between alcohol consumption and exaggerated HGN.

Government may prove causal connection by: judicial notice, expert testimony, or learned treatise.

Horn may prove other causes by: judicial notice, cross-examination of state's expert, defense expert, or learned treatise.

*U.S. V. Daras*, 1998 WL 726748 (4<sup>th</sup> Cir. 1998)(*Unpublished opinion*). WAT and OLS were not scientific so no expert needed. Court would have applied *Daubert* to HGN test, but there was no need to because breathalyzer, WAT and OLS were sufficient.

HGN test was admitted as part of series of field tests. Its admission was not challenged on appeal.

*U.S. v. Van Griffin*, 874 F.2d 634 (9th Cir. 1989).

## **II. Police Officer Testimony Needed to Admit HGN Test Result**

Foundation for HGN must address validity & reliability under FRE 702. In *Horn*, prosecution had a medical doctor and a police officer, but defense used behavioral psychologist to attack HGN literature of Dr. Marceline Burns and others.

### III. Purpose and Limits of HGN

SFSTs may be admitted into evidence in a DWI/DUI case only as circumstantial evidence of intoxication or impairment but not as direct evidence of specific BAC. *Horn*.

Properly qualified, Officer may give opinion of intoxication or impairment by alcohol. *Horn*.

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Note: The following states were not listed above due to a lack of case law discussion on HGN:

Colorado

Nevada

Rhode Island

Vermont( HGN was mentioned in the context of a refusal being admissible as evidence of probative guilt. *State v. Blouin*, 168 Vt. 119 (Vt. 1998)

Virginia

Last Update: Jan. 2004

*For future updates, please contact:*

*National Traffic Law Center, 99 Canal Center Plaza, Suite 510, Alexandria, Virginia, 22314  
Phone:(703) 549-4253, Fax: 703-836-3195, email: [trafficlaw@ndaa-apri.org](mailto:trafficlaw@ndaa-apri.org)*

*Or*

*Visit there website [www.ndaa-apri.org](http://www.ndaa-apri.org).*



**HORIZONTAL GAZE NYSTAGMUS STATE CHART SUMMARY**

(Those states in bold have cases directly addressing the admissibility of HGN evidence. Under Section II, a blank box means that a court has not ruled on the issue.)

	AL	AK	AZ	AR	CA	CO	CT	DE	DC	FL	GA
<b>I. Evidentiary admissibility.</b>											
A. Not a scientific test - admissible as a field sobriety test.											
B. A scientific test - scientific standard not applicable.				X						X <sup>1</sup>	
C. A scientific test - meets scientific standard.		X	X		X			X			X
D. A scientific test - does not meet scientific standard.											
E. A scientific test - inadequate evidence presented to determine if HGN meets scientific standard.	X						X				
F. Scientific standard state follows:											
1. <i>Frye</i> (general acceptance)	X	X	X		X						
2. <i>Daubert</i> /FRE (reliability)							X	X			
3. Other											X
<b>II. Police officer may testify about:</b>											
A. HGN's scientific reliability at admissibility hearing.											
B. Correlation between HGN and alcohol at trial.											
C. HGN test results based on training & experience in administration of test.		YES	YES		YES			YES	YES	YES	YES
<b>III. Purpose and limits of HGN test results.</b>											
A. Probable cause determination in criminal hearing.		X	X				X	X			
B. Probable cause determination in civil hearing.								X			
C. Evidence of impairment.		X	X	X	X			X			X
D. Quantify BAC.											
E. Same evidentiary weight as other field tests.				X							

	HI	ID	IL	IN	IA	KS	KY	LA	ME	MD	MA
I. Evidentiary admissibility.											
A. Not a scientific test - admissible as a field sobriety test.					X						
B. A scientific test - scientific standard not applicable.											
C. A scientific test - meets scientific standard.	X	X	X					X	X	X	
D. A scientific test - does not meet scientific standard.											
E. A scientific test - inadequate evidence presented to determine if HGN meets scientific standard.						X					X
F. Scientific standard state follows:											
1. <i>Frye</i> (general acceptance)			X			X				X	
2. <i>Daubert</i> /FRE (reliability)	X	X			X			X	X		X
3. Other											
II. Police officer may testify about:											
A. HGN's scientific reliability at admissibility hearing.											
B. Correlation between HGN and alcohol at trial.		NO									
C. HGN test results based on training & experience in administration of test.	YES	YES	YES	YES	YES			YES	YES	YES	YES
III. Purpose and limits of HGN test results.											
A. Probable cause determination in criminal hearing.	X	X	X	X				X	X		
B. Probable cause determination in civil hearing.			X								
C. Evidence of impairment.		X	X	X	X			X	X		
D. Quantify BAC.											
E. Same evidentiary weight as other field tests.		X			X						

	MI	MN	MS	MO	MT	NE	NV	NH	NJ	NM	NY
I. Evidentiary admissibility.											
A. Not a scientific test - admissible as a field sobriety test.											
B. A scientific test - scientific standard not applicable.					X				X		
C. A scientific test - meets scientific standard.	X	X		X							X
D. A scientific test - does not meet scientific standard.			X					X			
E. A scientific test - inadequate evidence presented to determine if HGN meets scientific standard.						X				X	
F. Scientific standard state follows:											
1. <i>Frye</i> (general acceptance)	X	X	X	X		X			X		X
2. <i>Daubert</i> /FRE (reliability)								X		X	
3. Other											
II. Police officer may testify about:											
A. HGN's scientific reliability at admissibility hearing.						NO				NO	
B. Correlation between HGN and alcohol at trial.			NO								
C. HGN test results based on training & experience in administration of test.	YES	YES		YES	YES					YES	
III. Purpose and limits of HGN test results.											
A. Probable cause determination in criminal hearing.			X					X			
B. Probable cause determination in civil hearing.											
C. Evidence of impairment.	X	X		X	X						
D. Quantify BAC.											
E. Same evidentiary weight as other field tests.											

	NC	ND	OH	OK	OR	PA	RI	SC	SD	TN	TX
I. Evidentiary admissibility.											
A. Not a scientific test - admissible as a field sobriety test.		X	X					X	X		
B. A scientific test - scientific standard not applicable.											
C. A scientific test - meets scientific standard.					X						X
D. A scientific test - does not meet scientific standard.											
E. A scientific test - inadequate evidence presented to determine if HGN meets scientific standard.	X			X		X				X	
F. Scientific standard state follows:											
1. <i>Frye</i> (general acceptance)						X					
2. <i>Daubert</i> /FRE (reliability)	X			X	X						X
3. Other										X	
II. Police officer may testify about:											
A. HGN's scientific reliability at admissibility hearing.	NO					NO					
B. Correlation between HGN and alcohol at trial.	YES										
C. HGN test results based on training & experience in administration of test.	YES	YES	YES	YES	YES			YES	YES		YES
III. Purpose and limits of HGN test results.											
A. Probable cause determination in criminal hearing.			X						X		
B. Probable cause determination in civil hearing.											
C. Evidence of impairment.	X	X	X		X			X			X
D. Quantify BAC.											
E. Same evidentiary weight as other field tests.		X	X	X				X			

	UT	VT	VA	WA	WV	WI	WY	US		TOTALS
I. Evidentiary admissibility.										
A. Not a scientific test - admissible as a field sobriety test.	X					X	X			8
B. A scientific test - scientific standard not applicable.										4
C. A scientific test - meets scientific standard.										17
D. A scientific test - does not meet scientific standard.				X						3
E. A scientific test - inadequate evidence presented to determine if HGN meets scientific standard.					X			X		12
F. Scientific standard state follows:										
1. <i>Frye</i> (general acceptance)				X						16
2. <i>Daubert</i> /FRE (reliability)					X			X		16
3. Other										2
II. Police officer may testify about:										
A. HGN's scientific reliability at admissibility hearing.					NO					
B. Correlation between HGN and alcohol at trial.										
C. HGN test results based on training & experience in administration of test.	YES					YES	YES			
III. Purpose and limits of HGN test results.										
A. Probable cause determination in criminal hearing.							X			15
B. Probable cause determination in civil hearing.					X					3
C. Evidence of impairment.					X	X				24
D. Quantify BAC.										
E. Same evidentiary weight as other field tests.	X				X					9

Last update 11/03

For future updates, please contact the National Traffic Law Center, 99 Canal Center Plaza, Suite 510, Alexandria, Virginia, 22314

Phone:(703) 549-4253, Fax: 703-836-319

<sup>0</sup> The 3<sup>rd</sup> District found HGN to be a “quasi-scientific” test. The court held HGN was established and generally accepted in the relevant scientific community and, therefore, it did not have to meet the *Frye* standard. *Williams v. State*, 710 So.2d 24 (Fla. 3<sup>rd</sup> Dist. Ct. 1998).

Fifty Minutes

SESSION IV  
OVERVIEW OF DETECTION,  
NOTE TAKING AND TESTIMONY

## SESSION IV

### OVERVIEW OF DETECTION, NOTE TAKING AND TESTIMONY

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

- o Describe the three phases of detection.
- o Describe the tasks and key decision of each phase.
- o Discuss the uses of a standard note taking guide.
- o Discuss guidelines for effective testimony.

#### CONTENT SEGMENTS

- A. Three Phases of Detection
- B. DWI Investigation Field Notes
- C. Courtroom Testimony

#### LEARNING ACTIVITIES

- o Instructor-Led Presentations
- o Reading Assignments



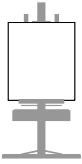
Display IV-O (Session Objectives)



**50 Minutes**



**15 Minutes**



**Display  
IV-1**



**Display  
IV-2**

**IV OVERVIEW OF  
DETECTION, NOTE TAKING  
AND TESTIMONY**

**A. Three Phases of Detection**

1. This segment focuses on the job of DWI detection.
  - a. DWI detection defined as - "The entire process of identifying and gathering evidence to determine whether or not a suspect should be arrested for a DWI violation."
  - b. Detection begins when the officer develops the first suspicion that a DWI violation possibly is occurring.
  - c. Detection ends when the officer finally decides whether there is or is not sufficient probable cause to arrest the suspect for DWI.
2. DWI detection contacts involve three phases.
  - a. In Phase One, the officer observes the suspect operating the vehicle.
  - b. In Phase Two, after the officer has stopped the vehicle, there usually is an opportunity to observe and speak with the suspect, face-to-face.

Write on dry-erase board or flip chart - "Focus: DWI Detection"

Point out that other definitions sometimes are given for "DWI Detection", but that this particular definition will be used for this course.

Point out that the initial suspicion may be very slight in some cases, and may be very strong in others.

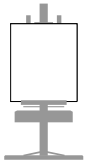
Point to Phase One on slide.

Point to Phase Two on slide.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
IV-3

- c. In Phase Three, the officer usually has an opportunity to administer some formal, structured tests to the suspect, to evaluate the suspect's degree of impairment.
- 3. Each detection phase involves a major decision.
  - a. Phase One: Decision -- is there sufficient cause to command the suspect to stop?
  - b. Phase Two: Decision -- is there sufficient cause to instruct the suspect to step from the vehicle for further investigation?
  - c. Phase Three: Decision -- is there sufficient probable cause to arrest the suspect for DWI?
- 4. At any particular moment, any of these three major decisions could have three different outcomes.
  - a. Possible Decision #1: "Yes... Do it Now".

Point to Phase Three on slide. Point out that these formal structured tests may include chemical (breath) tests as well as the more traditional field sobriety tests.

Write the major decisions (Stop? Exit? Arrest?) on dry-erase board or flipchart.

Point out that merely stopping the suspect doesn't necessarily mean that the officer is committed to arresting the suspect for DWI.

Point out that, by instructing the suspect to exit the vehicle, the officer still is not committed to making the DWI arrest. However, the officer clearly suspects that there is a strong possibility that the driver is under the influence.

Emphasize that this decision is based on the accumulation of evidence from all three phases, and represents the culmination of the detection process.

Examples:

- o Phase One (Vehicle)- yes, there are reasonable grounds to stop that vehicle.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>b. Possible Decision #2: "Wait...<u>look for additional evidence.</u>"</p> <p>c. Possible Decision #3: "No...<u>Don't Do It.</u>"</p>	<ul style="list-style-type: none"><li>o Phase Two (Person) - yes, there is enough reason to <u>suspect</u> alcohol/drug impairment to justify getting the driver out of the vehicle for further investigation.</li><li>o Phase Three (Tests) - yes, there is probable cause to believe the driver is DWI.</li></ul> <p>Examples:</p> <ul style="list-style-type: none"><li>o Phase One - don't stop the driver yet; keep following the vehicle to watch the operator's driving a bit longer.</li><li>o Phase Two - don't get the driver out of the car yet; keep talking and watching them a bit longer.</li><li>o Phase Three - don't arrest the driver yet; administer another field sobriety test before deciding.</li></ul> <p>Examples:</p> <ul style="list-style-type: none"><li>o Phase One - No, there are no grounds for stopping that driver.</li><li>o Phase Two - No, there isn't enough evidence of DWI to justify administering field sobriety tests.</li><li>o Phase Three - No, there is not sufficient probable cause to believe this driver has committed DWI.</li></ul>
--	--------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

5. Summary of Detection Phases.

- a. Sometimes, there are DWI detection contacts in which Phase One is absent: that is, where there is no evidence of DWI violation based on the officer's observation of the vehicle in motion.
- b. Sometimes, there are contacts in which Phase Three never occurs: that is, where no formal tests are administered to the suspect.
- c. At each phase of detection, the officer must determine whether there is sufficient evidence to provide the "reasonable suspicion" necessary to proceed to the next step in the detection process.
  - (1) It is always the officer's duty to carry out whatever phases are appropriate, to make sure that all relevant evidence of DWI is brought to light.
  - (2) The ultimate decision to arrest or not arrest for DWI is based on the accumulation of all relevant evidence, from all phases.



Ask representative participants to suggest situations in which Phase One might be absent. (examples: crash scene; roadblock; motorist assistance contact)



Ask for examples (e.g., suspect is grossly intoxicated; suspect is seriously injured; suspect refuses to submit to formal tests)

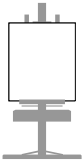
Solicit participants' questions concerning the overview of detection phases.



Display  
IV-4



20 Minutes



Display  
IV-5

**B. DWI Investigation Field Notes**

1. Throughout this course, participants will have opportunities to practice observing, recording and describing evidence associated with the detection phases.
2. The evidence gathered during the detection process is vital to establish the elements of the violation, and to support prosecution of the offense.
3. This evidence is observational in nature, and therefore is extremely short-lived.
4. Officers must be able to recognize and act on their own observations. But officers also must be able to recall those observations, and describe them clearly and convincingly, to secure a conviction.
  - a. Officer is inundated with much evidence of DWI: sights, sounds, smells, etc.
  - b. Officer recognizes this evidence, sometimes subconsciously, and bases arrest decision on it.
  - c. But later, officer must be able to recollect this observational evidence.
  - d. And must be able to express the evidence clearly in any written report or oral

Point out how the practice opportunities will be provided (e.g., film segments, classroom demonstrations, etc.).

Write on dry-erase board or flipchart: "observations -- short-lived evidence".

Display slide IV-5, emphasizing two key detection performance requirements.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
IV-6A  
through  
IV-6D



**15 Minutes**

testimony.

5. Officers need a system for documenting their observations in notes at the scenes of DWI investigations.

a. Standard Note-Taking Guide.

(1) Section I: Suspect/  
Vehicle/Location.

(2) Section II: Detection  
Phase One.

(3) Section III: Detection  
Phase Two.

(4) Section IV: Detection  
Phase Three.

**C. Courtroom Testimony**

1. Although the majority of DWI cases do not actually come to trial, the arresting officer must be fully prepared to testify in

NOTE: This does not preclude an agency from developing their own note-taking guide.

Refer to Attachment A, "DWI Investigative Field Notes" (Copy and distribute to participants.)

Note: Advise participants that each section of the note-taking guide will be broken down and thoroughly explain in subsequent sessions.

Briefly indicate the types of notes that should be taken in each section of the standard note-taking guide.

Point out that the specific contents of the guide will be clarified as the training progresses through the three phases of detection.

Point out that the participants will use copies of the standard guide to practice taking notes on DWI detection evidence.

Solicit student's questions concerning note-taking procedures.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
IV-7

court.

2. Testimonial evidence in DWI cases usually is the only way to establish that the accused was in fact the driver of the vehicle alleged to have been involved in the incident.
3. Testimonial evidence also may be the primary and sometimes the only means of establishing that the accused was impaired by alcohol and/or other drugs.
4. Even when scientific evidence is available, supportive testimonial evidence will be required to permit introduction of that scientific evidence in court.
5. Testimonial evidence is only as good as it is clear and convincing.
6. First Requirement: Prepare Testimony
  - a. Testimony preparation begins at the time of the incident.
    - o recognize significant evidence;
    - o compile complete, accurate notes;
    - o prepare complete, accurate report.
  - b. Testimony preparation continues prior to trial.

NOTE: Discuss your state's administrative license suspension hearing procedure.

NOTE: Emphasize the importance of documentation in preparation for court testimony.

Point out that participants will have opportunities to practice giving testimony, as the training progresses through the three detection phases.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
IV-8

- o review notes;
  - o review case jacket/file;
  - o mentally organize elements of offense, and the evidence available to prove each element;
  - o mentally organize testimony to convey observations clearly and convincingly.
- c. Prior to the trial, discuss the details of the case and testimony with the prosecutor assigned to the case.

7. Testimony should be organized chronologically and should cover each phase of the incident.

- a. Initial observation of vehicle and/or suspect.
- b. Reinforcing cues, maneuvers or actions, observed after signaling suspect to stop, but before suspect's vehicle came to a

Point out that a pretrial conference is recommended. However, the decision whether or not to conduct one is controlled by the prosecutor. The "conference" may occur 5 minutes prior to the trial.

Point out that, in many instances, the prosecutor will control the sequence of testimony. However, the officer should organize testimony in a logical time-sequence, i.e., to present facts and observations in the order in which they occurred.

NOTE: A "cue" is defined as a "tip".

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>complete stop.</p> <ul style="list-style-type: none"><li>c. Clues, statements and other evidence obtained during officer's initial face-to-face contact with suspect.</li><li>d. Results of SFSTs administered to the suspect.</li><li>e. The arrest itself; including procedures used to inform suspect of arrest, admonish suspect of rights, etc.</li><li>f. Suspect's actions and statements subsequent to the arrest.</li><li>g. Observation of suspect subsequent to the arrest.</li><li>h. The request for the chemical test; including procedures used, admonition of rights and requirements, etc.</li><li>i. The administration and results of the chemical test (if applicable).</li><li>j. Interview of suspect.</li></ul>	<p>NOTE: A "clue" is defined as something that leads to the solution of a problem.</p> <p>To be included if arresting officer was also testing officer.</p> <p>Solicit student's questions concerning testimonial requirements.</p>
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## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. DWI detection is defined as \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. The three phases in a typical DWI contact are:

Phase One \_\_\_\_\_

Phase Two \_\_\_\_\_

Phase Three \_\_\_\_\_

3. In Phase One, the officer usually has an opportunity to \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Phase Three may not occur if \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. In Phase Two, the officer must decide \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Each major decision can have any one of \_\_\_\_\_ different outcomes.  
These are \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. At each phase of detection, the officer must determine \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Evidence of DWI is largely \_\_\_\_\_ in nature.
9. Police officers need a system and tools for recording field notes at scenes of DWI investigations because DWI evidence is \_\_\_\_\_.
10. Testimony preparations begins \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. List two things the officer should do to prepare testimony just before the trial.
- a. \_\_\_\_\_
- b. \_\_\_\_\_
12. In court, the officer's testimony should be organized \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
13. The conditions and results of the Chemical test are included in the arresting officer's testimony if \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
STATEMENTS \_\_\_\_\_  
PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
OBSERVATION OF THE EXIT \_\_\_\_\_  
ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
ATTITUDE \_\_\_\_\_  
CLOTHING \_\_\_\_\_  
PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

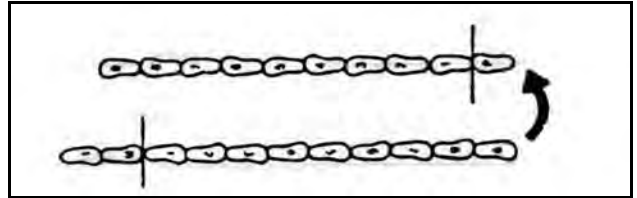
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

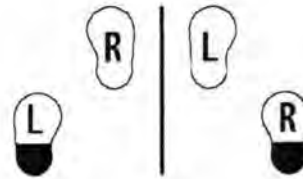
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

One Hour and Thirty Minutes

SESSION V

PHASE ONE: VEHICLE IN MOTION

## SESSION V

### PHASE ONE: VEHICLE IN MOTION

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

- o Identify typical cues of Detection Phase One.
- o Describe the observed cues clearly and convincingly.

#### CONTENT SEGMENTS

#### LEARNING ACTIVITIES

A. Overview: Tasks and Decision	o Instructor-Led Presentations
B. Initial Observations: Visual Cues of Impaired Operation (Automobiles)	o Video Presentation
C. Initial Observations: Visual Cues of Impaired Operation (Motorcycles)	o Video Presentation
D. Recognition and Description of Initial Cues	o Instructor-Led Demonstrations
E. Typical Reinforcing Cues of the Stopping Sequence	o Participants' Presentations
F. Recognition and Description of Initial and Reinforcing Cues	



Display V-O (Session Objectives)



90 Minutes



5 Minutes



Display V-1

**V PHASE ONE: VEHICLE IN MOTION**

**A. Overview: Tasks and Decision**

1. DWI Detection Phase One, Vehicle in Motion, consists of the initial observation of vehicular operation, the stop decision and the observation of the stop.
  - a. The initial observation of vehicular operation begins when the officer first notices the vehicle and/or the driver.
  - b. If the initial observation discloses vehicle maneuvers or human behaviors that may be associated with alcohol influence, the officer may develop an initial suspicion of DWI.
  
2. Based upon initial observation of the vehicle operation, the officer must decide whether there is reasonable suspicion to stop the vehicle.
  - a. Alternatives to stopping the vehicle include:

Point out block No. 1 on the slide.

**?** Pose this question: "What are some of the kinds of things that might first draw your attention to a vehicle?"


- Examples:
- o moving traffic violation
  - o equipment violation
  - o registration sticker (expired)
  - o other driving actions
    - drifting within lane
    - slower than normal speed
  - o drinking in vehicle

Point out the decision on the slide.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o delaying the stop/no stop decision, in order to continue observing the vehicle.</li><li>o disregarding the vehicle.</li><li>b. Whenever there is a valid reason to stop a vehicle, the officer should be alert to the possibility that the driver may be impaired by alcohol and/or other drugs.</li></ul> <p>3. Once the stop command has been communicated to the suspect driver, the officer must closely observe the driver's actions and vehicle maneuvers during the stopping sequence.</p> <ul style="list-style-type: none"><li>a. Sometimes, significant evidence of alcohol influence comes to light during the stopping sequence.</li><li>b. In some cases, the stopping sequence might produce the first suspicion of DWI.</li><li>c. Drivers impaired by alcohol and/or other drugs may respond in unexpected and dangerous ways to the stop command.</li></ul>	<p> Ask class to suggest circumstances under which it would be appropriate to delay the stop decision to continue to observe the vehicle.</p> <p>Emphasize that the officer may not have an explicit reason to suspect impairment at this time.</p> <p>Point out block No. 2 on the slide.</p> <p>Emphasize officer's need to be alert for own safety.</p>
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40 Minutes



Display V-2

**B. Initial Observations: Visual Cues of Impaired Vehicle Operation**

1. Drivers who are impaired by alcohol and/or other drugs exhibit common effects or signs of impairment.
  - a. Slowed reactions.
  - b. Increased risk taking (impaired judgment).
  - c. Impaired vision.
  - d. Poor coordination.
  
2. These common effects of alcohol on the driver's mental and physical faculties lead to predictable driving violations and vehicle operating characteristics.

The following video segments were produced to show a variety of traffic stop situations being performed by different law enforcement agencies. The goal of this video is to depict the cues associated with impaired driving. Trainees should be guided by their own agency's policy regarding traffic stops, officer safety tactics, and professional conduct.

NOTE: The national Drug Recognition Expert (DRE) program has increased awareness of the DWI-drug problem.



Use the following types of questions to involve the participants in a discussion of driving violations/characteristics associated with alcohol influence (all vehicles):

- o What violations may result from slowed reactions?
- o What violations might result from impaired judgment?
- o What violations might result from impaired vision?
- o What violations might result from poor coordination?

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display V-3**

- 3. The National Highway Traffic Safety Administration sponsored research to identify the most common and reliable initial indicators of DWI.
  - a. Research identified 100 cues, each providing a high probability indication that the driver is under the influence.
  - b. The list was reduced to 24 cues during three field studies involving hundreds of officers and more than 12,000 enforcement stops.
  - c. The driving behaviors are presented in four categories:
    - (1) Problems in maintaining proper lane position. [P=.50-.75]
    - (2) Speed and braking problems. [P=.45-.70]

ANACAPA Sciences, DOT HS 808 654, 1997.

The cues presented in these categories predict a driver is DWI at least 35 percent of the time.

Generally, the probability of DWI increases substantially when a driver exhibits more than one of the cues.

Note: There is a brochure published by NHTSA that contains these cues. The title is "The Visual Detection of DWI Motorists" DOT HS 808 677.

Weaving  
Weaving across lane lines  
Straddling a lane line  
Swerving  
Turning with a wide radius  
Drifting  
Almost striking a vehicle or other object

Stopping problems (too far, too short, or too jerky)  
Accelerating or decelerating for no apparent reason  
Varying speed  
Slow speed (10+ mph under limit)

Aids	Lesson Plan	Instructor Notes
	<p>(3) Vigilance problems. [P=.55-.65]</p> <p>(4) Judgement problems. [P=.35-.90]</p> <p>d. The research also identified 10 post stop cues. [P &gt; .85]</p>	<p>Driving in opposing lanes or wrong way on one way Slow response to traffic signals Slow or failure to respond to officer's signals Stopping in lane for no apparent reason Driving without headlights at night Failure to signal or signal inconsistent with action</p> <p>Following too closely Improper or unsafe lane change Illegal or improper turn Driving on other than designated roadway Stopping inappropriately in response to officer Inappropriate or unusual behavior (throwing objects, arguing, etc.) Appearing to be impaired</p> <p>Difficulty with motor vehicle controls Difficulty exiting the vehicle Fumbling with driver license or registration Repeating questions or comments Swaying, unsteady, or balance problems Leaning on the vehicle or other object Slurred speech Slow to respond to officer/ officer must repeat Provides incorrect information, changes answers Odor of alcoholic beverage from the driver</p>



Display V-4

- e. Explanation and illustration of the 24 detection cues.

**C. Initial Observations: Visual Cues of Impaired Vehicle Operation (Motorcycles)**

1. Research has identified driving impairment cues for motorcyclists.
  - a. Excellent Cues (50% or greater probability)
    - o Drifting during turn or curve
    - o Trouble with dismount
    - o Trouble with balance at a stop
    - o Turning problems (e.g., unsteady, sudden corrections, late braking, improper lean angle)
    - o Inattentive to surroundings
    - o Inappropriate or unusual behavior (e.g., carrying or dropping object, urinating at roadside, disorderly conduct, etc.)
    - o Weaving
  - b. Good Cues (30 to 50% probability)
    - o Erratic movements while going straight


Show video. Allow 16.2 minutes.

ANACAPA Sciences, DOT HS 807 839, 1993.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Operating without lights at night</li><li>o Recklessness</li><li>o Following too closely</li><li>o Running stop light or sign</li><li>o Evasion</li><li>o Wrong way</li></ul> <p>2. Relationship of Visual Cues to impaired divided attention capability.</p> <p>a. Driving is a complex task, composed of many parts:</p> <ul style="list-style-type: none"><li>o steering</li><li>o controlling accelerator</li><li>o signaling</li><li>o controlling brake pedal</li><li>o operating clutch (if applicable)</li><li>o operating gearshift (if applicable)</li><li>o observing other traffic</li><li>o observing signal lights, stop signs, other traffic control devices</li><li>o making decisions (whether to stop, turn, speed up, slow down, etc.)</li><li>o many other things</li></ul>	<p>Point out that it is important to understand how the effects of alcohol are exhibited in driving, so that officers can recognize the significance of their visual observations.</p> <p> Ask participants to name the various parts of the driving task. List them on the chalkboard as they are named.</p>
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Display V-5

- b. In order to drive safely, a person must be able to divide attention among all of these various activities.
- c. Under the influence of alcohol or many drugs, a person's ability to divide attention becomes impaired.
- d. The impaired person tends to concentrate on certain parts of driving, and to disregard other parts.
- e. Some of the most significant evidence from all 3 phases of DWI detection can be related directly to the effects of alcohol and/or other drugs on divided attention ability.



20 Minutes



Display V-6

**D. Initial Cues, Recognition and Description**

- 1. The task of making initial observations of vehicle operation is the first step in the job of DWI detection.

Example: Person stops at a green light (scene from previous video.)

- o Alcohol has impaired ability to divide attention.
- o Driver is concentrating on steering and controlling the accelerator and brake.
- o Does not respond to the particular color of the traffic light.

Point out that the concept of divided attention is especially important during personal contact with DWI suspects and during pre-arrest screening of them.

NOTE: Show video first. Use slide for review. Allow 12 minutes.



Display V-7

2. Proper performance of that task demands two distinct but related abilities:
  - a. Ability to recognize evidence of alcohol and/or other drug influence.
  - b. Ability to describe that evidence clearly and convincingly.
3. It is not enough that a police officer observe and recognize symptoms of impaired driving. The officer must be able to articulate what was observed so that a judge or jury will have a clear mental image of exactly what took place.
4. Improving the ability to recognize and clearly describe observational evidence requires practice.
  - a. It isn't practical to have impaired drivers actually drive through the classroom.
  - b. The next best thing is to use film (video) to portray typical DWI detection contacts.
5. Procedures for practicing cue recognition and description.
  - a. All participants view brief video segments illustrating possible DWI violations.

Emphasize that observational evidence is of little value if the officer cannot make the judge or jury "see" what the officer saw.

Make sure all participants understand the procedures that will be followed during the practice sessions.

**Aids**

**Lesson Plan**

**Instructor Notes**



- b. Following the video segment, a few minutes will be given to allow all participants to write notes on what was observed.
- c. One or more participants will be called forth to "testify" concerning what was observed.
- d. Class will critique the "testimony" in terms of how clearly and convincingly it conveys what was actually observed.
- e. Goal is to choose words carefully and provide as much detail as necessary, to construct an accurate mental image of the observations.

6. Video Segment No. 1 ("Leaving the Shopping Center")

7. Testimony of Video Segment No. 1. ("Leaving the Shopping Center")

- a. Key points to be elicited:
  - o Weather/traffic conditions
  - o Overshoots stop sign
  - o Makes wide right turn

Hand out copies of the standard note-taking guide.

Emphasize that participants are to use the guide to compile notes on their observations of the film segments.

Emphasize that the purpose of the critique is not to embarrass anyone, but rather to help everyone become more skilled at providing clear, descriptive testimony.

Show Video Segment #1.

Allow two minutes for participants to compile notes.

Select a representative student to come forward and "take the witness stand," facing the class.

Elicit testimony as follows: "Officer, you have been sworn. Please tell the court exactly what you observed at the time and place in question.

Allow the participants to refer to their notes, if so desired.

**Aids**

**Lesson Plan**

**Instructor Notes**



- o Causes bicyclist to swerve

When student completes testimony ask: "Officer, do you have anything else to add?"

Once student indicates that there is nothing further to add, ask the class to comment on the clarity and completeness of the testimony, and to add any important details that were left out.

Continue to prompt the class to offer comments until all of the key points have been notes.

If so desired and appropriate, repeat the showing of Video Segment No. 1 to point out the key details.

8. Video Segment No. 2 ("The Red SUV")

Show Video Segment #2. Allow two minutes for participants to compile notes.

9. Testimony on Video Segment No. 2.

Select a representative student to come forward to "testify".

Allow student to refer to notes.

a. Key points to be elicited:

Probe for any additional details, or more descriptive language, in the testimony.

- o Weather/traffic conditions
- o Wrong directional light on
- o Sits on green arrow
- o Turns on red light
- o Cuts turn short

Solicit comments from the class.

Stress the importance of the particular words used to describe the subject vehicle's motion.



5 Minutes



Display V-8

- o Right wheels leave roadway
- o Drifts first to left then right
- o Crosses center line
- o Slow response to stop command

**E. Typical Reinforcing Cues of the Stopping Sequence**

1. After the command to stop is given, the alcohol impaired driver may exhibit additional important evidence of DWI.
2. Some of these cues are exhibited because the stop command places additional demands on the driver's ability to divide attention.
  - a. The signal to stop creates a new situation to which the driver must devote some attention.

Point out that words such as "swerving," "drifting," etc., convey a powerful and clear mental image of how the vehicle moved, while terms such as "erratic," "abnormal," etc., are essentially non-descriptive.

Point out that it is permissible and desirable for the officer to use hand movements, along with verbal testimony, to convey clearly how the vehicle moved.

If desired and appropriate, repeat the showing of video segment #2.



Ask participants to suggest possible cues that might be observed after the stop command that might reinforce the initial suspicion of DWI.

Point out here the dangers inherent with fleeing operators. If time allows, review agency's pursuit policy.

i.e., emergency flashing lights, siren, etc., demand and divert the suspect's attention.



Display V-9



20 Minutes

- b. Signal to stop requires the driver to turn the steering wheel, operate the brake pedal, activate the signal light, etc.
  - c. As soon as officer gives the stop command, the suspect's driving task becomes more complex.
  - d. If suspect is under the influence, the suspect may not be able to handle this more complex driving very well.
3. It is the officer's responsibility to capture and convey the additional evidence of impairment that may be exhibited during the stopping sequence.
- a. Requires ability to recognize evidence of alcohol and/or other drug influence.
  - b. Requires ability to describe that evidence clearly and convincingly.

**F. Initial and Reinforcing Cues Recognition and Description**

- 1. Procedures for practicing cue recognition and description.
  - a. The next two video segments combine all three elements of DWI Detection Phase One.

Emphasize that turning on the patrol vehicle's emergency lights creates a simple test of the suspect's driving impairment.

**Aids**

**Lesson Plan**

**Instructor Notes**



- b. Each segment begins with the initial observation of the vehicle in operation.
  - c. In each segment, the decision to stop the vehicle is made.
  - d. Each segment concludes with the observation of the stop.
  - e. Following each segment, a few minutes will be given to allow participants to gather thoughts and compile notes.
  - f. Participants will be called upon to "testify" concerning what was observed, both prior to and after the stop command.
  - g. Class will constructively critique the "testimony."
2. Video Segment No. 3.  
("The Sliding Sports Car").
3. Testimony on Video Segment No. 3.
- a. Key points to be elicited concerning observations prior to the stop command:

Standard note-taking guide to be used to compile notes.

Make sure all participants understand the procedures.

Show Video Segment #3.

Allow two-three minutes for the participants to compile notes.

Select a representative student to come forward to "testify".

Allow participants to refer to notes.

**Aids**

**Lesson Plan**

**Instructor Notes**



- o Weather/traffic conditions/road surface
- o Vehicle skids past stop sign
- o Vehicle makes wide right turn
- o Vehicle stops abruptly
- b. Key points to be elicited concerning observations subsequent to the stop command:
  - o Subject vehicle pulls sharply onto grass (front wheels on grass) shoulder.
  - o Abruptly veers onto the shoulder (without signaling) and makes hard, quick stop.
  - o Parks at angle to roadway.

4. Video Segment No. 4. ("The Impatient Driver")

5. Testimony on Video Segment No. 4.

- a. Key points to be elicited concerning observations prior to the stop command:

Instruct participants as follows: "Officer, first tell us exactly why you signaled the driver to stop." Make sure student confines this stage of testimony strictly to what was observed prior to the stop command.

Next, instruct as follows: "Officer, now tell us exactly what you observed after you turned on the patrol vehicle's emergency lights."

Solicit class comments concerning details or possible improvements to the student's testimony.

If desired and appropriate, repeat the showing of video segment #3.

Show Video Segment #4.

Allow two-three minutes for the participants to compile notes.

Select a representative student to come forward to "testify".

Allow student to refer to notes.

**Aids**

**Lesson Plan**

**Instructor Notes**



- o Weather/traffic conditions/road surface
- o Turn signal light turns red.
- o Vehicle pulls around stopped vehicle, makes improper turn.
- o Turns through red turn light without signaling.
- b. Key points to be elicited concerning observations subsequent to stop command:
  - o Slow response to the stop command (travels approximately 500 yards before stopping).
  - o Weaving in lane and across centerline.

6. Video Segment No. 5. ("Half In The Bag")

7. Testimony on Video Segment No. 5.

- a. Key points to be elicited concerning observations prior to the stop command:
  - o Weather/traffic conditions.
  - o Fail to stop for stop sign.
  - o Cuts turn short.

Instruct student to testify first concerning everything observed prior to the stop command, and then to everything observed after the stop command.

Solicit class comments concerning details or possible improvements to the student's testimony.

If desired and appropriate, repeat the showing of video segment #4.

Show Video Segment #5.

Allow two-three minutes for the participants to compile notes.

Select a representative student to come forward to "testify".

Allow student to refer to notes.

Instruct student to testify first concerning everything observed prior to the stop command, and then to everything observed after the stop command.

**Aids**

**Lesson Plan**

**Instructor Notes**

- o Passenger throws trash at road sign.
  
- b. Key points to be elicited concerning observations subsequent to stop command:
  - o Slow response to the stop command.

## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. The Phase One tasks are \_\_\_\_\_  
\_\_\_\_\_
2. Two common symptoms of impairment are:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
3. Alcohol impairs the ability to \_\_\_\_\_ among tasks.
4. Three cues reinforcing the suspicion of DWI which may be observed during the stopping sequence are:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
 D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
 VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
 DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
 INCIDENT LOCATION \_\_\_\_\_  
 DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
 \_\_\_\_\_  
 OBSERVATION OF STOP \_\_\_\_\_  
 \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
 \_\_\_\_\_  
 STATEMENTS \_\_\_\_\_  
 \_\_\_\_\_  
 PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
 \_\_\_\_\_  
 OBSERVATION OF THE EXIT \_\_\_\_\_  
 \_\_\_\_\_  
 ODORS \_\_\_\_\_  
 \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
 ATTITUDE \_\_\_\_\_  
 CLOTHING \_\_\_\_\_  
 PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils       Yes  No      ⚙ LACK OF SMOOTH PURSUIT  
 Equal Tracking     Yes  No      ⚙ DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
 Vertical Nystagmus  Yes  No      ⚙ ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
 Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

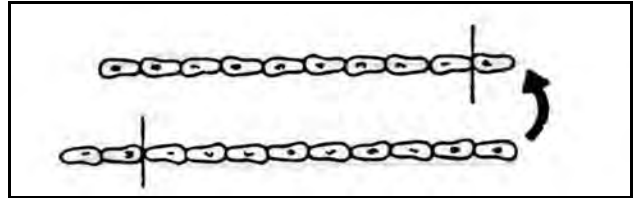
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

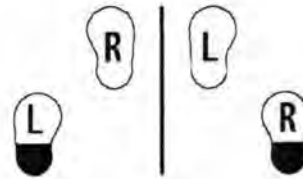
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

ATTACHMENT B

**The Detection of DWI at BACs Below 0.10**

*Final Report*

Submitted to:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Jack Stuster, PhD, CPE  
Project Director

12 September 1997

ANACAPA SCIENCES, INC.  
P.O. Box 519  
Santa Barbara, California 93102  
(805) 966-6157



## **Executive Summary**

This report documents the research activities and presents the results of a study conducted for the National Highway Traffic Safety Administration (NHTSA) to identify driving and other behavioral cues that are associated with blood alcohol concentrations (BACs) below the 0.10 level. The ultimate objective of the research has been to develop training materials to assist law enforcement officers in the accurate detection of motorists who are driving while impaired (DWI).

### **Description of the Research**

The research and development project was composed of 13 major project tasks, conducted in two phases. During Phase I, a work plan was developed to guide all subsequent tasks, a comprehensive review of the low BAC literature was performed, interviews were conducted with DWI experts from across the United States, a data base of low BAC arrest reports was assembled, and two field studies were conducted. The analysis of archival, interview, arrest report, and field data collected by observers led to the identification of 34 driving cues and 10 post-stop cues for further evaluation.

Five law enforcement agencies participated in the second of the field studies, known as the preliminary field study, by recording the driving and post-stop cues observed for all enforcement stops, regardless of the disposition of the stop; the BACs of all drivers who exhibited objective signs of having consumed alcohol also were recorded. By collecting data about all enforcement stops that were made, it was possible to calculate the proportions of the stops in which specific cues were found in association with various BAC levels. All archival, interview, and field study data were analyzed, and recommendations for draft training materials were developed, as the final Phase I task.

A draft DWI detection guide, training booklet, and training video were developed based on the results of the preliminary field study; the materials included 24 driving and 10 post-stop cues. Law enforcement agencies representing 11 of the 15 states with 0.08 BAC limits for DWI were recruited to participate in the Phase II validation study. Participating officers reviewed the video and printed training materials, then completed a data collection form following every enforcement stop made, regardless of the disposition of the stop; the same form was used as in the preliminary field study, conducted previously. The validation study data were analyzed and a final version of the training materials, and this technical report, were prepared as the final Phase II project tasks.

Data were collected during more than 12,000 enforcement stops during this research project. The stops were made by several hundred participating officers, representing more than 50 law enforcement agencies from across the United States.

## Results

The results of the preliminary field study largely supported the 20 cues at the 0.08 BAC level that were presented on the original NHTSA DWI detection guide, which was developed in 1980 for the 0.10 BAC level. However, no cues were found that reliably predicted BACs below 0.08; that is, the cues that are key predictors of DWI at the 0.08 BAC level failed to emerge with useful probabilities at BAC levels below 0.08. The results of the Phase II validation study further confirmed the key cues that were contained in the original NHTSA guide, a few additional driving cues, and the 10 post-stop cues. The DWI driving cues were presented in functional categories in both the printed materials and the training video: Problems Maintaining Proper Lane Position, Speed and Braking Problems, Vigilance Problems, and Judgment Problems.

Slight modifications were made to the training materials, based on the results of the Phase II validation study. The final version of the DWI detection guide is reproduced below.

<p style="text-align: center;"><b>DWI DETECTION GUIDE</b> <i>Weaving plus any other cue: p = at least .65</i> <i>Any two cues: p = at least .50</i></p> <p><b>PROBLEMS MAINTAINING PROPER LANE POSITION</b></p> <ul style="list-style-type: none"><li>• Weaving                      • Weaving across lane lines    <b>p=.50-.75</b></li><li>• Straddling a lane line       • Swerving</li><li>• Turning with a wide radius       • Drifting</li><li>• Almost striking a vehicle or other object</li></ul> <p><b>SPEED AND BRAKING PROBLEMS</b>                      <b>p=.45-.70</b></p> <ul style="list-style-type: none"><li>• Stopping problems (too far, too short, or too jerky)</li><li>• Accelerating or decelerating for no apparent reason</li><li>• Varying speed       • Slow speed (10+ mph under limit)</li></ul> <p><b>VIGILANCE PROBLEMS</b>                                      <b>p=.55-.65</b></p> <ul style="list-style-type: none"><li>• Driving in opposing lanes or wrong way on one-way</li><li>• Slow response to traffic signals</li><li>• Slow or failure to respond to officer's signals</li><li>• Stopping in lane for no apparent reason</li><li>• Driving without headlights at night*</li><li>• Failure to signal or signal inconsistent with action*</li></ul> <p><b>JUDGMENT PROBLEMS</b>                                      <b>p=.35-.90</b></p> <ul style="list-style-type: none"><li>• Following too closely</li><li>• Improper or unsafe lane change</li><li>• Illegal or improper turn (too fast, jerky, sharp, etc.)</li><li>• Driving on other than the designated roadway</li><li>• Stopping inappropriately in response to officer</li><li>• Inappropriate or unusual behavior (throwing, arguing, etc.)</li><li>• Appearing to be impaired</li></ul>	<p><b>POST STOP CUES</b>                                      <b>p≥.85</b></p> <ul style="list-style-type: none"><li>• Difficulty with motor vehicle controls</li><li>• Difficulty exiting the vehicle</li><li>• Fumbling with driver's license or registration</li><li>• Repeating questions or comments</li><li>• Swaying, unsteady, or balance problems</li><li>• Leaning on the vehicle or other object</li><li>• Slurred speech</li><li>• Slow to respond to officer/officer must repeat</li><li>• Provides incorrect information, changes answers</li><li>• Odor of alcoholic beverage from the driver</li></ul> <hr/> <p>*<b>p≥.50</b> when combined with any other cue:</p> <ul style="list-style-type: none"><li>• Driving without headlights at night</li><li>• Failure to signal or signal inconsistent with action</li></ul> <p>The probability of detecting DWI by random traffic enforcement stops at night has been found to be about three percent (.03).</p>
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## **DWI Cues At BACs Below 0.10** *A Review of the Literature*

The purpose of this review is to prepare information for the research team concerning the determination and validation of visual cues for the detection of motorists who are driving while impaired (DWI) with blood alcohol concentrations (BACs) below 0.10.

### **BACKGROUND**

An emphasis on DWI enforcement during the past decade has been a factor in the significant improvement in traffic safety, as represented by declining fatal and alcohol-involved crash rates. Despite the significant improvements in traffic safety during the past 30 years, particularly during the past decade, more than 40,000 people still perish each year as a result of motor vehicle crashes. The current US traffic fatality rate amount to a daily average of about 126 people – the equivalent of a Boeing 727 crashing every day of the year.

The economic losses from alcohol involved crashes are staggering at an estimated \$21 to \$24 billion annually (for property damage alone) (Miller, 1992). In 1990, the combined cost of all traffic collisions was \$137.5 billion, including 28 million vehicles damaged, 5.4 million people injured, and 44,531 lives lost (Blincoe & Faigin, 1992).

A reduction in the number of alcohol-involved crashes and the number of alcohol-impaired drivers on the road is a top priority. Numerous studies indicate that when DWI enforcement levels are increased, the number of alcohol involved collisions decrease (Hause, Chavez, Hannon, Matheson, 1977; Voas & Haus, 1987; Blomberg, 1992). However, many officers are unable to identify legally impaired drivers from their driving behavior, or even during the brief interview customary at a sobriety checkpoint. For example, in the Netherlands, as many as 32 percent of drivers with BACs above .05 might escape detection at checkpoint, when officers have the advantage of a face-to-face exchange (Gundy & Verschuur, 1986).

There are at least two clear solutions to the low BAC DWI detection problem: 1) Random Breath Testing (RBT) to objectively detect drivers operating above the legal limit; and, 2) increased officer sensitivity to behavioral cues exhibited at lower BAC levels. Although the RBT method is operating effectively in Australia (McCaul & McLean, 1990), it is probably not an appropriate program for the United States. Fourth Amendment rights currently prevent random breath testing; for example, testing only can occur at a sobriety checkpoint after probable cause has been established (Voas, 1991). Thus, the most likely solution to improving detection of low BACs is to improve the DWI detection ability of law enforcement officers.

In 1980, Harris et al. conducted NHTSA sponsored research to determine the behavioral cues for on-the-road detection of DWI. The final product of this Anacapa Sciences' study was a DWI Detection Guide providing 20 visual cues commonly exhibited by impaired drivers with a BAC equal to or greater than 0.10. The Guide provides the probability for each cue of discriminating between Driving While Impaired (DWI) and Driving While Sober (DWS). The DWI Detection Guide and supporting training materials are part of the DWI Detection and Standardized Field Sobriety Testing course currently distributed by NHTSA (NHTSA, 1990). Surprisingly, although there has been a limited evaluation of the DWI Detection Guide (Vingilis et al., 1983), the only additional research of this type that has been performed since 1980 was a NHTSA sponsored study to develop a motorcycle DWI detection guide (Stuster, 1993).

It is legitimate to question whether a cue guide calibrated for the 0.08 level would appear very similar if not identical to the DWI detection guide developed nearly 20 years ago by Anacapa Sciences. A new, lower BAC limit DWI detection guide might ultimately appear similar to the old guide, but the research is important for at least three reasons.

1. The research that supported the development of the DWI Detection Guide was conducted 18 years ago. Many things have changed considerably since the late 1970s. It is not unreasonable to suspect that some fundamental changes might be reflected in the behavioral cues associated with driver impairment. And, there *might* be behaviors that correlate more closely with lower than higher BACs.
2. At the very least, a periodic reprise of a research and development effort is warranted if the work involved important public policy and enforcement implications. The DWI Detection Guide and training program have not been reviewed or revised since they were developed. Increased awareness of DWI issues and public support for DWI enforcement in recent years contribute to the need to upgrade and make current an important decision aid and training program that is used by law enforcement personnel from across the U.S.
3. It is essential for researchers to view the issue of DWI detection from the perspective of an officer on patrol. A patrol officer wants to know the likelihood that a specific driver behavior is indicative of DWI at the (new) 0.08 level *or above*, or at the 0.04 level *or above*. The "or above" is important because as the BAC level is reduced the probability that a given cue is predictive of DWI rises – because all of the *or aboves* are included in the calculation. From the officer's perspective (in an 0.08 jurisdiction) it is usually irrelevant if the motorist is 0.08, 0.10, or some higher value – it is only important to determine that the motorist is 0.08 *or above*.

Although the modal BAC limit for DWI continues to be 0.10 in the United States, there is a definite trend towards lowering the limit. When the current project started in 1993, only five states had adopted a 0.08 percent legal limit, but by the conclusion of the research the number of states with a 0.08 limit had increased to 15. Further, the Commercial Motor Vehicle Safety Act of 1986 established a nationwide maximum BAC of 0.04 percent for all commercial drivers. In addition, several states have adopted a zero tolerance statute or a 0.02 percent BAC limit for youthful drivers. Studies that suggest low officer DWI detection rates, and improved low BAC detection when using passive alcohol sensors (Kiger et al., 1983; Jones et al., 1985; Vingilis and Gingilis, 1985), suggest the need for a DWI detection guide for levels below 0.10 percent BAC.

### **RELEVANT RESEARCH**

The trend of lowering BAC limits is a reflection of the growing body of evidence that alcohol begins to impair nervous function at BAC levels below 0.10 percent. Moskowitz and Robinson (1988) conducted a comprehensive literature review concerning the effects of alcohol on driving behavior, emphasizing the BACs at which impairment begins. A majority of studies found impairment at low BACs (below 0.07). Many studies found impairment at the 0.04 level and below.

Moskowitz and Robinson computed BACs for all studies, even those that included BAC data in the original report. Often these calculations resulted in higher BACs than were reported in the original study, probably because the older devices were inaccurate. The calculations also allowed for gender differences (by taking into account the different percentages of body water in females and males). If anything, the calculations performed by Moskowitz and Robinson lead to an over-estimation of BAC level. If this is the case, the impairments they report at various BAC levels actually might occur at lower BACs than reported later in this review.

In the Moskowitz study, factors were grouped into behavioral categories pertinent to driving. The following categories were affected at 0.05 percent BAC.

- Reaction time
- Divided attention
- Visual functions
- Tracking
- Information processing
- Perception

Driving behaviors that showed impairment at 0.08 percent to as low as 0.03 percent included:

- Steering
- Braking
- Speed control
- Lane tracking
- Gear changing
- Speed judgment
- Distance judgment

In addition, tasks requiring divided attention showed impairment at BACs as low as 0.02 percent. These driver behaviors are listed in the table presented at the end of this section; the table provides a comprehensive inventory of all DWI cues identified during the current review.

Although the Moskowitz and Robinson review is the most extensive source of information available about driver impairment at various BAC levels, several other studies identify potential cues for DWI detection. In an Anacapa Sciences' study conducted for the Insurance Institute for Highway Safety, Casey and Stuster (1982) identified the following 12 risky driving behaviors of both automobile and motorcycle operators.

- Running stop sign or traffic light
- Unsafe passing due to oncoming traffic
- Unsafe turn in front of oncoming or opposing traffic
- Following too closely
- Unsafe lane change or unsafe merging
- Weaving through traffic
- Crossing a double line in order to pass
- Passing on the right
- Excessive speed for conditions
- Improper turn
- Splitting traffic
- Stunts

Similarly, Treat et al. (1980), in a study of risky driving actions and their involvement in traffic collisions, identified the following 13 Unsafe Driving Actions.

- Pulling out in front of traffic
- Following behavior
- Speeding: Absolute/Over limit
- Speeding: Relative/For traffic conditions
- Turning in front of oncoming traffic
- Running stop sign or light
- Changing lanes or merging in front of traffic
- Driving left of center or on centerline
- Passing unsafely
- Driving off road to right
- Backing unsafely
- Turning too wide or too sharp
- Turning from wrong lane

Several of these unsafe driving actions also have been identified as indicators of driving while impaired in the Harris et al (1980) study: *following too closely*, *fast speed* (deleted from the final version of the DWI Detection Guide), *failing to respond to traffic signals or signs*, and *driving into opposing or crossing traffic*.

Additionally, several studies suggest stopping method as a primary difference between DWI and unimpaired driving (Attwood et al., 1980; Bragg et al., 1981; Compton, 1985). Differences included *braking sooner* and *stopping jerkily* when under the influence of alcohol.

In a study developing and validating the sobriety field test battery, Tharp, Burns, and Moskowitz (1981) reported the reasons for stopping suspected alcohol impaired drivers. The most common reasons were traffic infractions (e.g., speeding, failing to stop) rather than non-infraction driving behaviors such as weaving or drifting. There is significant overlap between the behaviors reported by Tharp et al. (1981) and the DWI on-the-road detection cues identified by Harris et al. (1980).

In a study evaluating screening procedures for police officers at sobriety checkpoints, cues noticed by officers were correlated with the BAC levels of the drivers. Compton (1985) found significant differences in stopping behavior. In general, drivers stopped smoothly at low BAC levels (0-0.04) and “jerkily” at higher BAC levels (0.10-0.15). Drivers with a low BAC did not serve, those with higher BACs (greater than 0.10) did. Cues identified by Compton that related to driving and stopping behaviors, and personal appearance, are presented in the comprehensive table at the end of this review. The cues identified in the Compton study include personal appearance variables not previously identified in the 1980 Harris et al. study. These cues include:

- Odor of alcohol
- Face flushed
- Speech slurred
- Eyes dilated
- Demeanor
- Hair disheveled
- Poor dexterity
- Clothes disheveled

Of these personal appearance variables, *odor of alcohol*, *face flushed*, and *eyes dilated* appear to be the most promising for DWI detection at low BAC levels.

## **CONCLUSIONS**

The objective of the current study is to develop an appropriate set of behaviors that can be used by field officers to accurately identify motorists who are driving while impaired at the 0.08 level, and to determine if cues are available that predict 0.04 and 0.02 BAC levels. No sources were identified that specifically identify behavioral cues for alcohol impairment at the lower levels. However, a table of potentially applicable behaviors has been prepared, based on a comprehensive review of the literature. This list, presented in the following table, includes all behaviors previously discussed in this review, and shows the considerable agreement among the studies. The behaviors identified here later will be combined with cues identified during interviews with DWI patrol experts, and from the archival research. The resulting comprehensive inventory of DWI cues then will be used to develop data collection forms for the first of the field studies.

One Hour and Thirty Minutes

SESSION VI

PHASE TWO: PERSONAL CONTACT

## SESSION VI

### PHASE TWO: PERSONAL CONTACT

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

- o Identify typical clues of Detection Phase Two.
- o Describe the observed clues clearly and convincingly.

#### CONTENT SEGMENTS

#### LEARNING ACTIVITIES

- |                                                                           |                                 |
|---------------------------------------------------------------------------|---------------------------------|
| A. Overview: Tasks and Decision                                           | o Instructor-Led Presentations  |
| B. Typical Investigation Clues of the Driver Interview                    | o Video Presentation            |
| C. Recognition and Description of Investigation Clues                     | o Instructor-Led Demonstrations |
| D. Interview/Questions Techniques                                         | o Participant's Presentations   |
| E. Recognition and Description of Clues Associated With the Exit Sequence |                                 |



Display VI-O (Session Objectives)



90 Minutes



5 Minutes



Display  
VI-1

**VI PHASE TWO: PERSONAL CONTACT**

**A. Overview: Tasks and Decision**

1. DWI Detection Phase Two, Personal Contact, consists of:
  - o The face-to-face observation and interview of the driver while still in the vehicle.
  - o The decision to instruct the driver to exit the vehicle.
  - o The observation of the driver's exit from the vehicle.
    - a. The interview/observation of the driver begins as soon as the suspect vehicle and patrol vehicle have come to complete stops, continues through the officer's approach to the suspect vehicle, and involves all conversation between the officer and the suspect prior to the suspect's exit from the vehicle.
    - b. Prior to any face-to-face observation and the interview of the driver, the officer may already have developed a suspicion that the driver is impaired, based on the observations of the vehicle operation and of the stop.

Point out block No. 1 on the slide.

**Aids**

**Lesson Plan**

**Instructor Notes**

c. Alternatively, the vehicle operation and the stop may have been fairly normal, and the officer may have no particular suspicion of DWI prior to the face-to-face contact.

d. Regardless of what evidence may have come to light during Detection Phase One, the initial face-to-face contact between the officer and the suspect usually provides the first definite indications that alcohol impairment may be present.

2. Based upon the interview and face-to-face observation of the driver, and upon the previous observations of the vehicle in motion, the officer must decide whether to instruct the suspect to exit the vehicle.



Ask participants to suggest situations where this might be the case.

Examples:

- o Stop for tail light violation, with no moving violation.
- o Stop for speeding, with no erratic/unusual operation.

Point out the decision on the slide.



Ask participants to suggest circumstances under which it would be appropriate not to instruct the suspect to exit.



Ask participants to suggest circumstances under which it would be appropriate to instruct the suspect to exit.

**Remind participants that they must always practice appropriate officer safety tactics while the suspect exits the vehicle.**



15 Minutes



Display  
VI-2

3. Once the decision to instruct the suspect to exit has been made, the officer must closely observe the suspect's actions during the exit and walk from the vehicle, and note any additional evidence of impairment.

**B. Typical Investigation Clues of the Driver Interview**

1. The interview and face-to-face observation of the driver allow the officer to use three senses to gather evidence of alcohol and/or other drug influence.

a. Sense of sight

b. Sense of hearing

Point out block No. 2 on the slide.

Write "see -- hear -- smell" on dry-erase board.



Ask participants to suggest typical things that an officer might see during the interview that would be describable clues or evidence of alcohol and/or other drug influence.

After most major sight clues have been suggested, display them via slide VI-2.



Ask participants to suggest typical things that an officer might hear during the interview that would be describable clues or evidence of alcohol and/or other drug influence.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-3

- c. Sense of smell

After most major sound clues have been suggested, display them via slide VI-3.



Ask participants to suggest typical things that an officer might smell during the interview that would be describable clues or evidence of alcohol or drug ingestion. NOTE: For officer safety be aware of communicable airborne diseases, etc.



**Display**  
VI-4

- 2. Proper face-to-face observation and interview of the suspect demands two distinct but related abilities of the officer:

After most major odor clues have been suggested, display them via slide VI-4.



**Display**  
VI-5


- a. Recognize the sensory evidence of alcohol and/or other drug influence.
- b. Describe that evidence clearly and convincingly.

**C. Recognition and Description of Investigation Clues**



**15 Minutes**

- 1. Procedures for practicing clue recognition and description.
  - a. The next video segment deals strictly with the face-to-face observation and interview of a driver.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>b. You will have to base your description of the driver's possible impairment strictly on what you see and hear during the face-to-face contact.</li> <li>c. Both senses provide some critically important evidence, not only in this video segment, but in all face-to-face contacts.</li> <li>d. When the video segment ends, a few minutes will be given to allow participants to gather thoughts and compile notes on what was seen and heard.</li> <li>e. One or more participants will be called upon to "testify" concerning what was seen and heard.</li> <li>f. Class will constructively critique the "testimony".</li> </ul> <p>2. Video Segment No. 6 ("The Busy Businessman")</p> <p>3. Testimony on Video Segment No. 6.</p> <ul style="list-style-type: none"> <li>a. Key points to be elicited concerning what was <u>seen</u>: <ul style="list-style-type: none"> <li>o Weather/traffic conditions.</li> <li>o Officer raps on driver's window to signal driver to open window.</li> </ul> </li> </ul>	<p>Point out that this next video segment is a continuation of the last segment shown.</p> <p>Standard note-taking guide to be used to compile notes.</p> <p>Make sure all participants understand the procedures.</p> <p>Show video segment #6.</p> <p>Allow three-four minutes for the participants to compile notes.</p> <p>Select <u>two</u> participants to come forward together to testify.</p>

Aids	Lesson Plan	Instructor Notes
<div data-bbox="232 1192 302 1262" data-label="Image"> </div> <div data-bbox="191 1283 342 1314" data-label="Text"> <p>5 Minutes</p> </div> <div data-bbox="203 1377 367 1461" data-label="Image"> </div> <div data-bbox="191 1528 305 1598" data-label="Text"> <p>Display VI-6</p> </div>	<ul style="list-style-type: none"> <li>o Suspect lowers rear window first, then opens front window part way.</li> <li>o Suspect's appearance is dazed, stuporous.</li> </ul> <p>b. Key points to be elicited concerning what was <u>heard</u>:</p> <ul style="list-style-type: none"> <li>o Speech is thick, slurred.</li> <li>o Suspect asks “if this is going to take long.”</li> <li>o Suspect indicated he gave driver’s license to officer.</li> <li>o Suspect states “what stop sign” rather than red light.</li> </ul> <p><b>D. Interview/Questioning Techniques</b></p> <ol style="list-style-type: none"> <li>1. The questions an officer asks of a suspect, and the way in which they are asked, can provide simple, divided attention tasks.</li> <li>2. Sample Divided Attention Question: ask suspect to produce their driver's license and vehicle registration.</li> <li>3. Things to watch for in the suspect's response to your instruction to produce driver's license and vehicle registration:</li> </ol>	<p>Instruct participants to testify strictly to what was <u>seen</u>.</p> <p>Solicit class comments concerning details or possible improvements to the first student's testimony.</p> <p>Instruct the second student to testify strictly to what was heard.</p> <p>Solicit class comments concerning details or possible improvements to the second student's testimony.</p> <p>Play back tape recording (as appropriate) to compare with second student's testimony.</p> <p><b>?</b> Ask representative participants to suggest possible evidence of impairment that might come to light during the production of the license and registration.</p>

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>a. Forgets to produce both documents (divided attention).</li> <li>b. Produces inappropriate, or other documents.</li> <li>c. Passes over the license and/or registration while searching through the wallet.</li> <li>d. Fumbles or drops wallet, license or registration.</li> <li>e. Unable to retrieve documents, using fingertips.</li> </ul> <p>4. Variation on the request for license and registration: the interrupting or distracting question.</p> <p>5. The interrupting or distracting question forces the suspect to divide attention between the license/registration search and the new question.</p> <p>6. Things to watch for in suspect's response to the interrupting or distracting question:</p> <ul style="list-style-type: none"> <li>a. Suspect ignores question, because suspect is concentrating on the license/registration search.</li> <li>b. Suspect forgets to resume search for license and registration after answering the question.</li> <li>c. Suspect supplies incorrect answer to the question.</li> </ul>	<p><u>Example:</u> "Without looking at your watch, what time it is right now?"</p> <p><b>?</b> Ask class to suggest possible evidence of impairment that might be disclosed by the interrupting or distracting question. Continue to probe until all major possibilities have been mentioned.</p> <p><b>?</b> Ask class to suggest other interrupting/distracting questions that might be put to a suspect during the retrieval of the driver's license.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

7. After obtaining the license and registration: verifying information through unusual questions.

Examples: While holding the suspect's driver's license, ask: "What is your middle name?"



Ask class to suggest other unusual questions that might serve as simple, pre-exit techniques.

8. There are probably dozens of questions which the suspect should be able to answer very easily, but which might be very difficult to handle while impaired, simply because they are unusual.

9. Unusual questions require the suspect to process information; this can be especially difficult to do when the suspect doesn't expect to have to process information.

Examples: suspect may respond to the question about the middle name by giving first name.

In each case, suspect ignores the unusual question and instead answers an unspoken usual question.



Ask class to suggest other unusual questions that might be put to the suspect.

10. Sample tests that can be administered while the suspect is still inside the vehicle.

Point out that these kinds of tests have not been scientifically validated but still can be useful for obtaining evidence of impairment.

Demonstrate the examples listed below.

a. Alphabet recital.

Recite the alphabet, beginning with the letter E as in Edward, and stopping after the letter P as in Paul.



15 Minutes

- b. Count-down tests.
- c. Finger Count Test.

Count out loud backwards, starting with the number 67 and ending at the number 54.

Touch the tip of right thumb, in turn, to tips of the fingers of the right hand, simultaneously counting "one, two, three, four"; then reverse direction on fingers, simultaneously counting down "four, three, two, one".

NOTE: Be aware of any court restraints regarding these type of tests.

**E. Recognition and Description of Clues Associated With the Exit Sequence**

1. The decision to instruct the suspect to exit the vehicle may be based on suspicion that the suspect may be impaired.
  - a. Even though that suspicion may be strong, the suspect usually is not yet under arrest at this point.
  - b. How the suspect exits the vehicle, and the actions and behavior of the suspect during the exit sequence, may provide important additional evidence of alcohol and/or other drug influence.
2. Usual kinds of evidence obtained during observation of the exit sequence.



Ask participants to suggest typical things that might be seen with an impaired suspect during the exit sequence.

**Aids**

**Lesson Plan**

**Instructor Notes**



- 3. Video Segment No. 7 ("The Busy Businessman Exiting")
- 4. Testimony on Video Segment No. 7
  - a. Key points prior to the exit:
    - o Admits drinking ("A couple").
    - o Officer detects odor of alcoholic beverage.
  - b. Key points during the exit:
    - o Suspect forgets to unfasten seat belt.
    - o Puts hand on door and roof to lift himself out of the car.
    - o Falls back against side of car upon exiting.
  - c. Key points after the exit:
    - o Stops to straighten clothes.
    - o Keeps hand on car while walking.

Show Video Segment #7.

Select a student to testify.

Solicit class comments concerning testimony.

After most major exit clues have been suggested, display them via slide VI-7.



**Display**  
VI-7

## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. The two major evidence gathering tasks of Phase Two are \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. The major decision of Phase Two is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Among the describable clues an officer might see during the Phase Two interview are these three:
  - a.
  - b.
  - c.
4. Among the describable clues an officer might hear during the interview are these three:
  - a.
  - b.
  - c.
5. Among the describable clues an officer might smell during the interview are these two:
  - a.
  - b.

6. Three techniques an officer might use in asking questions constitute simple divided attention tasks. These techniques are:

a.

b.

c.

7. The Count Down Technique requires the subject to \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Leaning against the vehicle is a clue to DWI which may be observed during

\_\_\_\_\_

\_\_\_\_\_

# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
STATEMENTS \_\_\_\_\_  
PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
OBSERVATION OF THE EXIT \_\_\_\_\_  
ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
ATTITUDE \_\_\_\_\_  
CLOTHING \_\_\_\_\_  
PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

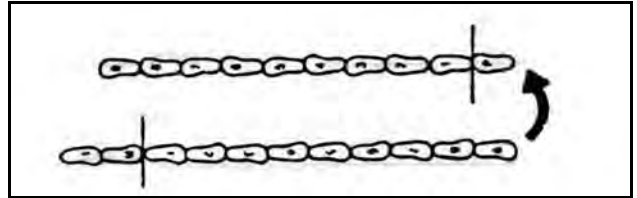
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

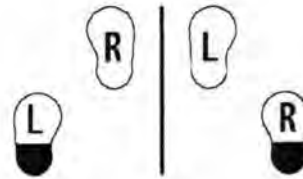
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

55 Minutes

SESSION VII

PHASE THREE: PRE-ARREST SCREENING

## SESSION VII

### PHASE THREE: PRE-ARREST SCREENING

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

- o Describe the role of psychophysical and preliminary breath tests.
- o Define and describe the concepts of divided attention and nystagmus.
- o Discuss the advantages and limitations of preliminary breath testing.
- o Discuss the arrest decision process.

#### CONTENT SEGMENTS

#### LEARNING ACTIVITIES

- |                                                                     |                                 |
|---------------------------------------------------------------------|---------------------------------|
| A. Overview: Tasks and Decision                                     | o Instructor-Led Presentations  |
| B. Gaze Nystagmus - Definition                                      | o Instructor-Led Demonstrations |
| C. Horizontal Gaze Nystagmus - Definition, Concepts, Demonstrations | o Video Presentation            |
| D. Vertical Gaze Nystagmus - Definition, Concepts, Demonstrations   |                                 |
| E. Divided Attention Tests: Concepts, Examples, Demonstrations      |                                 |
| F. Advantages and Limitations of Preliminary Breath Testing         |                                 |
| G. The Arrest Decision                                              |                                 |



Display VII-O (Session Objectives)

**Aids**

**Lesson Plan**

**Instructor Notes**



**55 Minutes**



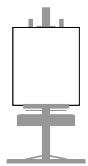
**5 Minutes**



**Display VII-1**



**Display VII-2**



**VII PHASE THREE:  
PRE-ARREST SCREENING**

**A. Overview: Tasks and Decision**

1. DWI Detection Phase Three, Pre-arrest Screening, consists of structured, formal psychophysical testing and preliminary breath testing of persons suspected of DWI, and culminates in the arrest/no arrest decision.

- a. Psychophysical tests are methods of assessing a suspect's mental and/or physical impairment.

- (1) The most significant psychophysical tests are the standardized field sobriety tests, administered at roadside.

Point out that it is the policy of some police departments to conduct psychophysical testing prior to preliminary breath testing, whereas other departments usually conduct preliminary breath testing first. Hence, the two screening tasks are shown as parallel rather than sequential activities on the slide.

Indicate the preferred sequence of psychophysical and preliminary breath testing for the participants' department.

Point out that these tests directly assess impairment by focusing precisely on the human capabilities needed for safe driving (examples: balance, reactions, coordination, information, processing, etc.)

Write on dry-erase board or flipchart: "Standardized Field Sobriety Tests."



**Redisplay**  
VII-1



**5 Minutes**



**Display**  
VII-3



**5 Minutes**

- b. The preliminary breath test can also be very important in helping to corroborate all other evidence, and in helping to confirm the officer's judgment as to whether the suspect is under the influence.
- c. The final stage of Detection Phase Three is the Arrest Decision.

**B. Nystagmus - Definition**

- 1. "Nystagmus" means an involuntary jerking of the eyes.
  - a. Alcohol and certain other drugs cause Horizontal Gaze Nystagmus.
  - b. Show video.

**C. Horizontal Gaze Nystagmus - Definition, Concepts, Demonstration**

- 1. Horizontal Gaze Nystagmus means an involuntary jerking of the eyes occurring as the eyes gaze toward the side.

Point out the PBT block.  
Instructor Please Note: In most states, results of a preliminary breath test ordinarily cannot be introduced as evidence by the prosecution. Indicate to participants the limits of admissibility of PBT results in their state.

Point out the arrest decision on the slide.

**Emphasize that the arrest decision is based on all of the evidence obtained during all three detection phases.**

Show video "The Truth Is In The Eyes" (Wisconsin - 1999).

Choose a participant to come forward to serve as a demonstration subject.

2. To test for Horizontal Gaze Nystagmus, the suspect is instructed to stand with feet together, hands at sides, hold the head still, and follow the motion of a small stimulus with the eyes only.
  - a. The object may be the tip of a pen or penlight, the eraser on a pencil, or your fingertip which contrasts with the background.
  - b. Each eye is checked, beginning with the suspect's left.
  - c. Two or more "passes" are made before each eye, to look for each of the clues of nystagmus.

Ask participant if they have any eye problems or eye abnormalities. If the participant is wearing glasses, have participant remove them.

Point out here the stimulus should be held approximately 12-15 inches (30-38 cm) from the suspect's nose.

Demonstrate the administration of the Horizontal Gaze Nystagmus test using a participant.

Allow participant to return to seat.

Point out that a suspect's height might restrict ability to clearly see nystagmus. Suspect may be placed in sitting position to accommodate a better view.

Suggest the showing of the video entitled, "The Truth Is In the Eyes" (8 minutes and 50 seconds).

Note: Vertical Gaze Nystagmus was not included in the SFST battery during the original research, however, it is a reliable indicator of a high quantity of alcohol for that individual, or other drug impairment.



5 Minutes

**D. Vertical Gaze Nystagmus - Definition, Concepts, Demonstration**

1. Vertical Gaze Nystagmus is an involuntary jerking of the eyes occurring as the eyes are held at maximum elevation.



20 Minutes



Display

VII-4

**E. Divided Attention Tests:  
Concepts, Examples**

1. Many of the most reliable and useful psychophysical tests employ the concept of divided attention.
  - a. Driving is a complex divided attention task, composed of many components.
  - b. Alcohol and many other drugs impair a person's ability to divide attention.
  - c. Under the influence of alcohol or various other drugs, drivers often must ignore the less critical components of driving and focus their impaired attention on the more critical tasks.
2. Even under the influence, many people often can handle a single, focused-attention task fairly well.
3. But most people, when under the influence, cannot satisfactorily divide their attention to handle multiple

For VGN to be recorded, it must be distinct and sustained for a minimum of four seconds at maximum elevation.

Demonstrate the administration of the Vertical Gaze Nystagmus test using a participant.

Remind participants of the many tasks drivers must perform in order to operate a vehicle safely.

Example: Focus on steering and speed control, and ignore signaling or the processing of information from traffic control devices.

Example: May be able to keep the vehicle well within the proper traffic lane, as long as the road remains fairly straight.



**Display**  
VII-5

tasks at once.

4. Application of divided attention concept to psychophysical testing: select and use field sobriety tests that simulate the divided attention characteristics of driving.

- a. Typical mental and physical capabilities that drivers must be able to carry out simultaneously.

- o Information processing
- o Short-term memory
- o Judgement/decision making
- o Vision
- o Small muscle control

- b. A test that simultaneously requires a person to demonstrate two or more of these capabilities is a potentially good psychophysical test.

5. Key supportive concept for divided attention tests: simplicity.

- a. It is not enough to select a test that divides the suspect's attention.

Point out that some of the best psychophysical tests are those that exercise the same mental and physical capabilities that a person needs to drive safely.

Briefly give examples/indications of how these capabilities relate to driving.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VII-6**

- b. The test must also be reasonably simple to perform, when sober.
  
- c. Tests that might be too difficult to perform when sober will be of little or no evidentiary value.
  
- 6. First example of a simple divided attention test: Walk-and-Turn.

Point out that Walk-and-Turn is a test that has been validated through extensive research sponsored by the National Highway Traffic Safety Administration.

NOTE: Also point out here, that officers should be reminded of the rigid standards the scientific community must follow in order to validate laboratory research (i.e., the development of psychophysical test for DWI detection) and the differences between validated testing and standardized testing. Officers administering SFSTs at roadside are expected: 1) to be reasonable and prudent in their decision to test; and 2) not to deviate from the SFST administrative instructions described later in this course.



**Display  
VII-7**

- a. Walk-and-Turn is a divided attention test consisting of two stages:
  - o Instructions stage.
  - o Walking stage.

Remind participants that prior to starting this test they should ask if the subject has any physical problems or disabilities.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VII-8**

- b. Instructions Stage: Suspect must assume heel-to-toe stance, with arms at sides, and listen to instructions.
  - c. Walking Stage: Suspect must take nine heel-toe steps down the line, turn in a prescribed fashion, and take nine heel-toe steps up the line, while counting steps out loud.
  - d. Prescribed Turn: Suspect must keep the front foot on the line, turn on that foot, using a series of small steps with the other foot.
7. Second example of a simple divided attention test: One-Leg Stand.
- a. One-Leg Stand consists of two stages.
    - o Instructions stage.
    - o Balance and Counting stage.
  - b. Instructions Stage: Suspect must stand with the feet together, with arms at sides, and listen to the instructions.
  - c. Balance and Counting Stage: Suspect must raise one leg, either leg, with the foot approximately six inches (15 cm) off the

Demonstrate stance.

Point out that this divides attention between a balancing task and an information processing task. Demonstrate heel-toe steps and simultaneous counting.

Demonstrate turn.

Point out that the walking stage divides the suspect's attention between a task of listening, comprehending and carrying out the instruction.

Point out that One-Leg Stand has also been validated through NHTSA's research program.

Point out that this divides attention between a balancing task and an information processing task. Demonstrate the stance.

Demonstrate stance and counting.



ground, keeping raised foot parallel to the ground.

While looking at the raised foot, count out loud in the following manner: "one thousand and one," "one thousand and two," "one thousand and three" until told to stop.

8. Video Segment Number 8

9. Other examples of simple, divided attention tests. (Instructor's Option)

Point out that this divides attention between balancing and counting out loud.

Point out that research has demonstrated that many impaired suspects are able to maintain one leg balance for as long as 25 seconds, but relatively few can do so for 30 seconds. NOTE: Therefore officer should keep track of the actual time the suspect stands on one leg. When 30 seconds have passed, stop the test.

Point out that the subject should be timed while performing this test.

Show video segment #8, tape one "Proper Administration of the SFSTs"

Instructor Please Note:  
If time permits, explain and demonstrate other divided attention tests that may be used by participant's respective departments.

- Typical tests:
- o Finger-to-nose
  - o Romberg balance



15 Minutes

**F. Advantages and Limitations of Preliminary Breath Testing**



Display VII-9

1. Basic purpose of preliminary breath testing: To demonstrate the association of alcohol influence with the sensory evidence of the suspect's impairment.

NOTE: If your state does not have a PBT law, skip this segment. However, passive alcohol sensors are available to detect the possible presence



**Display**  
VII-10

2. Preliminary breath testing, like psychophysical testing, is a stage of the pre-arrest screening of a DWI suspect.

- a. Suspect is not yet under arrest when requested to submit to the preliminary breath test.
- b. Incident remains at the investigative stage; accusatory stage has not yet begun.
- c. PBT result is only one additional factor to help determine whether or not suspect should be arrested for DWI.
- d. PBT result can be a significant factor in the arrest decision, because it provides a direct indication of alcohol influence.

3. Advantages of Preliminary Breath Testing.

- a. Corroborates other evidence: demonstrates that the suspicion of alcohol influence is consistent with the officer's observations of suspect's mental and physical impairment.

of alcohol.

Emphasize that the suspect's impairment is established through what the officer sees, hears and smells.

Emphasize that the PBT helps to confirm the chemical basis (alcohol) of that impairment.

i.e., all other evidence, from initial observation of vehicle in operation through psychophysical testing, indicates alcohol influence indirectly, based on impairment of the suspect's mental and physical faculties.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>b. Confirms officer's own judgment: helps the officer gain confidence in ability to evaluate alcohol impairment accurately, based on observations and psychophysical tests.</li><li>c. May disclose the possibility of medical complications and/or impairment due to drugs other than alcohol.</li><li>d. Can help to establish probable cause for a DWI arrest.</li></ul> <p>4. Limitations of Preliminary Breath Testing.</p> <ul style="list-style-type: none"><li>a. Evidentiary Limitations.</li></ul>	<p>Point out that many experienced DWI officers find that they rely less and less on the PBT as their confidence in their own powers of detection increases.</p> <p>i.e., observed psychophysical impairment coupled with a PBT result showing very low BAC indicates an immediate need to investigate the possibility that the suspect suffers from some medical/ health problem, or may have ingested other drugs.</p> <p><u><b>INSTRUCTOR PLEASE NOTE:</b></u> The potential role of the PBT in establishing probable cause may be affected by the evidentiary value of PBT results in your state.</p> <p>Consult your specific PBT statute, and your local state's or district attorney to clarify this point for your participants.</p> <p>Explain the specific circumstances under which PBT results may and may not be admissible as evidence in your state.</p>
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**Display**  
VII-11

- b. Accuracy Limitations:
  - o Circumstances producing low test results.
  - o Circumstances producing high test results.
- 5. Factors affecting accuracy of Preliminary Breath Tests.
  - a. Five major factors potentially can affect preliminary breath test accuracy:
    - o Composition of breath sample.
    - o Cooling of breath sample.
    - o Residual mouth alcohol.
    - o Contaminating substances in the breath sample.
    - o Radio frequency interference (RFI)

Explain the weight or probative value of PBT evidence, when admissible.

Point out that, although all PBT instruments currently used by law enforcement are reasonably accurate, they are subject to the possibility of some error, especially if they are not used in the proper fashion.

Point out that the first two factors listed act to produce low test results, and that the third and fourth act to produce high test results.

Point out that RFI can produce either high or low test results, or can prevent a breath test device from producing any result.

Briefly explain the factors and their influence.



5 Minutes



Display  
VII-12

### G. The Arrest Decision

1. Arrest/No Arrest Decision is based on all evidence accumulated during all detection phases.
  - a. Officer's mental summary of the evidence collected during vehicle in motion, personal contact, and pre-arrest screening.
  - b. The decision involves a careful review and "weighing" of observations.
2. If all of the evidence, taken together, establishes probable cause to believe the offense has been committed, officer should arrest the suspect.
3. In the absence of probable cause, the proper decision is to release suspect, or to cite for another violation, if applicable.

## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. The two major evidence gathering tasks of Phase Three are \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. The major decision in Phase Three is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. The entire DWI detection process culminates in \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Divided attention tests require the subject to \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Among the mental and physical capabilities a person needs to drive safely are these four:
  - a.
  - b.
  - c.
  - d.
6. The two stages of the Walk-and-Turn are:
  - a.
  - b.

7. The two stages of the One-Leg Stand are:

a.

b.

8. The purpose of PBT is \_\_\_\_\_

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9. Two factors that produce high results on a PBT are:

a.

b.

10. Two factors that produce low results on a PBT are:

a.

b.

Three Hours and Twenty Minutes

SESSION VIII

CONCEPTS AND PRINCIPLES OF THE  
STANDARDIZED FIELD SOBRIETY TESTS (SFST)

## SESSION VIII

### CONCEPTS AND PRINCIPLES OF THE STANDARDIZED FIELD SOBRIETY TESTS (SFST)

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

- o Discuss the development and validity of the research and the standardized elements, clues and interpretation of the three standardized field sobriety tests.
- o Discuss the different types of nystagmus and their effects on the Horizontal Gaze Nystagmus test.
- o Discuss and properly administer the three standardized field sobriety tests.
- o Discuss and recognize the clues of the three standardized field sobriety tests.
- o Describe in a clear and convincing manner and properly record the results of the three standardized field sobriety tests on a standard note taking guide.
- o Discuss the limiting factors of the three standardized field sobriety tests.

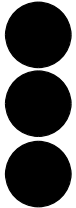
#### CONTENTS SEGMENTS

#### LEARNING ACTIVITIES

- |                                                                           |                                                  |
|---------------------------------------------------------------------------|--------------------------------------------------|
| A. Overview: Development and Validation                                   | o Instructor-Led Presentation                    |
| B. SFST Field Validation Studies                                          | o Instructor-Led Demonstration                   |
| C. Horizontal Gaze Nystagmus                                              | o Participant Practice Session and Demonstration |
| D. Vertical Gaze Nystagmus                                                |                                                  |
| E. Walk-and-Turn                                                          |                                                  |
| F. Combining the Clues of the Horizontal Gaze Nystagmus and Walk-and-Turn |                                                  |
| G. One-Leg Stand                                                          |                                                  |
| H. Limitations of the Three Tests                                         |                                                  |
| I. Taking Field Notes on the Standardized Field Sobriety Tests            |                                                  |



Display VIII-O (Session Objectives)



3 Hours  
20 Minutes



15 Minutes



Display  
VIII-1



Display  
VIII-1A

**VIII CONCEPTS AND PRINCIPLES OF THE STANDARDIZED FIELD SOBRIETY TESTS (SFST)**

**A. Overview: Development and Validation**

1. For many years law enforcement officers have utilized field sobriety tests to determine the impairment of a person's driving due to alcohol influence. The performance of the person on those field sobriety tests was used by the officer to develop probable cause for arrest and as evidence in court. A wide variety of field sobriety tests existed and there was a need to develop a battery of standardized valid tests.
  
2. Beginning in late 1975, extensive scientific research studies were sponsored by NHTSA through a contract with the Southern California Research Institute (SCRI) to determine which roadside field sobriety tests were the most accurate.

Point out to participants that NHTSA contracted with the Southern California Research Institute (SCRI) in 1975 to develop these field tests. SCRI published the following three reports:

California: 1977 (Lab)  
 California: 1981 (Lab and Field)  
 Maryland, D.C., V.A., N.C., 1983 (Field)

See Attachment A, page 3, #20.



**Display**  
VIII-2

3. SCRI traveled to law enforcement agencies throughout the United States to select the most commonly used field sobriety tests. Six tests were used in the initial stages of this study.

4. Laboratory research indicated that three of these tests, when administered in a standardized manner, were a highly reliable battery of tests for distinguishing BACs above 0.10:

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

5. NHTSA analyzed the laboratory test data and found:

- o HGN, by itself, was 77% accurate.
- o WAT, by itself, was 68% accurate.
- o OLS, by itself, was 65% accurate.
- o By combining the results of HGN and WAT, an 80% accuracy rate can be achieved.

6. The final phase of this study was conducted as a field validation.



**Display**  
VIII-3



**Display**  
VIII-4

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display VIII-4A**



**Display VIII-4B**



**15 Minutes**



**Display VIII-5**



**Display VIII-6**

- o Standardized, practical and effective procedures were developed.

- o The tests were determined to discriminate in the field, as well as in the laboratory.

7. The three standardized tests were found to be highly reliable in identifying subjects whose BACs were above 0.10. The results of the study validated the SFSTs.

**B. SFST Field Validation Studies**

1. Three SFST validation studies were undertaken between 1995 and 1998:

- o Colorado - 1995
- o Florida - 1997
- o San Diego - 1998

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

- o The original SCRI study utilized only a few experienced officers in DWI enforcement in both a laboratory setting and field setting.

See Attachments B, C, and D.

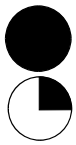


**Display**  
VIII-7



**Display**  
VIII-8

- o Based on the 3-test battery (HGN, WAT, OLS), correct arrest decisions were made 93% of the time. Substantially higher than the initial study results.
3. 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 at 0.08 levels and above when used under present day traffic and law enforcement conditions.
- o Based on the 3-test battery (HGN, WAT, OLS), correct decisions to arrest were made 95% of the time.
  - o This study has shown that the SFST 3-test battery is the only scientifically validated and reliable method for discriminating between impaired and unimpaired drivers.
4. The San Diego SFST field validation study was undertaken because of the nationwide trend towards lowering the BAC limits to 0.08. The question to be answered was "does SFST discriminate at BAC's below 0.10".
- o Based on the 3-test battery (HGN, WAT, OLS), arrest decisions were supported 91% of the time at the 0.08 BAC level and above.



**1 Hour 15  
Minutes**



**Display  
VIII-9**



**Display  
VIII-10**

- o HGN is still the most reliable of the 3-test battery.

This study provided the first indications supporting arrest decisions at 0.08 BAC. The study also suggests that HGN can provide valid indications of 0.04 BAC and above.

Note: Refer to Attachments C and D for information regarding these SFST research studies.

**C. Horizontal Gaze Nystagmus**

1. Review of definition.
  - a. Involuntary jerking of the eyes, occurring as the eyes gaze to the side.
  - b. In addition to being involuntary:
    - o person is generally unaware that it is happening.
    - o person is powerless to stop it or control it.
2. Key Summary Point.
  - a. Alcohol and certain other drugs cause Horizontal Gaze Nystagmus.
3. Categories of Nystagmus.
  - a. Horizontal Gaze Nystagmus is not the only kind of nystagmus.
  - b. There are other circumstances under which the eyes will jerk involuntary.

- c. It is important to know some of the other common types of nystagmus, to be aware of their potential impact on our field sobriety tests.
- d. Nystagmus of several different origins may be seen. There are three general categories of nystagmus:
- (1) Vestibular Nystagmus is caused by movement or action to the vestibular system.
- (a) Types of vestibular nystagmus:
- o Rotational Nystagmus occurs when the person is spun around or rotated rapidly, causing the fluid in the inner ear to be disturbed.
  - o Post Rotational When the person stops spinning, the fluid in the inner ear remains disturbed for a short period of time, and the eyes continue to jerk.

Reveal the first category on Slide VIII-10.

Point out that the vestibular system is a sense organ located in the inner ear. It provides information to the brain, and consequently to the eyes about position and movement of the head to maintain orientation and balance of the body.

If you were able to observe the eyes of a rotating person, they would be seen to jerk noticeably.

Also indicate that these types of nystagmus will not interfere with the horizontal gaze nystagmus test due to the conditions under which they occur.

To illustrate rotational and post rotational, swirl a half glass of water several times. Stop swirling glass, water will continue to spin for a short period of time.

**Aids**

**Lesson Plan**

**Instructor Notes**

- o Caloric Nystagmus occurs when fluid motion in the canals of the vestibular system is stimulated by temperature as by putting warm water in one ear and cold in the other.
  
- o Positional Alcohol Nystagmus (PAN) occurs when a foreign fluid, such as alcohol, that alters the specific gravity of the blood is in unequal concentrations in the blood and the vestibular system.

In the original HGN study, research was not conducted for performing HGN on people lying down. Current research demonstrates that HGN can be performed on someone in this position.

See Attachment A, page 5, #33, *Nystagmus Testing in Intoxicated Individuals*.

This causes the vestibular system to respond to gravity in certain positions, resulting in nystagmus.

There are two types of PAN:

PAN I-occurs when the alcohol concentration in the blood is greater than the inner ear fluid. PAN I occurs while BAC is increasing.

- (2) Nystagmus can also result directly from neural activity:
- (a) Optokinetic  
Nystagmus occurs when the eyes fixate on an object that suddenly moves out of sight, or when the eyes watch sharply contrasting moving images.
- o Examples of optokinetic nystagmus include watching strobe lights, rotating lights, or rapidly moving traffic in close proximity.
  - o The Horizontal Gaze Nystagmus test will not be influenced by optokinetic nystagmus if administered properly.

PAN II - occurs when the alcohol concentration in the inner ear fluid is greater than in the blood. An example of PAN is the spinning of a room when a person lies down after consuming alcohol. This occurs while BAC is decreasing.

Reveal the next category on Slide VIII-10.

Point out that during the Horizontal Gaze Nystagmus test, the suspect is required to focus the eyes on a penlight, pencil or similar object that moves smoothly and relatively slowly across the field of view, thus optokinetic nystagmus will not occur.

**Aids**

**Lesson Plan**

**Instructor Notes**

(b) Physiological  
Nystagmus is a natural nystagmus that keeps the sensory cells of the eye from tiring. It is the most common type of nystagmus.

- o It happens to all of us, all the time. This type of nystagmus produces extremely minor tremors or jerks of the eyes.
- o These tremors are generally too small to be seen with the naked eye.

(c) Gaze Nystagmus occurs as the eyes move from the center position. Gaze nystagmus is separated into three types:

(d) Horizontal Gaze Nystagmus occurs as the eyes move to the side. It is the observation of the eyes for Horizontal Gaze Nystagmus that provides the first and most valid test in the standardized field sobriety testing battery.

Emphasize that physiological nystagmus will have no impact on our standardized field sobriety tests, because its tremors are generally invisible.

Emphasize to participants that this training course is concerned with Horizontal Gaze Nystagmus and that this procedure has been validated as an accurate indicator for alcohol influence by extensive scientific research.

Alcohol is a central nervous system depressant.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>Although this type of nystagmus is most accurate for determining alcohol influence, its presence may also indicate use of certain other drugs.</p> <p>(e) <u>Vertical Gaze</u> Nystagmus is an involuntary jerking of the eyes (up and down) occurring as the eyes are held at maximum elevation.</p> <ul style="list-style-type: none"><li>o The presence of this type of nystagmus is associated with high doses of alcohol for that individual and certain other drugs.</li><li>o The drugs that cause Vertical Nystagmus are the same ones that cause Horizontal Gaze Nystagmus.</li><li>o There is no drug that will cause VGN that does not cause HGN. If VGN is present and HGN is not, it could be a medical condition.</li></ul>	<p>Examples of other drugs are: Depressants, Inhalants, October 14, Dissociative Anesthetics such as PCP and its analogs.</p> <p>NOTE: All drugs that cause HGN may also cause VGN, if enough of the drug is taken.</p> <p>For VGN to be recorded, it must be definite, distinct and sustained for a minimum of four seconds at maximum elevation.</p>
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	<p>(3) Nystagmus may also be caused by certain <u>pathological disorders</u>. They include brain tumors and other brain damage or some diseases of the inner ear. These pathological disorders occur in very few people and in even fewer drivers.</p> <p>4. Medical Impairment.</p> <p>a. The observations that you can make to assess possible medical impairment include:</p> <ul style="list-style-type: none"> <li>o Pupil size</li> <li>o Resting Nystagmus</li> <li>o Tracking ability</li> </ul> <p>b. <u>Pupil Size</u> will be affected by some medical conditions or injuries:</p> <ul style="list-style-type: none"> <li>o If the two pupils are <u>distinctly different</u> in size, it is possible that the subject has a glass eye, or is suffering from a head injury or a neurological disorder.</li> </ul> <p>c. <u>Resting</u> Nystagmus is referred to as jerking as the eyes look straight ahead. This condition is not frequently seen. Its presence usually indicates a pathology or high doses of a drug such as a Dissociative Anesthetic like PCP.</p>	<p>Reveal the next category on Slide VIII-10.</p> <p>Point out that nystagmus caused by pathological disorders is extremely rare in the driving population. Persons suffering from these disorders are rarely able to drive.</p> <p>NOTE: Resting Nystagmus may also be a medical problem.</p> <p>Although this observation is an important medical assessment, it is NOT an HGN administrative procedure step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

- d. Tracking Ability will be affected by certain medical conditions or injuries involving the brain:
  - o If the two eyes do not track together, the possibility of a serious medical condition or injury is present.
  - o By passing a stimulus across both eyes, you can check to see if both eyes are tracking equally.
  - o If they don't (i.e., if one eye tracks the stimulus, but the other fails to move, or lags behind the stimulus) there is the possibility of a neurological disorder.
  - o If a person has sight in both eyes, but the eyes fail to track together, there is a possibility that the person is suffering from an injury or illness affecting the brain.

Demonstrate how to check for tracking ability.

Point out: Even though the possibility of alcohol and/or drug impairment exists, officers should be aware of medical conditions having symptoms in common with alcohol influence.

See Attachment A, page 5, #33, *Nystagmus Testing in Intoxicated Individuals*.

See Attachment A, page 5, #34, *Robustness of the Horizontal Gaze Nystagmus Test*.

Note: For further information on drugs other than alcohol and procedures for conducting a preliminary examination to check for medical impairment, injury or drug impairment, see the curriculum package entitled "Drugs That Impair Driving", or "Introduction to Drugged Driving" available from the NHTSA.



**Display**  
VIII-11

5. Administrative Procedures for Horizontal Gaze Nystagmus.

It is important to administer the Horizontal Gaze Nystagmus test systematically using the following steps, to ensure that nothing is overlooked.

- a. Step I: Check for Eyeglasses. Begin by instructing the suspect to remove eyeglasses, if worn.
  - o It does not matter whether the suspect can see the stimulus with perfect clarity, as long as suspect can see it at all.
- b. Step II: Verbal Instructions. Give the suspect the appropriate verbal instructions:
  - o Put feet together, hands at the side.
  - o Keep head still
  - o Look at the stimulus
  - o Follow movement of the stimulus with the eyes only
  - o Keep looking at the stimulus until told the test is over

Prior to administering HGN, check to see if the subject has any eye problems or eye abnormalities.

There are 10 steps in the systematic administration of the Horizontal Gaze Nystagmus test.

Point out that eyeglasses may impede the suspect's peripheral vision, and may also impede the officer's ability to observe the eye carefully.

Remind participants that nystagmus is not a vision test.

Point out that officers should note whether suspect sways, wobbles, etc. while trying to balance.

Emphasize that these are the major points that must be conveyed during the verbal instructions.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>c. Step III: Positioning the Stimulus. Position the stimulus approximately 12-15 inches (30-38 cm) in front of suspect's nose, and slightly above eye level to commence the test.</li> <li>d. Step IV: Equal Pupil Size and Resting Nystagmus. Check for equal pupil size and resting nystagmus.</li> <li>e. Step V: Tracking. Check for equal tracking.</li> <li>f. Step VI: Lack of Smooth Pursuit. Check the left eye for lack of the "Smooth Pursuit" clue. If the eye is observed to jerk while moving, that is one clue. <ul style="list-style-type: none"> <li>o Check the right eye for lack of the "Smooth Pursuit" clue and compare.</li> </ul> </li> <li>g. Step VII: Distinct and Sustained Nystagmus at Maximum Deviation. Check the left eye for the "distinct and sustained nystagmus at maximum deviation" clue. If the jerkiness is distinct and sustained, that is one clue. <ul style="list-style-type: none"> <li>o Check the right eye for the "distinct and sustained nystagmus at maximum deviation"</li> </ul> </li> </ul>	<p>Resting Nystagmus may be observed at this time. Officers should note whether the suspect displays Resting Nystagmus.</p> <p>Remind participants to also check for resting nystagmus when checking for equal pupil size.</p> <p>Move the stimulus rapidly from center to far right, to far left and back to center (approximately 2 seconds).</p> <p>Remind participants to make at least two complete passes in front of the eyes to check this clue.</p> <p>Emphasize that the jerking must be definite, distinct and sustained in order to score this clue.</p> <p>Remind participants to check each eye at least twice for this clue.</p> <p>Point out that in most cases no white should be showing in the corner of the eye when observing this clue.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>clue and compare.</p> <ul style="list-style-type: none"><li>h. Step VIII: Onset of Nystagmus Prior to 45 Degrees. Check the left eye for the "onset of nystagmus prior to 45 degrees" clue. If the jerking begins prior to 45 degrees, that is one clue.<ul style="list-style-type: none"><li>o Check the right eye for "onset of nystagmus prior to 45 degrees" clue, and compare.</li></ul></li><li>i. Step IX: Total the clues<ul style="list-style-type: none"><li>o Maximum number of clues possible for each eye: 3</li><li>o Total maximum number of clues possible for both eyes: 6</li></ul></li><li>j. Step X: Check for Vertical Nystagmus.</li></ul>	<p>Remind participants to check each eye at least twice for this clue.</p> <p>Point out that, for many suspects, nystagmus clues will appear in the sequence listed.</p> <p>Also, point out that the suspect's performance may not be exactly identical in both eyes.</p> <p>That is, as BAC increases, many people first show inability of smooth pursuit, then show distinct jerkiness at maximum deviation, and finally show an onset within 45 degrees. However, that may not be true in all cases: the clues may develop in virtually any sequence, in any particular suspect.</p> <p>It is possible that all three clues definitely will be found in one eye, while only two (or sometimes only one) will show up in the other eye. It is always necessary to check <u>both</u> eyes, and to check them independently.</p>
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**Display**  
VIII-12

6. Clues for Horizontal Gaze Nystagmus.
  - a. When we administer the Horizontal Gaze Nystagmus test, we look for three specific clues as evidence of alcohol influence.
  - b. We check each eye independently for each clue.
  - c. For standardization, begin with the subject's left eye. Check for the first clue. Next, check right eye for same clue. Repeat this procedure for each clue starting with left eye, then right eye. Compare and document the results.
  - d. When we are checking an eye, it is good practice to administer the test by-the-numbers each time, to make sure that no step is overlooked.

Notwithstanding, it is unlikely that the eyes of someone under the influence of alcohol will behave totally different.

Thus, if one eye shows all three clues distinctly while the other eye gives no evidence of nystagmus, the person may be suffering from one of the pathological disorders covered previously.

It is important that participants start with the subject's left eye first. Then check the right eye for the same clue. This procedure should be used for all three clues.

Remind the participants to check each eye twice for each clue.

**EMPHASIZE THAT:**  
**OFFICER SAFETY IS OF**  
**KEY IMPORTANCE WHEN**  
**ADMINISTERING THESE**  
**TESTS.**

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VIII-13**

- e. Clue No. 1: Lack of Smooth Pursuit.
  - o The first clue requires that the suspect move the eye to follow the motion of a smoothly moving stimulus.
  - o The stimulus may be the eraser on a pencil, the tip of a penlight, the tip of your finger, or any similar small object.
  - o Begin by holding the stimulus approximately 12-15 inches (30-38 cm) in front of the suspect's nose, and slightly higher than the level of the suspect's eye.
  - o Move the stimulus smoothly all the way out to the right (checking suspect's left eye first) then move the stimulus smoothly all the way across the suspect's face to the left side (checking the suspect's right eye), then back to center.
  - o Make at least two complete passes with the stimulus.
  - o If a person is not impaired, the eyes should move smoothly as the object is moved back and forth.

Emphasize that suspect must keep the head still and follow the stimulus with the eyes only.

Emphasize here that it is best to use a stimulus which contrasts with the background.

Point out that when stimulus slightly higher than eye level, suspect will have to open eyes wide to focus on it. Wide-open eyes make it easier to see the nystagmus.

Analogy: movement of a non-impaired person's eye will be similar to the movement of a marble rolling across a polished pane of glass (i.e., frictionless), or the movement of windshield wipers across a wet windshield versus a dry windshield.

**Aids**

**Lesson Plan**

**Instructor Notes**

- o If the person is impaired by alcohol and/or some other drugs, the eye should jerk noticeably as it moves back and forth.

(1) The Mechanics of Clue Number 1.

- o It is necessary to move the object smoothly in order to check the eye's ability to pursue smoothly.
- o The stimulus should be moved from center position, all the way out to the right side (checking subject's left eye) where the eye can go no further, and then all the way back across subject's face all the way out to the left side where the eye can go no further (checking subject's right eye) and then back to the center.

Analogy: movement of an impaired person's eyes will be similar to a marble rolling across a sheet of sandpaper (encountering resistance, friction), or the movement of windshield wipers across a wet windshield versus a dry windshield.

Note: This will also be seen with certain categories of drugs.

Demonstrate.




**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>front of nose, slightly higher than eye level.</p> <ul style="list-style-type: none"><li>o Stimulus is moved smoothly from center all the way out to the right (checking subject's left eye), back across subject's face all the way to the left side (checking subject right eye) then back to center.</li><li>o A second pass is conducted the same as the first.</li><li>o On each pass, the arm is moved smoothly, and the eye is taken as far to the side as possible.</li></ul> <p>(3) Participant practice of the mechanics of Clue No. 1.</p> <ul style="list-style-type: none"><li>o Practice in groups of two or three, taking turns.</li></ul>	<p>Point out how the arm is held to ensure smooth movement.</p> <p>Point out that each pass takes the eye as far to the side as it can go.</p> <p>Point out that it takes approximately 2 seconds to move the object from center to the side as far as the eye can go.</p> <p>Solicit participants' questions concerning the procedural mechanics for Clue No. 1.</p> <p>Instruct each participant to practice conducting the test of smooth pursuit, using another participant as a subject.</p> <p>Remind participants that they are to make at least two complete passes in front of the eyes.</p>
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Aids	Lesson Plan	Instructor Notes
 <p data-bbox="186 1627 305 1696"><b>Display</b> VIII-14</p> <p data-bbox="186 1879 365 1906">HS 178 R2/06</p>	<ul style="list-style-type: none"> <li data-bbox="613 336 852 472">o Coaching and critiquing participants' practice.</li>   <li data-bbox="613 997 873 1066">o Participant-led demonstration.</li>                   <li data-bbox="511 1564 901 1663">f. Clue No. 2: Distinct and Sustained Nystagmus at Maximum Deviation.</li> </ul> <p data-bbox="763 1879 852 1906">VIII-21</p>	<p data-bbox="998 336 1380 405">Common initial mistakes to note and correct:</p> <ul style="list-style-type: none"> <li data-bbox="998 409 1425 478">o Holding object too close to (or too far from) subject's eyes;</li>   <li data-bbox="998 514 1412 583">o Moving object too slowly (or too quickly) toward the side;</li>   <li data-bbox="998 619 1396 718">o Failing to move object far enough to the side to bring eye to maximum deviation.</li>   <li data-bbox="998 753 1425 961">o Curving downward and curving around. Note: Encourage participants to practice this procedure using a flat surface such as a wall for a guide.</li> </ul> <p data-bbox="998 997 1409 1276">Choose a participant who appears to be doing a good job in carrying out the procedural mechanics of Clue No. 1, and have that participant come forward with a subject to demonstrate the mechanics to the class.</p> <p data-bbox="998 1312 1404 1520">Resume participant practice and allow it to continue until all participants appear reasonably proficient in carrying out the mechanics of Clue No. 1.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Once you have completed the check for smooth pursuit, you will test the eyes for distinct and sustained nystagmus when the eye is held at maximum deviation, beginning with the subject's left eye.</li> <li>(1) The Mechanics of Clue Number 2.<ul style="list-style-type: none"><li>o Once again, position the stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose.</li> <li>o Move the stimulus off to the right side (checking suspect's left eye) until the eye has gone as far as possible.</li> <li>o Hold the stimulus steady at that position for a minimum of four (4) seconds, and carefully watch the eye.</li> <li>o Then, move the stimulus back across the subject's face all the way out to the left side (subject's right eye).</li> <li>o Hold the stimulus steady and carefully watch the eye.</li></ul></li></ul>	<p>Demonstrate</p> <p>Demonstrate holding the stimulus steadily off to the side.</p> <p>Point out that four (4) seconds is a relatively long period of time. You cannot simply hold the eye to the side for an instant, and expect to observe distinct jerking.</p> <p>Note: Four seconds will not cause fatigue nystagmus. This type of nystagmus may begin if a subject's eye is held at maximum deviation for more than 30 seconds.</p> <p>Repeat this step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o If the person is impaired, the eye is likely to exhibit definite, distinct and sustained jerking when held at maximum deviation for a minimum of 4 seconds.</li><li>o In order to "count" this clue as evidence of impairment, the nystagmus must be distinct and sustained for a minimum of 4 seconds.</li><li>o If you think you see only slight nystagmus at this stage of the test, or if you have to convince yourself that nystagmus is present, then it isn't really there.</li></ul> <p>(2) Live Demonstration of the Mechanics of Clue No. 2.</p> <ul style="list-style-type: none"><li>o Stimulus initially positioned approximately 12-15 inches (30-38 cm) in front of the participant-subject's nose, slightly higher than eye level.</li><li>o Stimulus moved to the side, drawing the eye to its maximum deviation.</li></ul>	<p>Emphasize this point.</p> <p><b>ONCE AGAIN, EMPHASIZE OFFICER SAFETY.</b></p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Hold the stimulus steady at that point for a minimum of 4 seconds, to determine whether or not there is distinct and sustained nystagmus.</li><li>o Then, move the stimulus back across the subject's face all the way out to the left side (subject's right eye).</li><li>o Hold the stimulus steady and carefully watch the eye.</li><li>o Hold the stimulus steady at that point for a minimum of 4 seconds to determine whether or not there is distinct and sustained nystagmus.</li></ul> <p>(3) Participant practice of the mechanics of Clue No. 2.</p> <ul style="list-style-type: none"><li>o Practice in groups of two or three, taking turns.</li><li>o Coaching and critiquing participants' practice.</li></ul>	<p>Solicit a participant to participate in the live demonstration.</p> <p>Station the participant-subject in a position where eyes can readily be seen by the class. (It may be necessary to conduct the demonstration at two or more locations in the class.)</p> <p>Articulate each step in the procedural mechanics aloud.</p> <p>Instruct each participant to practice conducting the test of maximum deviation, using another participant as a subject.</p> <p>Common initial mistakes to note and correct:</p> <ul style="list-style-type: none"><li>o not bringing the eye sufficiently far to the side (some white still showing).</li></ul>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display VIII-15**

- o Participant-led Demonstrations

- g. Clue No. 3: Onset of Nystagmus Prior to 45 Degrees.
  - o Once again, position the stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose.
  - o The angle of onset of nystagmus is simply the point at which the eye is first seen jerking.
  - o Generally speaking, the higher the BAC, the sooner the jerking will start as the eye moves toward the side.
  - o If the jerking begins prior to 45-degrees, that person's BAC could be 0.08 or above.

- o not holding the object steadily for at least four seconds, at maximum deviation.

Allow participant practice to continue until all participants appear reasonably proficient in carrying out the mechanics of Clue No. 2.

Solicit participants' questions concerning the procedural mechanics for Clue No. 2.

**EMPHASIZE OFFICER SAFETY.**

Examples: With someone at a very high BAC (0.20+), the jerking might begin almost immediately after the eye starts to move toward the side. For someone at 0.08 BAC, the jerking might not start until the eye has moved nearly to the 45 degree angle.

**REMIND PARTICIPANTS THAT THE ADMINISTRATION OF HGN IS NOT TO BE USED TO ESTIMATE SPECIFIC BAC LEVEL.**

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o It is not difficult to determine when the eye has reached the 45-degree point, but it does require some practice.</li><li>o If you start with the stimulus approximately 12-15 inches (30-38 cm) directly in front of the nose, you will reach 45-degrees when you have moved the stimulus an equal distance to the side.</li><li>o Two other important indicators can be used to determine if the eye is within 45 degrees:<ul style="list-style-type: none"><li>- at 45 degrees, some white usually will still be visible in the corner of the eye (for most people).</li><li>- If you started with the stimulus approximately 12-15 inches (30-38 cm) in front of the suspect, when you reach 45 degrees the stimulus will usually be lined up with, or slightly beyond, the edge of the subject's shoulder.</li></ul></li></ul> <p>(1) The Mechanics of Clue No. 3.</p>	<p>Instruct participants that whatever distance you position the stimulus from the nose, you will reach 45 degrees when you have moved the stimulus an equal distance to the side. (i.e., If you start with the stimulus 12 inches from the nose, move it 12 inches to the side.)</p> <p>Point out the white showing in the eye portrayed in Slide VIII-15. Note that <u>some</u> people's eyes may exhibit no white in the corner <u>prior</u> to 45-degrees.</p> <p>Point out alignment of stimulus and shoulder in Slide VIII-15.</p> <p>Point out that this latter indicator may not be valid if the suspect is either a very large or a very small person.</p> <p>Remind participants to repeat this step.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o The stimulus is positioned approximately 12-15 inches from (30-38 cm) subject's nose.</li><li>o It is necessary to move the stimulus slowly to identify the point at which the eye begins to jerk.</li><li>o Start moving the stimulus towards the right side (left eye) at the speed that would take approximately 4 seconds for the stimulus to reach the edge of the suspect's shoulder.</li><li>o As you are slowly moving the stimulus, watch the eye carefully for any sign of jerking.</li><li>o When you see the jerking begin, immediately stop moving the stimulus and hold it steady at that position.</li><li>o With the stimulus held steady, look at the eye and verify that the jerking is continuing.</li></ul>	<p>Demonstrate stopping the stimulus, and holding it steady.</p> <p>Demonstrate movement at that speed.</p> <p>Point out that nystagmus doesn't go away once the eye stops moving. If the officer actually has found the point of onset, the eye will continue to jerk when the stimulus is held steady.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

- o If the jerking is not evident with the stimulus held steady, you have not located the point of onset. Therefore, resume moving the stimulus slowly toward the side until you notice the jerking again.
  
- o When you locate the point of onset of nystagmus, you must determine whether it is prior to 45 degrees.
  - Verify that some white is still showing in the corner of the eye.
  
  - Examine the alignment between the stimulus and the edge of the suspect's shoulder.
  
- o Start moving the stimulus towards the left side (right eye) at the speed that would take approximately 4 seconds for the stimulus to reach the edge of the suspect's shoulder.

Demonstrate stopping the stimulus, and holding it steady.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o As you are slowly moving the stimulus, watch the eye carefully for any sign of jerking.</li><li>o When you see the jerking begin, immediately stop moving the stimulus and hold it steady at that position.</li><li>o With the stimulus held steady, look at the eye and verify that the jerking is continuing.</li><li>o If the jerking is <u>not</u> evident with the stimulus held steady, you have <u>not</u> located the point of onset. Therefore, resume moving the stimulus slowly toward the side until you notice the jerking again.</li><li>o When you locate the point of onset of nystagmus, you must determine whether it is prior to 45 degrees.<ul style="list-style-type: none"><li>- Verify that some white is still showing in the corner of the eye.</li></ul></li></ul>	<p>Demonstrate movement at that speed.</p> <p>Point out that nystagmus doesn't go away once the eye stops moving. If the officer actually has found the point of onset, the eye will continue to jerk when the stimulus is held steady.</p>
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**Aids**

**Lesson Plan**


**Instructor Notes**

	<ul style="list-style-type: none"><li>- Examine the alignment between the stimulus and the edge of the suspect's shoulder.</li></ul> <p>(2) Live Demonstration of the Mechanics of Clue No. 3.</p> <ul style="list-style-type: none"><li>o Stimulus initially positioned approximately 12-15 inches (30-38 cm) in front of participant-subject's nose, slightly higher than eye level.</li><li>o <u>Slowly</u> move the stimulus toward the side, watching the eye for nystagmus.</li><li>o Stop the stimulus and hold it steady when nystagmus is first observed.</li><li>o Verify that the jerking is continuing.</li><li>o Now determine whether the onset of nystagmus is prior to 45 degrees.</li></ul> <ul style="list-style-type: none"><li>- is there white still showing in the corner of the eye?</li></ul>	<p>Solicit a participant to participate in the live demonstration.</p> <p>Station the participant-subject in a position where participant's eyes can readily be seen by the class. (It may be necessary to conduct the demonstration at two or more locations.)</p> <p>Articulate each step in the procedural mechanics aloud.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

<p></p> <p><b>Display</b> VIII-16</p> <p>HS 178 R2/06</p>	<ul style="list-style-type: none"><li>- is the stimulus within or only slightly beyond the edge of the shoulder?</li></ul> <p>(3) Participant practice of the mechanics of Clue No. 3.</p> <ul style="list-style-type: none"><li>o Practice in groups of two or three, taking turns.</li><li>o Coaching and critiquing participants practice.</li><li>o Participant-led demonstration.</li></ul> <p>7. Training Aid: The 45 Degree Template</p> <ul style="list-style-type: none"><li>a. A training aid has been provided to help you practice estimating a 45 degree angle.</li><li>b. The outline of a square, with its diagonal line, gives us a 45 degree angle.</li><li>c. This outline, or template, is provided for practice only.</li></ul> <p>VIII-31</p>	<p>Solicit participants' questions concerning the procedural mechanics for Clue No. 3.</p> <p>Remind participants to move stimulus slowly.</p> <p>Instruct each participant to practice conducting the test for onset of nystagmus prior to 45 degrees, using another participant as the subject.</p> <p>Common mistakes to note and correct.</p> <ul style="list-style-type: none"><li>o Incorrect position of stimulus.</li><li>o Moving stimulus too fast.</li></ul> <p>Instruct participants to remove their copies of the template from their participant manuals which is located at the back of Session VIII in Attachments.</p> <p>Demonstrate proper placement of the template.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**

<p>HS 178 R2/06</p>	<p>d. To use the template, have your training partner hold the corner of the square under the nose.</p> <p>e. When you line up your stimulus with the diagonal line, your partner will be looking along a 45 degree angle.</p> <p>8. Participant practice with 45 degree Template.</p> <p>a. Practice in groups of two or three, taking turns.</p> <p>b. Coaching and critiquing participants' practice.</p>	<p><u>It is not to be used with actual DWI suspects.</u></p> <p>Demonstrate placement of the pencil or penlight.</p> <p>Instruct participants to begin by lining the stimulus up with the diagonal, so they can become familiar with the position of an eye at a 45 degree angle.</p> <p>Point out the amount of white showing in the corner of an eye at 45 degrees.</p> <p>Next, instruct each participant to attempt to locate the 45 degree point <u>without</u> using the template, then to raise the template to check the accuracy of the estimate.</p> <p>Common initial mistakes to note and correct:</p> <ul style="list-style-type: none"><li>o Failing to check for white in the corner of the eye.</li><li>o Failing to check alignment of object with shoulder.</li></ul>
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**Display**  
VIII-17

- c. Participant-led demonstration.

9. Test Interpretation.

- a. Based upon the original developmental research into Horizontal Gaze Nystagmus, the criterion for this test is 4.
- b. If a person exhibits at least 4 out of the possible 6 clues, the implication is a BAC above 0.10.
- c. Using this criterion, the test is 77% accurate.

10. Test Demonstration.

- o Tending to stop short of 45 degrees.

Choose a participant who appears to be doing a good job in estimating a 45 degree angle, and have the participant come forward to demonstrate to the class.

Resume participant practice, and allow it to continue until all participants appear reasonably proficient in carrying out the mechanics of Clue No. 3.

Note: Remind participants that the SFST field evaluation study conducted in San Diego in 1998 indicated that “HGN alone can provide valid indications to support arrest decisions at 0.08 BAC.”

Choose a participant to serve as a demonstration subject.

Conduct a complete test of that participant-subject, articulating every step in the testing sequence (slide VIII-15 should be redisplayed during this demonstration).



5 Minutes



Display  
VIII-18

#### D. Vertical Gaze Nystagmus

1. The Vertical Gaze Nystagmus test is easy to administer.
  - o Position the stimulus horizontally, approximately 12-15 inches (30-38 cm) in front of the subject's nose.
  - o Instruct the subject to hold the head still, and follow the stimulus with the eyes only.
  - o Raise the stimulus until the subject's eyes are elevated as far as possible. Hold for approximately 4 seconds.
  - o Watch the eyes closely for jerking as they are held at maximum elevation.

Upon completion of the demonstration, solicit students' questions concerning Horizontal Gaze Nystagmus.

If time permits, conduct another complete demonstration of HGN, using another participant.

Point out that vertical nystagmus was not examined in the original research that led to the validation of the Standardized Field Sobriety Test battery (Horizontal Gaze Nystagmus, Walk-and-Turn and One-Leg Stand).

Select a participant or another instructor to serve as a subject and demonstrate the vertical nystagmus test.

Remind the participants to make two checks for Vertical Gaze Nystagmus.

For VGN to be recorded, it must be distinct and sustained for a minimum of four seconds at maximum elevation.



45 Minutes



Display  
VIII-19

2. Vertical Gaze Nystagmus may be present in subjects under the influence of high doses of alcohol for that individual, and some other drugs.

**E. Walk-and-Turn**

1. Review of Divided Attention Definition.
  - a. Walk-and-Turn is a field sobriety test based on the important concept of divided attention.
  - b. The test requires the suspect to divide attention among mental tasks and physical tasks.
  - c. The mental tasks include comprehension of verbal instructions; processing of information; and, recall of memory.
  - d. The physical tasks include balance and coordination; the suspect is required to maintain balance and coordination while standing still, walking, and turning.
2. Test Stages
  - a. The Walk-and-Turn test has two stages, the instructions stage and the walking stage.

Selectively display overhead.



Pose this question:  
"What do we mean by 'divided attention'?"

Lead the discussion, as these items were previously identified in Session VII.

Remind participants that prior to administering this test, ask the subject if they have any physical problems or disabilities.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>b. Both stages are essential parts of the test.</li><li>c. Important evidence of impairment often comes to light during both stages.</li></ul> <p>3. Test Requirements</p> <ul style="list-style-type: none"><li>a. The test requires the suspect to take nine heel-to-toe steps in a straight line; to turn around in a prescribed manner; and, to return nine heel-to-toe steps along the line.</li><li>b. This test should be conducted on a reasonably dry, hard, level, non-slippery surface.</li><li>c. The line should be long enough to permit the suspect to take nine heel-to-toe steps along it.</li><li>d. If a line is not available, the officer may create a line.</li></ul> <p>4. Demonstration of the Instructions Stage.</p>	<p>NOTE: Standardizing this test for every type of road condition is unrealistic. The original research study recommended that this test be performed on a dry, hard, level, nonslippery surface and relatively safe conditions. If not, the research recommends: 1) suspect be asked to perform the test elsewhere; or 2) only HGN be administered. However, recent field validation studies have indicated that varying environmental conditions have not affected a suspect's ability to perform this test.</p> <p>NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.</p> <p>NOTE: If no line exists, it is acceptable to have a suspect walk an imaginary line.</p> <p>When demonstrating the instructions stage, it is very important that the participants be able to see the instructor's feet. It may be necessary to demonstrate at several locations in the classroom.</p>
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Aids	Lesson Plan	Instructor Notes
	<p>a. FOR STANDARDIZATION PURPOSES, instruct suspects to place left foot on the line first.</p> <p>b. Then instruct suspects to place their right foot on the line, ahead of the left foot, with heel of right against the toe of left.</p> <p>c. Tell suspect to place arms down at sides.</p> <p>d. Tell suspect to maintain that position until you have completed the instructions.</p> <p>e. Inform suspect <u>not</u> to begin walking until told to do so.</p> <p>f. At this point, ask suspect: "Do you understand?"</p>	<p><b><u>Remind participants of officer safety precautions.</u></b></p> <ul style="list-style-type: none"> <li>o keep suspect on left side when initiating demonstrations</li> <li>o never turn back on suspect</li> <li>o aware of surroundings (environment)</li> <li>o left handed officers should demonstrate test at a distance more than arm's length</li> </ul> <p>Demonstrate placement of both feet.</p> <p>Demonstrate placement of arms at sides.</p> <p>Emphasize that officer must receive some affirmative response before continuing.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>g. Although this position is not a stance that people normally will take of their own choosing, it is not difficult for an unimpaired person to maintain this stance, even for several minutes.</li><li>h. People who are impaired can maintain this stance if they concentrate their full attention on it.</li><li>i. When you are with a suspect who appears to be impaired, you may see the following behaviors during the instructions stage.<ul style="list-style-type: none"><li>o Fail to maintain heel-to-toe stance.</li><li>o Starts walking before commanded.</li></ul></li><li>j. Impaired suspects may concentrate so much on maintaining balance there is little or no comprehension of the subsequent instructions.</li></ul> <p>5. Demonstration of the Walking Stage.</p> <ul style="list-style-type: none"><li>a. Walking stage requires nine heel-to-toe steps along the line, a turn, and nine steps back along the line.</li><li>b. While walking, keep the arms at the sides, count the steps out loud, and keep watching the feet.</li></ul>	<p>NOTE: An impaired person cannot concentrate their full attention on maintaining the stance. They also have to listen to and comprehend your instructions.</p> <p>Demonstrate.</p> <p>Demonstrate.</p> <p>Instructor may break away from the heel-to-toe stance at this point.</p> <p>A straight line must be available for this and subsequent demonstrations.</p> <p>A 10-12 foot strip of masking tape on the floor of the classroom will prove suitable.</p>
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**Display**  
VIII-20

- c. Execute Walk-and-Turn.
- 6. Walk-and-Turn Administrative Procedures
  - a. Initial verbal instructions
    - o Tell suspect to assume the heel-to-toe stance (left foot on line, then right foot on line, ahead of left).
    - o Tell suspect to place arms down at sides.
    - o Tell suspect not to start walking until told to do so.
    - o Make sure suspect understands instructions.
  - b. Description of basic test requirements.
    - o Tell suspect to take nine heel-to-toe steps on the line, to turn around, keeping one foot on the line, and to return nine heel-to-toe steps.
    - o Demonstrate what you mean by walking heel-to-toe. (3 steps suffice for the demonstration)
  - c. Description of turn procedures.

Instructor's demonstration.  
(repeat if necessary)

Selectively reveal major sections of overhead.

NOTE: FOR STANDARDIZATION PURPOSES, suspect is told to place left foot on line first, then right foot on line, ahead of left in a heel-to-toe position.

**Stress that officers should never turn their backs on suspects while demonstrating. Instead, they should walk at right angle to the line, keeping the weapon away from the suspect.**

## Aids

## Lesson Plan

## Instructor Notes

- o Tell suspect that, on the ninth step, keep the front foot on the line, and turn by taking several small steps with the other foot.

- o Demonstrate the turn for the suspect.

d. Final verbal instructions.

- o Tell suspect that, while walking, to watch feet at all times.
- o Tell suspect to keep arms at sides at all times.
- o Tell suspect to count steps out loud.
- o Tell suspect that, once the walking begins, not to stop until the test is completed.

NOTE: This turn procedure is provided in order to standardize the turn described in the study and for suspects' safety.

**Stress that, when demonstrating the turn, officers should stand at right angle to the line with the suspect to their left. Then, they can turn on the left leg without ever turning their backs to the suspect.**

NOTE: Difference for left-handed officers.

NOTE: The final verbal instructions are provided to further standardize administration of the test described in the study.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o Ask if suspect understands the instructions. Point out that, if suspect doesn't understand some part of the instructions, officer should repeat only that part which suspect doesn't understand.</li> </ul> <p>7. Demonstration of Walk-and-Turn Administrative Procedures.</p> <ul style="list-style-type: none"> <li>a. Tell the participant-subject to assume the instructions stance.</li> <li>b. Tell the participant-subject not to start walking until told to do so.</li> <li>c. Tell the participant-subject of the requirement to take nine heel-to-toe steps, to turn, and to take another nine heel-to-toe steps.</li> <li>d. Tell the participant-subject of the required turn procedures. Demonstrate the proper turn.</li> <li>e. Give the participant-subject the final verbal instructions: <ul style="list-style-type: none"> <li>o Keep watching feet</li> <li>o Count steps out loud</li> <li>o Arms at sides</li> <li>o Don't stop walking until test is completed.</li> </ul> </li> <li>f. Ask participant-subject if instructions are understood.</li> </ul>	<p>Solicit participants' questions concerning the Walk-and-Turn administrative procedures.</p> <p>Select a participant to participate as a subject in the demonstration.</p> <p>Use precise language to direct the participant-subject to assume the instructions stance.</p> <p>Make sure directions are understood.</p> <p>Demonstrate several heel-to-toe steps.</p> <p>Demonstrate the turn.</p> <p>Clarify any parts that are not understandable.</p>



**Display**  
VIII-21

8. Clues for Walk-and-Turn Test

- a. When administering the Walk-and-Turn test, we look for certain specific behaviors, at certain times in the test.
- b. Each behavior, or action, is considered as one clue.
- c. There is a maximum of eight clues on this test.
- d. The first two clues are checked during the instructions stage.
  - o Can't balance during instructions.

At this point, do not instruct the participant-subject to execute the test. Rather, thank the participant-subject for participating and allow the participant to return to the seat.

Solicit participants' questions concerning the test administrative procedures.

Selectively reveal major sections of overhead.

Reveal the first major section of slide VIII-21.

Emphasize that this clue is recorded only if the feet actually break apart.

Note: During the instructions stage, do not record the clue simply because suspect raises arms or wobbles slightly.

Demonstrate actions that constitute "can't balance during instructions", and demonstrate other actions that do not justify recording this clue.



**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>f. The next clue is an <u>improper turn</u>. This clue should be recorded if the suspect:</p> <ul style="list-style-type: none"><li>o Loses balance on turn (staggers, stumbles, etc.); <u>or</u>,</li><li>o Turns other than the way officer demonstrated.</li></ul> <p>g. The <u>next clue</u> is checked on the basis of the number of steps that the suspect actually takes.</p> <ul style="list-style-type: none"><li>o If the suspect takes other than nine steps, in either direction, it is considered only one clue.</li></ul> <p>h. The test may be terminated if the suspect cannot safely complete it. For example:</p>	<p><u>Examples:</u> (Demonstrate)</p> <ul style="list-style-type: none"><li>o pauses while walking <u>and</u> simultaneously raises arms.</li><li>o misses heel-to-toe <u>and</u> simultaneously stops walking.</li></ul> <p>Reveal the next item on slide VIII-21.</p> <p>Reveal the next item on slide VIII-21.</p> <p>Demonstrate various ways of "turning incorrectly" (i.e., pivots, spins).</p> <p>Reveal the next item on slide VIII-21.</p> <p>Emphasize that it is the number of steps that the suspect physically takes that matters here. Mistakes in the verbal count do not justify recording this clue.</p> <p>Reveal the last item on slide VIII-21.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VIII-22**

- o Suspect steps off the line three or more times.
- o Suspect nearly falls.

- o Suspect gets into a "leg-lock" position (legs crossed, unable to move)

9. Walk-and-Turn Test Interpretation

- a. Based on the original developmental research into the Walk-and-Turn test, the criterion for this test is 2.
- b. If a person exhibits at least 2 out of the possible 8 clues, the implication is that the suspect has a BAC above 0.10.
- c. Using that criterion, this test is 68% accurate.

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

Emphasize that officers should be prepared to explain in court why the suspect could not complete the test.

Remember that the SFSTs are a tool to assist you in seeing visible signs of impairment and not a pass/fail test.

Demonstrate "leg-lock".

Emphasize that the test should be stopped if unsafe for the suspect.

Solicit participants' questions concerning the Walk-and-Turn clues.

Based on the original research.

<div data-bbox="230 1360 302 1432" data-label="Image"> </div> <div data-bbox="181 1451 341 1486" data-label="Text"> <p>5 Minutes</p> </div>	<p>d. Restrictions.</p> <p>10. Test Demonstrations</p> <p><b>F. Combining the Clues of The Horizontal Gaze Nystagmus and Walk-and-Turn.</b></p> <p>1. Based on the original research you will be 80% accurate in classifying suspects that are above 0.10.</p>	<p><b>NOTE: The original research indicated that individuals over 65 years of age had difficulty performing this test.</b></p> <p>Choose a participant to serve as a demonstration subject.</p> <p>Conduct a complete test of the participant-subject, carefully carrying out all of the administrative procedures. (Slide VIII-20 should be redisplayed during the demonstration.)</p> <p>Have the participant-subject actually perform the walking stage of the test.</p> <p>Discuss the participant-subject's performance in terms of the test scoring factors. (Slide VIII-25 should be redisplayed during this discussion.)</p> <p>If time permits, conduct another demonstration using another participant-subject.</p> <p><b>NOTE: A combination of four or more clues of HGN and two or more clues of the Walk-and-Turn, suspects can be correctly classified as above 0.10 BAC 80% of the time.</b></p>
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35 Minutes



Display  
VIII-23

### G. One-Leg Stand

1. Review of Divided Attention definition
  - a. One-Leg Stand is another field sobriety test that employs divided attention.
  - b. The suspect's attention is divided among such simple tasks as balancing, listening, and counting out loud.
  - c. Although none of these is particularly difficult in itself, the combination can be very difficult for someone who is impaired.
2. Test Stages.
  - a. Like all divided attention tests, One-Leg Stand has two stages.
  - b. They are the instructions stage and the balance and counting stage.
  - c. Both stages are important, because they can affect the suspect's overall performance on the test.

Selectively display slide.

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

Selectively display remainder of slide.

## 3. Test Requirements.

- a. The test requires the suspect to stand on one leg, with the other leg held out straight, approximately six inches (15 cm) off the ground, for 30 seconds.
- b. This test should be conducted on a reasonably hard, dry, level, and non-slippery surface.

## 4. Demonstration of the Instructions Stage.

- a. The Instructions stage of this test is quite simple.
  - o suspect stands with feet together.
  - o suspect keeps arms at the sides.
- b. Suspect is instructed to maintain that position until told otherwise.

## 5. Demonstration of balance and count stage.

Demonstrate the One-Leg Stand.

NOTE: Standardizing this test for every type of road condition is unrealistic. The original research study recommended that this test be performed on a dry, hard, level, non-slippery surface and relatively safe conditions. If not, the research recommends: 1) suspect be asked to perform the test elsewhere; or 2) only HGN be administered.


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

**Remind participants of officer safety precautions.**

**Aids**

**Lesson Plan**

**Instructor Notes**

 <p><b>Display</b> VIII-24</p> <p>HS 178 R2/06</p>	<ul style="list-style-type: none"><li>a. The verbal instructions for this test also are quite simple.<ul style="list-style-type: none"><li>o Suspect must raise one leg, either leg, with the foot approximately six inches (15 cm) off the ground, keeping raised foot parallel to the ground.</li><li>o Suspect is told to keep both legs straight with arms at their sides.</li><li>o Suspect is told to look at the elevated foot.</li><li>o Suspect is told to hold that position while counting out loud in the following manner: “one thousand and one, one thousand and two, one thousand and three, and so on, until told to stop.”</li></ul></li> <li>6. One-Leg Stand Administrative Procedures.<ul style="list-style-type: none"><li>a. Instructions stage.<ul style="list-style-type: none"><li>o Stand with feet together.</li><li>o Keep arms at side.</li></ul></li></ul></li></ul>	<p>Point out that the officer must demonstrate the stance.</p> <p><b>POINT OUT THE NEED TO TIME THE 30-SECOND COUNT.</b> Stop test at end of 30 seconds.</p> <p>Point out that the 30 seconds constitute an important feature of the test. Many impaired persons can maintain balance for 20-25 seconds, but seldom for up to 30.</p> <p>The suspect may be told at any time to stop counting for their safety or inability to properly perform the test.</p> <p>Selectively display slide.</p>
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**Display**  
VIII-25

- b. Balance and counting stage
  - o Raise one leg (either leg), approximately 6 inches (15 cm) off the ground, foot pointed out.
  - o Keep both legs straight.
  - o Keep eyes on elevated foot.
  - o While holding that position, count out loud in the following manner: one-thousand-one, one to one-thousand-two, one-thousand-three until told to stop.

8. Clues for the One-Leg Stand.

- a. When administering the one-leg stand test, we look for certain specific behaviors.
- b. Each behavior or action is considered one clue.
- c. There is a maximum number of 4 clues on this test.
- d. The first clue is swaying.

Always ask subject if they understand directions before beginning test.

Selectively reveal contents of slide.

Reveal the first item on slide.

Emphasize that swaying means a distinct, noticeable side-to-side or front-to-back movement of the elevated foot or of the suspect's body.

Slight tremors of the foot or body should not be interpreted as swaying.

Demonstrate swaying.

Aids	Lesson Plan	Instructor Notes
	<p>e. The next clue is <u>using the arms</u> to balance.</p> <p>f. The next clue is <u>hopping</u>.</p> <p>g. The next clue is <u>putting the foot down</u>, before 30 seconds elapse.</p> <ul style="list-style-type: none"> <li>o If suspect's foot touches ground, have suspect raise it and continue counting until told to stop.</li> </ul> <p>h. The test may be terminated if the suspect cannot safely complete it. For example:</p> <ul style="list-style-type: none"> <li>o Suspect puts foot down three or more times.</li> <li>o Suspect nearly falls.</li> </ul>	<p>Reveal the next item on slide.</p> <p>Point out that a movement of the arms of six inches or more from the side is sufficient to record this clue.</p> <p>Demonstrate using the arms to balance.</p> <p>Reveal the next item on slide.</p> <p>Demonstrate hopping.</p> <p>Reveal the next item on slide.</p> <p>Demonstrate putting the foot down.</p> <p>Emphasize some suspects count slowly and may stand on the leg for more than 30 seconds. If suspect is counting slowly, terminate the test after 30 seconds have passed.</p> <p>Point out that it is possible to note two clues simultaneously.</p> <p><u>Examples</u> (Demonstrate):</p> <ul style="list-style-type: none"> <li>o hopping <u>and</u> swaying</li> <li>o foot down <u>and</u> arms raised.</li> </ul> <p>Reveal the last item on slide.</p> <p>NOTE: If suspect can't do the test, record observed clues and document the reason for not completing the test, e.g. suspect's safety.</p>



**Display**  
VIII-26

9. Test Interpretation.
- a. Based on the original developmental research for the One-Leg Stand test, the criterion for this test is 2.
  - b. If the person exhibits at least 2 out of the possible 4 clues, the implication is that the suspect's BAC is above 0.10.
  - c. Using that criterion, this test is 65% accurate.
  - d. Restrictions.
10. Test Demonstrations.

Emphasize that officers should be prepared to explain in court why the suspect could not complete the test.

Remember that the SFSTs are a tool to assist you in seeing visible signs of impairment and not a pass/fail test.

Based on the original research.

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

Choose a participant to serve as a demonstration subject.

Conduct a complete test of the participant-subject, carefully articulating the verbal instructions.



5 Minutes

**H. Limitations of the Three Tests.**

1. Nystagmus limitations.
  - a. A small percentage of people may exhibit nystagmus, due to certain pathological disorders.
  - b. Some suspects may exhibit Horizontal Gaze Nystagmus due to the use of alcohol and certain other drugs.
  - c. A small percentage of individuals may exhibit natural nystagmus.
2. Divided Attention test limitations.
  - a. Both the Walk-and-Turn test and the One-Leg Stand test require a reasonably smooth, level surface.
  - b. Persons with injuries to their backs, legs, or inner ear disorders, may have difficulty with these tests or with other balance tests.

Discuss the participant-subject's performance in terms of the test scoring factors. (Slide VIII-30 should be redisplayed during this discussion.)

If time permits, conduct another demonstration using another participant-subject.



20 Minutes

### I. Taking Field Notes on the Standardized Field Sobriety Tests

1. For purposes of the arrest report and courtroom testimony, it is not enough to report the number of clues on the three tests.
  - a. The numbers are important to the police officer in the field, because they help determine whether there is probable cause to arrest.
  - b. But to secure a conviction, more descriptive evidence is needed.
  - c. The officer must be able to describe how the suspect performed on the tests, and what the suspect did.
2. The standard note-taking guide is designed to help develop a clear description of the suspect's performance on the tests.
3. The section on the pre-arrest screening appears at the bottom of the guide's front side.
  - a. Complete the entire procedure for both eyes, writing "yes" or "no" for each clue.
    - o Write "yes" if the clue is present



**Display**  
VIII-27

Instruct the participants to take out a copy of the note-taking guide to follow along with this discussion.


This slide will be left on display throughout the discussion.

NOTE: For standardization, test the suspect's left eye first.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<ul style="list-style-type: none"><li>o Write "no" if the clue is not present</li> <li>b. After <u>both</u> eyes have been completely checked, total the number of HGN clues observed.</li> <li>c. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this procedure.<ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging while checking for nystagmus:<ul style="list-style-type: none"><li>- suspect unable to keep head still;</li><li>- suspect swaying noticeably;</li><li>- suspect utters incriminating statements.</li></ul></li> <li>o Examples of conditions that may interfere with suspect's performance while checking for nystagmus:</li></ul></li></ul>	<p>Then, check for the same clue in the <u>right</u> eye.</p> <p>Emphasize that officers must be careful to place their check marks in the columns corresponding to the eye actually being checked.</p> <p>Point to this item on slide VIII-27. Remind participants that the "number" of clues is used only for administrative purposes and that for courtroom testimony a complete description of each clue is essential.</p> <p>Point to this item on slide VIII-27.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the note-taking guide (i.e., Resting Nystagmus).</p> <p> Ask participants to give additional examples of facts, circumstances, etc., that should be noted.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VIII-28

- wind, dust, etc. (irritating suspect's eyes);
- visual or other distractions impeding the test

4. The section on the Walk-and-Turn test appears at the top of the guide's back side.
  - a. First two clues are checked only during the instructions stage.
    - o In the boxes provided write number of times the clue appears during the instructions stage.
    - o Example: if suspect loses balance twice during the instructions stage, write "2" in that box.
    - o Example: if the suspect does not start too soon, write "0" in that box.
  - b. Record the next four clues separately for each nine steps.
  - c. If suspect stops walking, record it by drawing a vertical line across the toe at the step at which the stop occurred. Do this for each nine steps.

NOTE: Always face suspect away from flashing or strobe lights.

This slide will be left on display throughout the discussion of Walk-and-Turn scoring.

Point to the first two clues on slide VIII-28.

NOTE: Checks (✓) may be used to denote number of clues. However, always write totals (numerically) in box.

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

Emphasize that participants are never to leave a box blank: if the clue doesn't appear, they must indicate that by writing "0".

Point to these items on slide VIII-28.

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

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o How many times during first nine steps;</li> <li>o How many times during second nine steps.</li>   <li>d. If suspect <u>fails to touch heel-to-toe</u>, record how many times this happens.</li> <li>e. If suspect <u>steps off the line</u> while walking, record it by drawing a line from the appropriate footprint at the angle in the direction in which the foot stepped. Do this for each nine steps.</li> <li>f. If suspect <u>uses arms to balance</u>, give some indication of how often or how long this happens. <ul style="list-style-type: none"> <li>o <u>Example</u>: suspect raised arms from sides three times;</li> <li>o <u>Example</u>: suspect held arms away from sides during steps 3 through 7;</li> <li>o <u>Example</u>: suspect "flapped" arms continuously.</li> </ul> </li> <li>g. Record the <u>actual number of steps</u> taken by suspect, in each direction.</li> </ul>	<p>Remind participants that, if suspect stops walking even once, that will count as one clue; but in order to prepare a clear, descriptive arrest report, it is best to document how many times suspect paused while walking.</p> <p>Instruct participants to place a letter "M" at bottom of vertical line to indicate missed heel-to-toe.</p> <p>Place three ✓ (check marks) in the box.</p> <p>Write "steps 3-7" in box.</p> <p>Write in box.</p> <p>Point out that Slide VIII-28 states "actual steps taken". Wrong number of steps is the validated clue.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>h. For the next clue, "the turn," record a <u>description</u> of the turn.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: turned incorrectly;</li><li>o <u>Example</u>: stumbled, to left;</li><li>o <u>Example</u>: wrong direction;</li><li>o <u>Example</u>: no small steps.</li></ul> <p>i. If you terminate the test because the suspect "<u>cannot perform test</u>", indicate why.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: off line 3 times;</li><li>o <u>Example</u>: staggered six steps to right, nearly fell;</li><li>o <u>Example</u>: "leg-locked" after fifth step.</li></ul> <p>j. At end of the test, examine each factor and determine the total number of clues recorded.</p> <p>k. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this test.</p> <ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging during Walk-</li></ul>	<p>Point to this item on slide VIII-28.</p> <p>NOTE: Stop test for fear of injury to suspect.</p> <p><b>Remind participants that, even if a clue shows up more than once, each clue is counted <u>only once</u>.</b></p> <p>Point to this item on slide VIII-28.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the</p>
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**Display**  
VIII-29

and-Turn test:

- suspect verbally miscounts steps;
- suspect utters incriminating statements.

o Examples of conditions that may interfere with suspect's performance of the Walk-and-Turn test:

- wind/weather conditions;
- suspect's age;
- suspect's footwear.

5. The section on the One-Leg Stand test appears midway down the page.

- a. Record the suspect's performance separately.
- b. For each clue, record how often it appears.
- c. If suspect sways, indicate how often with a check mark.
- d. Indicate above the feet the number they were counting when they put their foot down.
- e. Check marks should be made to indicate the

note-taking guide.



Ask participants to give additional examples of facts, circumstances, etc., that should be noted.

NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.

This slide will be left on display throughout the discussion of one-leg stand clue.

Point out that, by recording when things happen as well as what happens, a more descriptive arrest report can be prepared.

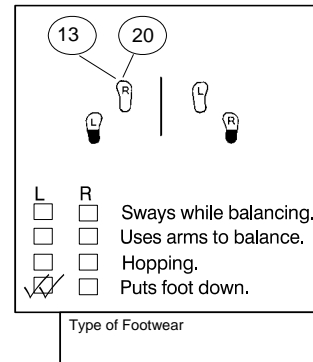
number of times the suspect swayed, used arms, hopped or put foot down.

- o Place check marks in or near the small boxes to indicate how many times you observed each of the clues.

In addition, if the suspect puts the foot down during the test, record when it happened. To do this, write the count number at which the foot came down.

For example, suppose that, when standing on the left leg, the suspect lowered the right foot at a count of "one thousand and thirteen," and again at "one thousand and twenty;" Your diagram should look like the sketch to the right.

- d. If suspect uses arms to balance, indicate how often arms were raised.
- e. If suspect hops, indicate how many hops were taken.
- f. If suspect puts foot down,




Demonstrate the proper documentation for observed clues.

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>indicate how many times the foot came down.</p> <p>g. If you terminate the test for "<u>cannot perform test</u>", indicate explicitly why you did so.</p> <ul style="list-style-type: none"><li>o <u>Example</u>: foot down 3 times;</li><li>o <u>Example</u>: staggered three steps to right, then fell;</li><li>o <u>Example</u>: continuous hopping, flailing arms, nearly falling.</li></ul> <p>h. At end of the test, examine each clue and determine how many clues have been recorded.</p> <p>i. Write the number in the "total clues" box.</p> <p>j. In the section labeled "other", record any facts, circumstances, conditions or observations that may be relevant to this test.</p> <ul style="list-style-type: none"><li>o Examples of additional evidence of impairment emerging during one-leg stand test:</li></ul>	<p>Point to this item on slide VIII-29.</p> <p>Remind participants that, even if a clue shows up more than once, each clue is counted <u>only</u> once.</p> <p>Point to this item on slide VIII-29. <b>Remind participants that "number" of clues is utilized only for administrative purposes and that for courtroom testimony a complete description of each clue observed is essential.</b></p> <p>Point to this item on slide VIII-29.</p> <p> Ask participants to give additional examples of facts, circumstances, etc.,</p>
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**Aids**

**Lesson Plan**

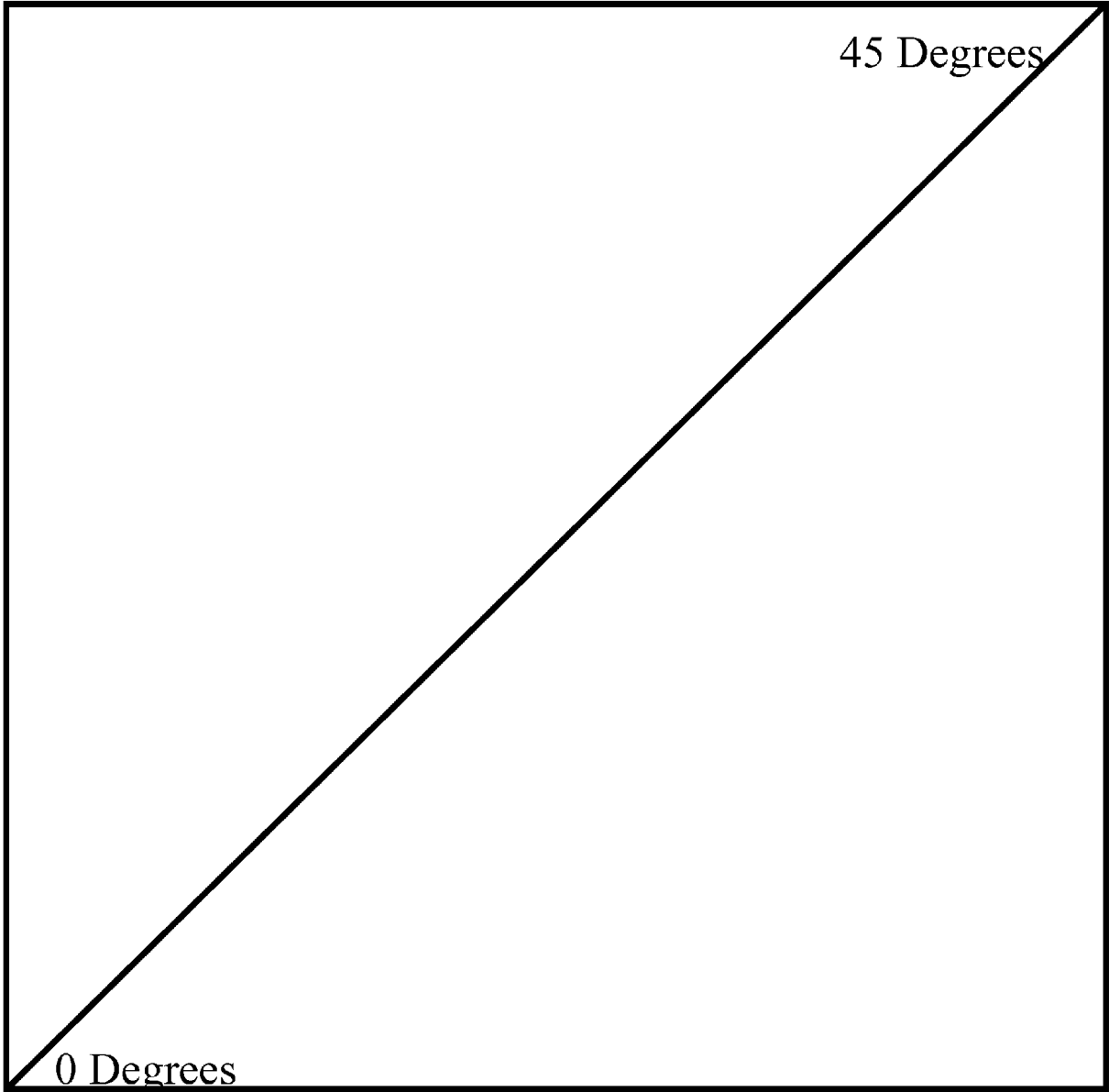
**Instructor Notes**

	<ul style="list-style-type: none"><li>- suspect verbally miscounts 30 seconds;</li><li>- suspect utters incriminating statements.</li><li>o Examples of conditions that may interfere with suspect's performance of one-leg stand:<ul style="list-style-type: none"><li>- wind/weather conditions;</li><li>- suspect's age;</li><li>- suspect's footwear.</li></ul></li></ul>	<p>that should be noted.</p> <p>Give examples of facts, circumstances, etc., that should be noted in this section of the note-taking guide (i.e., untied shoelaces, removed footwear, etc.).</p> <p>NOTE: Suspects with heels 2" or higher should be given the opportunity to remove their footwear.</p> <p>Solicit participants' questions concerning field note taking.</p>
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## TEST YOUR KNOWLEDGE

INSTRUCTIONS: Complete the following sentences.

1. Walk-and-Turn is an example of \_\_\_\_\_ field sobriety test.
2. The Walk-and-Turn requires a real or imaginary line and \_\_\_\_\_  
\_\_\_\_\_
3. During the \_\_\_\_\_ stage of the Walk-and-Turn, the suspect is required to count out loud.
4. Per the original research, when properly administered, the Walk-and-Turn can determine whether a suspect's BAC is above or below 0.10, \_\_\_\_\_ percent of the time.
5. In the Walk-and-Turn test, a suspect who steps off the line during the first 9 steps and once again during the second 9 steps and who raises arms for balance twice during the second nine steps has produced \_\_\_\_\_ distinct clue(s).
6. The Walk-and-Turn may not be valid when administered to persons who are over \_\_\_\_\_ years of age.
7. During the \_\_\_\_\_ stage of the One-Leg Stand the suspect must maintain balance for 30 seconds.
8. The One-Leg Stand requires that the suspect keep the foot elevated for \_\_\_\_\_ seconds.
9. Per the original research, when properly administered, the One-Leg Stand can determine whether a suspect's BAC is above or below 0.10, \_\_\_\_\_ percent of the time.
10. In the One-Leg Stand test, a suspect who sways has exhibited \_\_\_\_\_ clue(s).
11. In the One-Leg Stand test, a suspect who raises arms, hops, and puts foot down has exhibited \_\_\_\_\_ clue(s).
12. The maximum number of clues for Horizontal Gaze Nystagmus that can appear in one eye is \_\_\_\_\_.
13. Per the original research, when properly administered, the HGN test can determine whether a suspect's BAC is above 0.10, \_\_\_\_\_ percent of the time.
14. The third clue of HGN is an onset of nystagmus prior to \_\_\_\_\_ degrees.





SCIENTIFIC PUBLICATIONS AND RESEARCH  
REPORTS ADDRESSING NYSTAGMUS

1. Aschan, Bergstedt, Goldberg & Laurell, Positional Nystagmus in Man During and After Alcohol Intoxication, 17 Q.J. OF STUD. ON ALCOHOL, Sept. 1956, at 381. Study distinguishing two types of alcohol-induced nystagmus, PAN (positional alcoholic nystagmus) I and PAN II, found intensity of PAN I, with onset about one-half hour after alcohol ingestion, was proportional to amount of alcohol taken.
2. Aschan, Different Types of Alcohol Nystagmus, 140 ACTA OTOLARYNGOL SUPP. 69 (Sweden 1958) ("From a medico-legal viewpoint, simultaneous recording of AGN (Alcohol Gaze Nystagmus) and PAN (positional alcoholic nystagmus) should be of value, since it will show in which phase the patient's blood alcohol curve is...").
3. Rashbass, The Relationship Between Saccadic and Smooth Tracking Eye Movements, 159 J. PHYSIOL. 326 (1961) (barbiturate drugs interfere with smooth tracking eye movement).
4. Goldberg, Effects and After-Effects of Alcohol, Tranquilizers and Fatigue on Ocular Phenomena, ALCOHOL AND ROAD TRAFFIC 123 (1963) (of different types of nystagmus, alcohol gaze nystagmus is the most easily observed).
5. Murphree, Price & Greenberg, Effect of Congeners in Alcohol Beverages on the Incidence of Nystagmus, 27 Q.J. OF STUD. ON ALCOHOL, June 1966, at 201 (positional nystagmus is a consistent, sensitive indicator of alcohol intoxication).
6. Fregly, Bergstedt & Graybiel, Relationships Between Blood Alcohol, Positional Alcohol Nystagmus and Postural Equilibrium, 28 Q.J. OF STUD. ON ALCOHOL, March 1967, at 11, 17 (declines from baseline performance levels correlated with peak PAN I responses and peak blood alcohol levels).
7. Misoi, Hishida & Maeba, Diagnosis of Alcohol Intoxication by the Optokinetic Test, 30 Q.J. OF STUD. ON ALCOHOL 1 (March-June 1969) (optokinetic nystagmus, ocular adaptation to movement of object before eyes, can also be used to detect central nervous system impairment caused by alcohol. Optokinetic nystagmus is inhibited at BAC of only .051 percent and can be detected by optokinetic nystagmus test. Before dosage subjects could follow a speed of 90 degrees per second; after, less than 70 degrees per second).

8. Nathan, Zare, Ferneau & Lowenstein, Effects of Congener Differences in Alcohol Beverages on the Behavior of Alcoholics, 5 Q.J. OF STUD. ON ALCOHOL SUPP., May 1970, at 87 (abstract available on DIALOG, file 11: Psychinfo 1967-85) (incidence of nystagmus and other nystagmoid movements increased with duration of drinking).
9. Oosterveld, Meineri & Paolucci, Quantitative Effect of Linear Acceleration on Positional Alcohol Nystagmus, 45 AEROSPACE MEDICINE, July 1974, at 695 (G-loading brings about PAN even when subject has not ingested alcohol; however when subjects ingested alcohol, no PAN was found when subjects were in supine position, even with G-force at 3).
10. Penttila, Lehti & Lonqvist, Nystagmus and Disturbances in Psychomotor Functions Induced by Psychotropic Drug Therapy, 1974 PSYCHIAT. FENN. 315 (abstract available on DIALOG, file 173: Embase 1975-79) (psychotropic drugs induce nystagmus).
11. Wilkinson, Kime & Purnell, Alcohol and Human Eye Movement, 97 BRAIN 785 (1974) (oral dose of ethyl alcohol impaired smooth pursuit eye movement of all human subjects).
12. Aschan & Bergstedt, Positional Alcoholic Nystagmus in Man Following Repeated Alcohol Doses, 80 ACTA OTOLARYNGOL SUPP. 330 (Sweden 1975) (abstract available on DIALOG, file 173: Embase 1975-79) (degree of intoxication influences both PAN I and PAN II).
13. Lehti, The Effect of Blood Alcohol Concentration on the Onset of Gaze Nystagmus, 136 BLUTALKOHOL 414 (West Germany 1976) (abstract available on DIALOG, file 173: Embase 1975-79) (noted a statistically highly significant correlation between BAC and the angle of onset of nystagmus with respect to the midpoint of the field of vision).
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16. Umeda & Sakata, Alcohol and the Oculomotor System, 87 ANNALS OF OTOLOGY, RHINOLOGY & LARYNGOLOGY, May-June 1978, at 392 (in volunteers whose "caloric eye tracking pattern" (CETP) was normal before alcohol intake, influence of alcohol on oculomotor system appeared consistently in the following order: (1) abnormality of CETP, (2) positional alcohol nystagmus, (3) abnormality of eye tracking pattern, (4) alcohol gaze nystagmus).
17. Baloh, Sharma, Moskowitz & Griffith, Effect of Alcohol and Marijuana on Eye Movements, 50 AVIAT. SPACE ENVIRON. MED., Jan 1979, at 18 (abstract available on DIALOG, file 153: Medline 1979-79) (smooth pursuit eye movement effects of alcohol overshadowed those of marijuana).
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19. Tharp, Burns & Moskowitz, Circadian Effects on Alcohol Gaze Nystagmus (paper presented at 20th annual meeting of Society for Psychophysiological Research), abstract in 18 PSYCHOPHYSIOLOGY, March 1981 (highly significant correlation between angle of onset of AGN and BAC).
20. Tharp, Burns & Moskowitz, Development and Field Test of Psychophysical Tests for DWI Arrests, U.S. Dept. of Transportation Rep. No. DOT-HS-805-864 (1981) (standardized procedures for administering and scoring the SCRI three-test battery; participating officers able to classify 81% of volunteers above or below .10).
21. Church & Williams, Dose- and Time-Dependent Effects of Ethanol, 54 ELECTROENCEPHALOGRAPHY & CLIN. NEUROPHYSIOL., Aug. 1982, at 161 (abstract available on DIALOG, file 11: Psychinfo 1967-85 or file 72: Embase 1982-85) (positional alcohol nystagmus increased with dose levels of ethanol).
22. Anderson, Schweitz & Snyder, Field Evaluation of Behavioral Test Battery for DWI, U.S. Dept. of Transportation Rep. No. DOT-HS-806-475 (1983) (field evaluation of the field sobriety test battery (HGN, one-leg stand, and walk and turn) conducted by police officers from four jurisdictions indicated that the battery was approximately 80% effective in determining BAC above and below .10 percent).

23. Barnes, The Effects of Ethyl Alcohol on Visual Pursuit and Suppression of the Vestibulo-Ocular Reflex, 406 ACTA OTOLARYNGOL SUPP. 161 (Sweden 1984) (ethyl alcohol disrupted visual pursuit eye movement by increasing number of nystagmic "catch-up saccades").
24. Compton, Use of the Gaze Nystagmus Test to Screen Drivers at DWI Sobriety Checkpoints, U.S. Dept. of Transportation (1984) (field evaluation of HGN test administered to drivers through car window in approximately 40 seconds: "the nystagmus test scored identified 95% of the impaired drivers" at 2; 15% false positive for sober drivers, id.).
25. Helzer, Detection DUIs Through the Use of Nystagmus, LAW AND ORDER, Oct. 1984, at 93 (nystagmus is "a powerful tool for officers to use at roadside to determine BAC of stopped drivers...(O)fficers can learn to estimate BACs to within an average of 0.02 percent of chemical test readings." Id. at 94).
26. Nuotto, Palva & Seppala, Naloxone Ethanol Interaction in Experimental and Clinical Situations, 54 ACTA PHARMACOL. TOXICOL. 278 (1984) (abstract available on DIALOG, file 5: Biosis Previews 1981-86) (ethanol alone dose-dependently induced nystagmus).
27. L.R. Erwin, DEFENSE OF DRUNK DRIVING CASES (3d ed. 1985) ("A strong correlation exists between the BAC and the angle of onset of (gaze) nystagmus." Id. at 8.15A(3)).
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29. Seelmeyer, Nystagmus, A Valid DUI Test, LAW AND ORDER, July 1985, at 29 (horizontal gaze nystagmus test is used in "at least one law enforcement agency in each of the 50 states" and is "a legitimate method of establishing probable cause." Id.).

30. Burns & Anderson, Field Evaluation Study of the Standardized Field Sobriety Test (SFST) Battery, (Colorado, 1995). Study examined the accuracy of police arrest and release decisions under roadside conditions where trained and experienced officers rely on the SFSTs. Breath and blood tests supported 94% of the decisions to arrest. PBT measurements indicated 64% correct release decisions.
31. Burns & Dioquino, Field Evaluation Study of the Standardized Field Sobriety Test (SFST) Battery, (Florida, 1997). Study demonstrated that officers trained under NHTSA guidelines and experienced in application of the SFST battery in the field were accurate in 95% of arrest decisions and 85% of release decisions.
32. Stuster & Burns, Validation of the Standardized Field Sobriety Test Battery at BACs Below 0.10 Percent, U.S. Dept. of Transportation Rep. No. DOT-HS-808-839 (1998). Study found NHTSA's Standardized Field Sobriety test battery to be an accurate method of discriminating motorist's BACs above and below 0.08 percent, and above and below 0.04 percent when testing is conducted by officers trained in modified scoring of NHTSA's SFST battery. (See bar graph on next page.)
33. Citek, Ball, & Rutledge, Nystagmus Testing in Intoxicated Individuals, College of Optometry, Pacific University, Forest Grove, Oregon and the Oregon State Police, Wilsonville, Oregon (2003). The HGN test administered in the standing, seated, and supine postures is able to discriminate impairment at criterion BACs of 0.08% and 0.10%. The VGN test can identify high levels of impairment at any test posture. Therefore, these tests can be used by an officer to determine if a driver is impaired, regardless of whether the driver is standing, seated, or supine.
34. Burns, The Robustness of the Horizontal Gaze Nystagmus (HGN) Test, U.S. Department of Transportation Rep. (2004). The data provide no reason to expect HGN examinations of one-eyed individuals to yield misleading information and HGN, as used by law enforcement is a robust procedure, and the data obtained in this experiment do not support recommendations for changes in how officers are trained to view a suspect's eyes and interpret their observations. The study findings provide no basis for concluding that the validity of HGN is compromised by minor procedural variations.



A Colorado Validation Study  
of the  
Standardized Field Sobriety Test (SFST) Battery

Final Report Submitted to  
Colorado Department of Transportation  
November 1995

**Marcelline Burns, Ph.D.**  
Southern California Research Institute  
Los Angeles, California

**Ellen W. Anderson, Deputy**  
Pitkin County Sheriff's Office  
Aspen, Colorado

This report was funded by the Office of Transportation Safety, Colorado  
Department of Transportation  
(utilizing National Highway Traffic Safety Administration funds, under Project  
Number 95-408-17-05).

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## I. Introduction

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A battery of standardized field sobriety tests (SFSTs), which was developed under National Highway Traffic Safety (NHTSA) funding during the 1970's, is now used by police officers nationwide. Traffic officers in fifty states, who have been trained in standardized administration of the tests, routinely use them and incorporate their observations of drivers' test performance into their arrest or release decisions. Defense attorneys, however, often challenge the admissibility of court testimony about the test battery.

Roadside decisions are a critical components of alcohol-and-driving enforcement, and, therefore, of traffic safety. Because the SFSTs aid officers in the often-difficult task of identifying alcohol-impaired drivers, it is likely that the tests have contributed in some unknown measure to the significant decline in alcohol-related fatalities over the last decade. Given that they have exerted a positive impact on traffic safety, it is important to resolve questions about their validity and reliability, to maintain their credibility, and to preserve them as a roadside tool.

Because court arguments about SFSTs focus largely on the research conducted at the Southern California Research Institute (SCRI) and because that research is sometimes misrepresented or misunderstood, it is necessary first to clarify its purpose. Two large-scale laboratory experiments were conducted for the purpose of identifying and standardizing a "best" set of tests (Burns and Moskowitz, 1977; Tharp, burns and Moskowitz, 1981). Although it clearly is relevant at this point in time to inquire whether the methods of those experiments were scientifically sound, it should be recognized that the laboratory data are now only indirectly enlightening about current roadside use of the tests. In particular, note that controlled laboratory conditions are less variable and, therefore, may be less challenging than the highly varied conditions which officers routinely encounter in the field.

Also, officer experience with the SFSTs is key to the skill and confidence with which they use them as a basis for their decisions. Thus it is important to understand that the officers who participated in the SCRI studies had not been trained with the SFSTs until just prior to the experiments. They had not had opportunity and time to gain skill or to develop confidence in the tests. In contrast, many of the officers who now use and testify about the tests have been using them regularly for ten or more years, and it is reasonable to assume they have gained skill and to expect that their decisions based on the tests may be more accurate than those of the officers during the initial research.

The question to be addressed in 1995 by agencies, officers and the courts is, "How accurate are the arrest decisions which are made by experienced, skilled officers under roadside conditions when they rely on SFSTs?". A broadly applicable answer cannot be found in laboratory research. It requires field data; i.e., information about real-world arrest decisions by officers trained by NHTSA guidelines to administer the SFSTs.

The Colorado Department of Transportation funded a 1995 study to obtain such data. Through a grant to the Pitkin County Sheriff's Office and with the cooperative effort of seven Colorado law enforcement agencies, records were collected from drivers tested with the SFSTs at roadside. The seven agencies were:

- Aspen Police Department (APD)
- Basalt Police Department (BPD)
- Boulder County Sheriff's Office (BCSO)
- Colorado State Patrol (CSP)
- Lakewood Police Department (LPD)
- Pitkin County Sheriff's Office (PCSO)
- Snowmass Village Police Dept (SVPD)

With information drawn from impaired-driving records, a data base was created and analyzed at the Souther California Research Institute.

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## Technical Summary

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In the State of Colorado, motor vehicle operators are subject to arrest if they are found to be driving with a blood alcohol concentration (BAC) of 0.05% or higher. At BACs of 0.05% or higher but less than 0.10%, they are charged with Driving While Ability Impaired (DWAI). At BACs of 0.10% and higher, the charge is Driving Under the Influence (DUI). These statutes reflect the evidence from both epidemiological and laboratory studies of alcohol impairment of driving skills.

It is the responsibility of law enforcement officers to detect and arrest alcohol-influenced drivers in accordance with these statutory limits. In an efforts to meet that objective, police officers, not only in Colorado but in all fifty of the United States, rely on a battery of standardized field sobriety tests (SFSTs). Observations of drivers' performance of the tests, together with driving pattern, appearance and manner, odor of alcohol, and other signs, underlie officers' arrest and release decisions.

To be genuinely useful, roadside tests must be valid and reliable; i.e., they must measure changes in performance associated with alcohol and they must do it consistently. To the extent that they meet the validity and reliability criteria, they can be expected to contribute to traffic safety by increasing the likelihood that alcohol-impaired drivers will be removed from the roadway by arrest. Importantly, they also will further serve the driving public's interest by decreasing the likelihood that a driver who is not alcohol-impaired will be mistakenly detained or arrested. Thus, the validity and reliability of the tests are important issues.

This study was undertaken specifically to extend study of the SFSTs from the laboratory setting to field use. The primary study question was, "How accurate are officers' arrest and release decisions when the SFSTs are used by trained and experienced officers?" Over a five-month period, officers from seven Colorado law enforcement agencies who

volunteered for the study provided the records (N=305) from every administration of the SFSTs.

Using only the standardized 3-test battery (Walk-and-Turn, One-Leg Stand, Horizontal Gaze Nystagmus), officers seldom erred when they decided to arrest a driver.

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*Breath or blood specimens confirmed that 93% of the arrested drivers were above 0.05% BAC.*

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Officers were more likely to err on the side of releasing drivers than on the side of incorrectly arresting drivers. Given the difficulty of the task which confronts officers at roadside, in particular with alcohol-tolerant individuals, the finding that approximately one-third of the released drivers should have been arrested is not unexpected. However, it is important to note that officers' decisions to release *were correct* two-thirds of the time.

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*Overall, 86% of the officers' decisions to arrest or release drivers who provided blood or breath specimens were correct.*

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It is concluded that the SFSTs are valid tests; i.e., they serve as indices of the presence of alcohol at impairing levels. The study design did not support an examination of test-retest reliability. It should be noted, however, that the test battery appears to have served equally well across agencies and officers, strongly suggesting that it achieves acceptable reliability as well.

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### III. Study Design

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This study was designed to:

- (1) gather data to assign officers' decisions to the four cells of the decision matrix illustrated in Figure 1, and to
- (2) examine the accuracy of the SFST battery when used in the widely varying weather conditions of Colorado winter, spring, and summer months.

Both the design and the execution of the study focused on the *integrity, completeness, and standardization* of the data.

It is important to note how the study population was defined and how the sample of subjects was drawn. Subjects were a subset of the population of drivers who were detained by police officers during the study period. They were drivers, both those arrested and those released, who were stopped by police officers during the study period *and who were requested to perform the SFSTs*. The officers' decisions about those drivers have been analyzed in terms of correct decisions (Correct Arrests and Correct Releases) and errors (Incorrect Arrests and Incorrect Releases).

In a broader context, the terms Correct Releases and Incorrect Releases could be extended to motorists who were stopped but who were not asked to perform the SFSTs. In many of those cases, the release decisions were correct, but it is likely that some of there were impaired drivers who were released without ever being asked to perform the SFSTs. Those individuals and those decisions are of interest and would be included in an assessment of overall proficiency in DUI detection and arrest. In fact, the entire population of impaired drivers, only some of whom are detected and stopped, is of interest in terms of traffic safety. In a validation study of SFSTs, however, the subjects were only those drivers who were asked to perform the tests.

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## VI. Summary and Discussion

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In 1995, there is a sound base of scientific evidence to support the use of 0.10%, 0.08%, and 0.05% BACs as presumptive and per se alcohol limits for drivers. There also appears to be strong support for those statutes among citizens throughout broad (though not all) segments of society. A clear-cut shift of attitude over the past ten to fifteen years has resulted in anti-drunk driving sentiments by much of the driving population. In many social circles drinking-and-driving now is unacceptable behavior.

Why then, in a largely pro-alcohol enforcement climate, are there negative views of traffic officers' related activities? Citizens often seem to believe that enforcement is hit-or-miss and that officers regularly fail to remove many, if not most, alcohol-impaired drivers from the roadway. Some also seem to believe that the activities at roadside are arbitrary and calculated to harass. Although the multifaceted social and individual variables that underlie this paradox of concurrent anti-enforcement sentiment and anti-drunk driving sentiment are beyond the scope of this report, it is germane to consider one set of factors. At least part of this view of alcohol enforcement is attributable to a general failure to recognize the importance of traffic officers' duties, and to understand not only what their duties encompass but also the difficulty of their task.

Legislators, regulatory agencies, activities groups, and safety-conscious citizens alike sometimes appear to overlook the fact that traffic officers are pivotal in the deterrence of drunk driving. Unless officers are able to detect and arrest impaired drivers, those drivers will never enter the system of sanctions and, therefore, the existence of enabling statutes and anti-drunk driving sentiment will be largely irrelevant to them. Unfortunately, it is also true that the escape of detection and arrest on multiple occasions serves to reinforce the risky behavior. In effect, if no accident and no arrest occur on one or more occasions of drinking and driving, the

citizen may conclude that driving after drinking is acceptable behavior on other occasions.

For a number of reasons, the difficulties associated with traffic officers' alcohol-enforcement responsibilities typically are underestimated. One reason is the misnomer "drunk driving," which suggests that their duty is to apprehend "drunks" or obviously-intoxicated individuals. If that were indeed the sole definition of alcohol enforcement duties, the task would be fairly straightforward. In reality, the risks associated with drinking and driving are not limited to obviously-intoxicated drivers, nor are officers' enforcement responsibilities restricted to those drivers.

Traffic officers are responsible for removing alcohol-impaired drivers from the roadway, and the Colorado statute sets the criterion alcohol levels at 0.10% and 0.05% BAC. In other jurisdictions the BAC limit is 0.08%, with additional lower levels for lesser charges and specific driver groups. Enforcement problems arise in part from the fact that although the evidence clearly establishes that driving skills are impaired at 0.10% BAC and lower, many, possibly even most, individuals who are willing to drive after drinking are not obviously intoxicated at those levels.

Leaving aside the problem of detecting alcohol impairment by the observation of driving behaviors, consider officers' task once they stop vehicles and contact drivers at roadside. Working under widely-varying conditions without special measurement apparatus, they must decide within a few minutes whether a specific driver is impaired by alcohol. Impaired drivers may or may not display atypical speech, appearance, or other personal characteristics, but in either circumstance the officers have no knowledge of any given driver's sober appearance and behavior. The task is further complicated by the tolerant drinker's normal appearance even at very high BACs.

Are there signs and symptoms which are reliably associated with 0.05% and 0.10%? With what level of confidence can the officer arrest or release a driver? With a decision criterion that minimizes incorrect arrests, the risk of releasing impaired drivers rises. On the other hand, a very strict decision criterion will decrease the number of impaired drivers who are released but at the risk of unnecessarily detaining non-impaired drivers. Is one risk preferable to the other? These questions define the context of traffic officers' alcohol enforcement activities and the background of the Colorado Validation Study of the SFSTs.

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*The records collected and analyzed during this study provide evidence that the SFSTs, as used at roadside by trained and experienced law enforcement officers, are valid indices of the presence of alcohol.*

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Records of all driver contacts, which resulted in administration of the SFSTs during the study period, were entered into the analysis. Overall, for 234 cases confirmed by breath or blood tests, officers' decisions to arrest and release were 86% correct, and 93% of their arrest decisions were correct.

It was not unexpected to find that officers were almost twice as likely to release incorrectly as to arrest incorrectly. Nonetheless, only 36% of the released drivers were at or above the statutory limit.

These findings obtained in the field with officers experienced with the use of SFSTs can be compared with findings from a laboratory setting with officers recently trained with the SFSTs. It should be kept in mind that the current data are not fully comparable to data from laboratory experiments, since there are differences other than time-since-training and laboratory vs. field. With that caution, the comparisons are instructive.

In an initial study of field sobriety tests with 238 laboratory subjects, officers' decisions overall were 76% correct (Burns and Moskowitz, 1977). Only 54% of their arrest decisions were correct, and only 8% of their release decisions were incorrect. In a second laboratory study, officers' decisions overall were 81% correct, their arrest decisions were 68% correct, and 14% of their release decisions were wrong (Tharp, Burns and Moskowitz, 1981). It is apparent that the arrest criterion was lower in the laboratory. The penalties for mistakes in a laboratory setting are, of course, fairly trivial compared to a real-world setting. The lower criterion, together with lack of experience with the tests, accounts for higher rates of incorrect arrests and lower rates of incorrect releases than found in this study. It is not surprising to find that officers in the field require more certainty about arresting a citizen and adopt a higher criterion with the result that they err in the direction of incorrect releases.

In summary, the data provide clear-cut findings about the use of SFSTs by officers in six Colorado communities. On a broader scale, they provide partial and tentative answers to some important questions. It is hoped that current data from a field setting will facilitate court proceedings with drivers arrested on DUI and DWAI charges. It is hoped, too, that the content of this report will add to the driving public's understanding of roadside enforcement activities, as well as to recognition of police officers' critical role in traffic safety.

**A FLORIDA VALIDATION  
STUDY OF THE  
STANDARDIZED FIELD  
SOBRIETY TEST (S.F.S.T.)  
BATTERY**

**Marcelline Burns, Ph.D.**  
*Southern California Research Institute*  
Los Angeles, California

**Teresa Dioquino, Sergeant**  
*Pinellas County Sheriff's Office*  
Largo, Florida



## I. INTRODUCTION

During the years 1975-1981, a battery of field sobriety tests was developed under funding by the National Highway Traffic Safety Administration (NHTSA), U.S. Department of Transportation (Burns and Moskowitz, 1977; Tharp, Burns, and Moskowitz, 1981). The tests include Walk-and-Turn (WAT), One-Leg Stand (OLS), and Horizontal Gaze Nystagmus (HGN). NHTSA subsequently developed a training curriculum for the three-test battery, and initiated training programs nationwide. Traffic officers in all 50 states now have been trained to administer the Standardized Field Sobriety Tests (SFSTs) to individuals suspected of impaired driving and to score their performance of the tests.

At the time the SFSTs were developed, the statutory blood alcohol concentration (BAC) for driving was 0.10% throughout the United States. The limit now has been lowered in a number of states to 0.08% for the general driving population. "Zero tolerance" is in effect in some jurisdictions for drivers under age 21, and commercial drivers risk losing their licenses at a BAC of 0.04%. It is likely that additional states will enact stricter statutory limits for driving. In light of these changes, a re-examination of the battery was undertaken by McKnight et al. (1995). They reported that the test battery is valid for detection of low BACs and that no other measures or observations offer greater validity for BACs of 0.08% and higher.

The three tests have been incorporated into Drug Influence Evaluations (DIEs) which are conducted by certified Drug Recognition Experts (DREs) whenever an individual is suspected of being drug-impaired. As part of a DRE evaluation, the SFSTs provide important evidence of drug impairment and contribute to the DRE's three-part opinion:

- Is the individual impaired by a drug or drugs?
- If yes, is the impairment drug-related?
- If yes, what category or categories of drug account for the impairment?

A study was conducted in Colorado to examine the validity of the SFSTs when used by experienced officers in the field (Burns and Anderson, 1995). The design of the study insured that roadside testing was limited to the three-test battery, and that officers' decisions were not influenced either by the driver's performance of other behavioral tests or by measurement of BAC with a preliminary breath tester (PBT). The obtained data demonstrated that more than 90% of the officers' decisions to arrest drivers were confirmed by analysis of breath and blood specimens.

A recently-reported NHTSA-funded study was conducted by Anacapa Sciences, Inc. in collaboration with the San Diego Police Department to examine the validity of the SFSTs for both 0.08% and 0.04% (Stuster and Burns, 1997). Officers' estimates of whether a driver's BAC was above or below 0.08% or 0.04% were found to be more than 90% correct.

The Colorado and California studies provide relevant and current field data. The validity of the tests when they are administered in the context of drug evaluations was examined in a retrospective analysis of the records of the Phoenix DRE Unit (Adler and Burns, 1994). It was found that a suspect's performance of the tests provides valid clues of drug impairment.

The study reported here was conducted in collaboration with the Pinellas County Sheriff's Office (PCSO) and expands the examination of the SFSTs to the State of Florida. An overview of PCSO and the demographics for Pinellas County can be found in Appendix I.

## II. STUDY BACKGROUND AND RATIONALE

During the early years of SFST use by law enforcement, legal challenges were relatively infrequent. For more than a decade now, however, defense counsel in many jurisdictions has sought to prevent the admission of testimony about a defendant's performance of the three tests. The objections, which continue to be persistent and vigorous in 1997, typically focus on test validity and reliability as demonstrated in the original laboratory research. It is entirely appropriate to inquire whether that early research to identify a best set of sobriety tests was conducted with scientific rigor. Beyond that inquiry, however, the data, which were obtained in a laboratory setting and now are more than twenty years old, are of little interest. Certainly, they are only marginally relevant to current roadside use of the tests. The questions which begs to be addressed in 1997 is whether the tests are valid and reliable indices of the presence of alcohol when they are used at roadside under present day traffic and law enforcement conditions.

Experience and confidence have a direct bearing on an officer's skill with roadside tests. In this regard, note that the officers who participated in the early SCRI studies had been only recently and briefly (4 hrs) trained to administer the test battery. There had been no time for them to use the tests in the field where they might have developed confidence in decisions based on them. Nonetheless, their decisions were 76% correct in the first study and 81% correct in the second study.

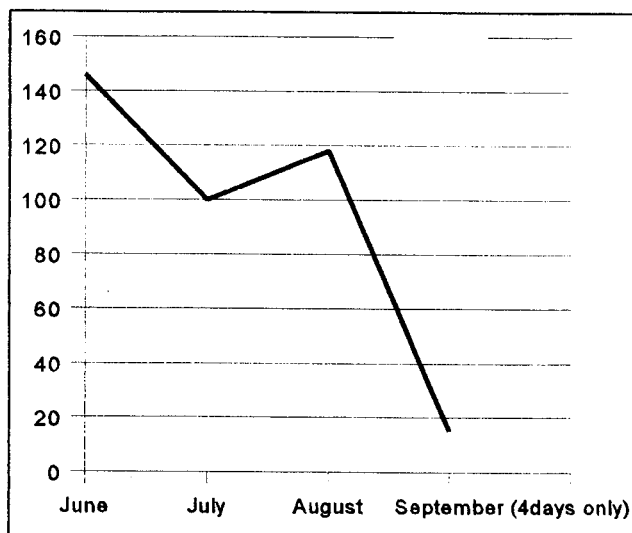
At this point in time, many traffic officers have had ten or more years' experience with the test battery and many report that they confidently rely on them. Since it seems unlikely in the extreme that they would continue to rely on tests which repeatedly lead to decision errors, it is a reasonable assumption that more often than not their roadside decisions *to arrest* are supported by measured BACs. Whether their decisions *to release* are correct is largely unknown since the released driver's BAC generally is not measured.

Traffic officers are charged with the detection and arrest of impaired drivers. Although their roadside duties are central to roadway safety, recognition of alcohol-impaired drivers can be difficult and is, therefore, subject to error. If officers are to effectively meet this particular enforcement responsibility, they need to augment their general observations of suspects with sensitive, accurate sobriety tests. The tests not only aid in the removal of dangerously impaired drivers from the roadway, they also protect the driver who is not alcohol or drug impaired from being improperly detained. Thus, rigorous examinations of the SFSTs are important to traffic safety.

## V. RESULTS

The first record in the data base is for an arrest which occurred on June 1, 1997, and the last record is dated September 4, 1997. During the study period, 379 records were submitted for the study. Figure 3 graphs the total number of records by month. As expected, the initial activities generated enthusiasm among participants, and the largest number of citizen contacts occurred during the first project month. Although available time of participating officers was affected during July and August by scheduled training days and vacations, and although it typically is difficult to sustain the initial high interest level, the actual decline in arrests over the extended project period was not large. The final month is not comparable, since data collection extended only a few days into September.

**FIGURE 3**  
SFST Records by Month



## A. Total Sample and Measured BACs

Table 3 summarizes the disposition of 379 records obtained during this study. As can be seen in the table and in Figure 4, the BACs of 256 drivers were measured. Thus, BACs are available for 81.8% of the 313 cases entered into an analysis of officers' decisions. Evidential testing at the booking facility accounts for 210 of the BACs. Forty-six were obtained with a Preliminary Breath Testing (PBT) device. A log of all cases appears in Appendix IV.

## VI. SUMMARY AND DISCUSSION

Legislators have lowered the limits for alcohol levels in drivers from 0.15%, which was the very early standard, to 0.10% or 0.08%. The lower statutory limits are soundly based in data from scientific experiments and from epidemiology and are an important step toward safer roadways. Whether their *full* potential for reducing alcohol-involved crashes can be reached, however, depends on effective enforcement. Failure to enforce a statute, whatever the reason for the failure, weakens that statute and may actually render it counterproductive to some degree.

Traffic officers are the first link in the series of events that brings a DUI driver into the criminal justice system. Unless officers are able to detect and arrest impaired drivers, those drivers will not experience the sanctions which are intended to deter impaired driving. Although there are many aspects to effective DUI enforcement, certainly it is crucial for officers to be proficient in assessing the alcohol impairment of drivers they detain at roadside.

As an aid to their roadside decisions, officers rely upon a battery of tests, the SFSTs, to augment their general observations of a driver. At this point in time, no other tests have been shown to better discriminate between impaired and unimpaired drivers. Nonetheless, the battery, and in particular Horizontal Gaze Nystagmus, frequently is attached vigorously during court proceedings. Thus, the examination of officers' decisions, based on the SFSTs, is of considerable interest.

If it can be shown that officers' reliance on the tests is misplaced, causing them frequently to err, then the officers, the courts, and the driving public need to be aware that the tests are not valid and that DUI laws are not being properly enforced. If, on the other hand, it can be shown that officers typically make correct decisions, based on the SFSTs, perhaps the legal controversy that has centered on them for more than a decade can be diffused and court time can be devoted to more substantive issues.

The data obtained during this study demonstrate that 95% of the officers' decisions to arrest drivers were correct decisions. Furthermore, 82% of their decisions to release drivers were correct. It is concluded that the SFSTs not only aid police officers in meeting their responsibility to remove alcohol-impaired drivers from the roadway, they also protect the rights of the unimpaired driver. These data validate the SFSTs as used in the State of Florida by Pinellas County Sheriff's deputies who have been trained under NHTSA guidelines. SFST validity now has been demonstrated in Florida, California (1997) and Colorado (1995). There appears to be little basis for continuing legal challenge.

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**VALIDATION OF THE STANDARDIZED FIELD SOBRIETY TEST  
BATTERY AT BACs BELOW 0.10 PERCENT**

***FINAL REPORT***

**Submitted to:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

**Jack Stuster  
Marcelline Burns**

**August 1998**

**ANACAPA SCIENCES, INC.  
P.O. Box 519  
Santa Barbara, California 93102**

**Technical Report Documentation Page**

1. Report No. DOT HS ?	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle <i>Validation of the Standardized Field Sobriety Test Battery at BACs Below 0.10 Percent</i>		5. Report Date August 1998	
7. Author(s) Jack W. Stuster, PhD, CPE, and Marcelline Burns, PhD		6. Performing Organization Code: n/a 8. Performing Organization Report No. n/a	
9. Performing Organization Name and Address Anacapa Sciences, Inc. P.O. Box 519 Santa Barbara, CA 93102		10. Work Unit No. (TRAIS)  11. Contract or Grant No. DTNH22-95-C-05192	
12. Sponsoring Agency Name and Address National Highway Traffic Safety Administration 400 Seventh Street, SW Washington, D.C. 20590		13. Type of Report and Period Covered Final Report	
15. Supplemental Notes James F. Frank, PhD was the Contracting Officer's Technical Representative (COTR) for this project.		14. Sponsoring Agency Code	
<p>16. Abstract</p> <p>This study evaluated the accuracy of the Standardized Field Sobriety Test (SFST) Battery to assist officers in making arrest decisions for DWI at blood alcohol concentrations (BACs) below 0.10 percent. NHTSA's SFST battery was validated at 0.10 percent BAC in 1981. The trend to reduce statutory DWI limits to 0.08 percent BAC prompted this research project.</p> <p>The research was composed of several project tasks, including planning, site-selection, training, data entry, and data analysis, in addition to the actual conduct of a major field study. The City of San Diego, California, was selected as the site. Seven officers of the San Diego Police Department's alcohol enforcement unit were trained in the administration and modified scoring of NHTSA's SFST battery (i.e., Horizontal Gaze Nystagmus-HGN, Walk and Turn, and One Leg Stand). SFST scoring was adjusted: the observation of four HGN clues indicated a BAC 0.08 percent (rather than four clues indicating a BAC 0.10 percent), and the observation of two HGN clues indicated a BAC 0.04 percent. During routine patrols, the participating officers followed study procedures in administering SFSTs and completing a data collection form for each test administered. The officers' final step in each case was the administration of an evidentiary breath alcohol test.</p> <p>Data analysis found the SFSTs to be extremely accurate in discriminating between BACs above and below 0.08 percent. The mean estimated and measured BACs of the 297 motorists tested were 0.117 and 0.122, respectively; the difference between the means (0.005 percent BAC) is very small and operationally irrelevant. Further, analyses found the HGN test to be the most predictive of the three components of the SFST battery (<math>r=0.65</math>), however a higher correlation was obtained when the results of all three tests were combined (<math>r=0.69</math>).</p> <p>Decision analyses found that officers' estimates of whether a motorist's BAC was above or below 0.08 or 0.04 percent were extremely accurate. Estimates at the 0.08 level were accurate in 91 percent of the cases, or as high as 94 percent if explanations for some of the false positives are accepted. Officers' estimates of whether a motorist's BAC was above 0.04 percent but lower than 0.08 percent were accurate in 94 percent of the decisions to arrest and in 80 percent of cases overall. Also, the officers and prosecutors who were interviewed about the SFSTs found the test battery to be acceptable for field use to establish probable cause for DWI arrest.</p> <p>The results of this study provide clear evidence of the validity of the Standardized Field Sobriety Test Battery to discriminate at 0.08 percent BAC, using a slightly modified scoring procedure. Further, study results strongly suggest that the SFSTs also accurately discriminate at 0.04 percent BAC.</p>			
17. Key Words DWI, DUI, detection, field sobriety, performance tests, alcohol, law enforcement, highway safety		18. Distribution Statement	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

## EXECUTIVE SUMMARY

This report documents the research activities and presents the results of a study conducted for the National Highway Traffic Safety Administration (NHTSA) to evaluate the accuracy of the Standardized Field Sobriety Test (SFST) Battery to assist officers in making arrest decisions and to discriminate blood alcohol concentrations (BACs) below 0.10 percent. NHTSA's SFST battery was validated at 0.10 percent BAC in 1981. The trend to reduce statutory DWI limits to 0.08 percent BAC prompted this research project.

### DESCRIPTION OF THE RESEARCH

The research was composed of several project tasks, including planning, site-selection, training, data entry, and data analysis, in addition to the actual conduct of a major field study. The City of San Diego, California, was selected as the site of the field study. Seven officers of the San Diego Police Department's alcohol enforcement unit were trained in the administration and modified scoring of NHTSA's SFST battery (i.e., Horizontal Gaze Nystagmus, Walk and Turn, and One Leg Stand). SFST scoring was changed slightly: the observation of four horizontal gaze nystagmus (HGN) clues indicated a BAC 0.08 percent (rather than four clues indicating a BAC 0.10 percent), and the observation of two HGN clues indicated a BAC 0.04 percent. During routine patrols, the participating officers followed study procedures in administering SFSTs and completing a data collection form for each test administered during the study period. The officers' final step in each case was the administration of an evidentiary breath alcohol test.

### RESULTS

The participating officers completed a total of 298 data collection forms; only one case was eliminated from analysis because the motorist refused all forms of BAC testing. Data analysis found the SFSTs to be extremely accurate in discriminating between BACs above and below 0.08 percent. The mean estimated and measured BACs of the 297 motorists tested were 0.117 and 0.122, respectively; the difference between the means (0.005 percent BAC) is very small and operationally irrelevant. Further, analyses found the HGN test to be the most predictive of the three components of the SFST battery ( $r=0.65$ ), however a higher correlation was obtained when the results of all three tests were combined ( $r=0.69$ ).

The results of decision analyses provide clear indication of SFST accuracy. Decision analyses found that officers' estimates of whether a motorist's BAC was above or below 0.08 or 0.04 percent were extremely accurate. Estimates at the 0.08 level were accurate in 91 percent of the cases, or as high as 94 percent if explanations for some of the false positives are accepted. Officers' estimates of whether a motorist's BAC was above 0.04 but under 0.08 were accurate in 94 percent of the decisions to arrest and in 80 percent of the relevant cases, overall.

Finally, the officers and prosecutors who were interviewed about the SFSTs found the test battery to be fully acceptable for field use to establish probable cause for DWI arrest.

### **IMPLICATIONS**

The results of this study provide clear evidence of the validity of the Standardized Field Sobriety Test Battery to discriminate above or below 0.08 percent BAC, using a slightly modified scoring procedure. Further, study results strongly suggest that the SFSTs also accurately discriminate above or below 0.04 percent BAC.

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## **ACKNOWLEDGMENTS**

The National Highway Traffic Safety Administration and Anacapa Sciences, Inc., are grateful to the managers and officers of the San Diego Police Department for their cooperation during the performance of this research project. Special thanks to Officer Doug English, project liaison, and Sergeant Bill Snyder, supervisor of the Traffic Division's alcohol-enforcement unit.



## INTRODUCTION

Beginning in 1975, the National Highway Traffic Safety Administration (NHTSA) sponsored research that led to the development of standardized methods for police officers to use when evaluating motorists who are suspected of Driving While Impaired (DWI).<sup>1</sup> Beginning in 1981, law enforcement officers have used NHTSA's Standardized Field Sobriety Test (SFST) battery to help determine whether motorists who are suspected of DWI have blood alcohol concentrations (BACs) greater than 0.10 percent. Since that time, many states have implemented laws that define DWI at BACs *below* 0.10. This report presents the results of research performed to systematically evaluate the accuracy of NHTSA's SFST battery to discriminate above or below 0.08 percent and above or below 0.04 percent blood alcohol concentration.

The report is presented in four sections. This brief Introduction presents the objectives of the research, provides a summary of the relevant traffic safety issues, and discusses the historical context of the study. The second section of the report describes the research tasks that were performed. The third section presents the results of the study. The final section of the report discusses the implications of the study results.

## BACKGROUND

Nearly 1.4 million people have died in traffic crashes in the United States since 1966, the year of the National Traffic and Motor Vehicle Safety Act (which led to the creation of NHTSA in 1970). During the late 1960s and early 1970s more than 50,000 people lost their lives each year on our nation's public roads; more than half of the motorists killed had been drinking. Traffic safety has improved considerably since that time: the annual death toll has declined to about 40,000, even though the numbers of drivers, vehicles, and miles driven all have greatly increased. The dramatic improvements in traffic safety are reflected in the change in fatality rate per 100 million vehicle miles traveled: The fatality rate fell from 5.5 in 1966 to 1.7 in 1996 (FARS--Fatal Analysis Reporting System--96), a 69 percent improvement. Figure 1 illustrates this important trend. When miles traveled are considered, the likelihood of being killed in traffic in 1966 was more than three times what it is today.

Despite the significant improvements in traffic safety during the past 17 years, an average of more than 115 people still die each day from motor vehicle crashes in the United States. It is estimated that 41 percent of the drivers who die in crashes have been drinking.

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<sup>1</sup> Various terms are used throughout the United States for offenses involving drinking and driving. In this report, Driving While Impaired (DWI) is used to refer to all occurrences of driving at or above the legal blood alcohol concentration (BAC) limit of a jurisdiction.

An emphasis on DWI enforcement since 1980 has been a factor in the significant improvement in traffic safety, as represented by declining fatal and alcohol-involved crash rates. NHTSA-sponsored research contributed substantially to the improved condition, in part, by providing patrol officers with useful and scientifically valid information and training materials concerning the behaviors that are most predictive of impairment. In particular, NHTSA sponsored research that led to the development of a DWI detection guide that listed 20 driving cues and the probabilities that a driver exhibiting a cue would have a BAC of at least 0.10 percent (Harris et al., 1980; Harris, 1980). A similar study was conducted recently that identified 24 driving cues that are predictive of DWI at the 0.08 level (Stuster, 1997). NHTSA also sponsored research that led to the development of a motorcycle DWI detection guide (Stuster, 1993). NHTSA's DWI training materials, based on the results of these studies, have exposed the current generation of law enforcement officers in the U.S. to information critical to DWI enforcement by providing a systematic, scientifically valid, and defensible approach to on-the-road DWI detection.

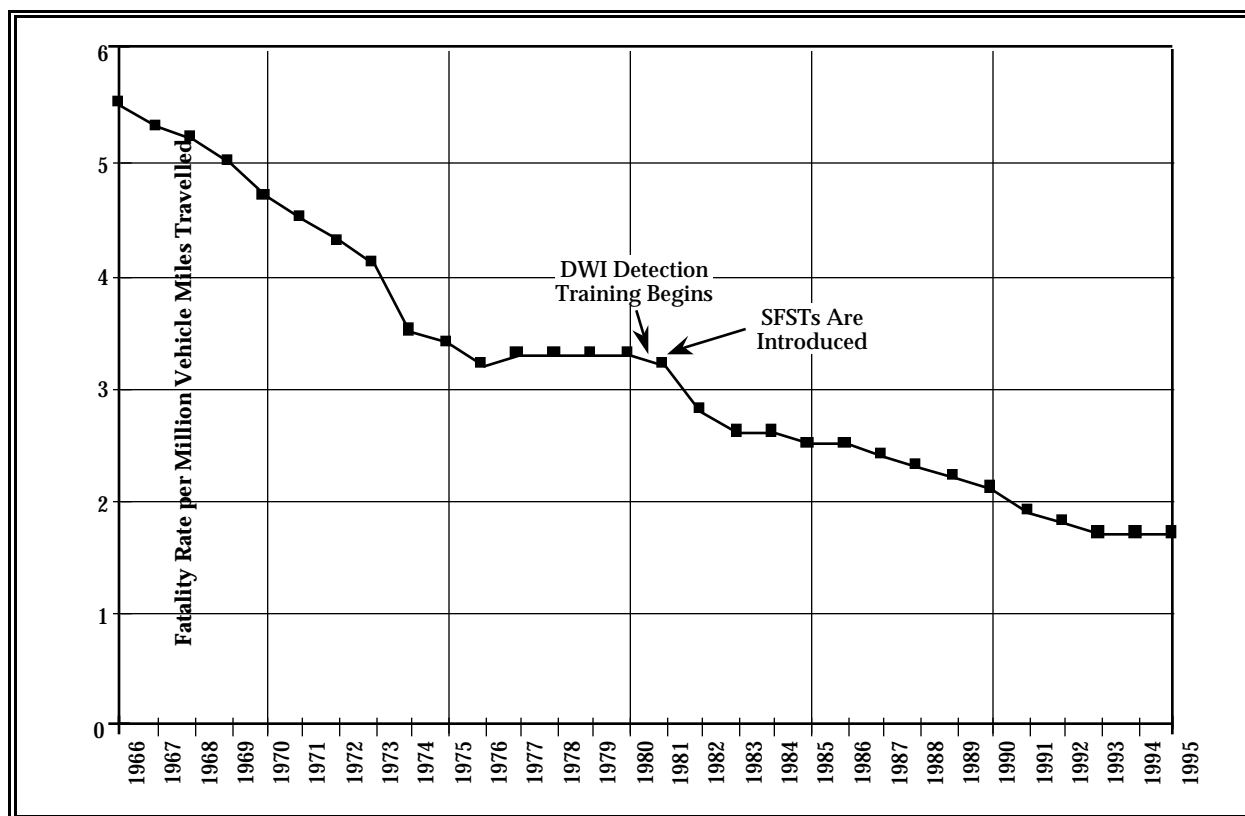


Figure 1. Fatality rates per million miles traveled in the U.S.

At the same time NHTSA was providing patrol officers with information concerning the driving behaviors that are the most predictive of impairment, the agency also sponsored research that led to the development of a standardized battery

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of tests for officers to administer to assess driver impairment after an enforcement stop has been made. Drs. Marcelline Burns and Herbert Moskowitz conducted laboratory evaluations of several of the tests that were most frequently-used by law enforcement officers at the time (Burns and Moskowitz, 1977). In addition to a variety of customary roadside tests (e.g., finger-to-nose, maze tracing, backward counting), the researchers evaluated measures of an autonomic reaction to central nervous system depressants, known as horizontal gaze nystagmus. Horizontal gaze nystagmus (HGN) is an involuntary jerking of the eye that occurs naturally as the eyes gaze to the side. Aschan (1958) described studies that linked various forms of nystagmus to BAC, and Wilkinson, Kime, and Purnell (1974) reported consistent changes in horizontal gaze nystagmus with increasing doses of alcohol. At the time Burns and Moskowitz were conducting their seminal research for NHTSA, horizontal gaze nystagmus recently had been found to reliably predict BACs in a study conducted in Finland (Pentilla, Tenhu, and Kataja, 1974). Further, Lehti (1976) had just calculated a strong correlation between BAC and the onset of nystagmus.

All of the field sobriety tests evaluated by Burns and Moskowitz were found to be sensitive to BAC in varying degrees, at least under laboratory conditions. In addition, all of the tests showed a consistent increase in correlations with increasing BACs. Statistical analyses found the horizontal gaze nystagmus test to be the most predictive of the individual measures. However, the combined scores of three of the tests (One-Leg Stand, Walk-and-Turn, and Horizontal Gaze Nystagmus) provided a slightly higher correlation than the horizontal gaze nystagmus test by itself. The combined score correctly discriminated between BACs below or above 0.10 in 83 percent of the subjects tested in the original study (Burns and Moskowitz, 1977).

NHTSA immediately sponsored a subsequent study to standardize the test administration and scoring procedures and conduct further laboratory and field evaluations of the new battery of three tests. The researchers found that police officers tended to increase their arrest rates and were more effective in estimating the BACs of stopped drivers after they had been trained in the administration and scoring of the Standardized Field Sobriety Test battery. The results of this important study were documented in meticulous detail in the technical report, *Development and Field Test of Psychophysical Tests for DWI Arrest* (Tharp, Burns, and Moskowitz, 1981). That report has been cited throughout the U.S. to establish the scientific validity of the SFST battery and to support officers' testimony in court. NHTSA's SFST battery is described in Appendix A.

During the past 16 years, NHTSA's SFSTs largely have replaced the unvalidated performance tests of unknown merit that once were the patrol officer's only tools in helping to make post-stop DWI arrest decisions. Regional and local preferences for other performance tests still exist, even though some of the tests have not been validated. Despite regional differences in what tests are used to assist officers in making DWI arrest decisions, NHTSA's SFSTs presently are used in all 50 states. NHTSA's SFSTs have become the standard pre-arrest procedures for evaluating DWI in most law enforcement agencies.

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The horizontal gaze nystagmus (HGN) test is considered by many law enforcement officers to be a foolproof technique (sometimes called a “silver bullet”) that provides indisputable evidence of alcohol in a motorist’s system. The normal variation in human physical and cognitive capabilities, and the effects of alcohol tolerance, result in uncertainties when arrest decisions are made exclusively on the basis of performance tests. These uncertainties have resulted in large proportions of DWI suspects being released rather than detained and transported to another location for evidentiary chemical testing. This is important because experienced drinkers often can perform physical and cognitive tests acceptably, with a BAC greater than 0.10 percent. However, most experienced drinkers cannot conceal the physiological effects of alcohol from an officer skilled in HGN administration. This is because horizontal gaze nystagmus is an involuntary reaction over which an individual has absolutely no control.

## THE RESEARCH

This section provides a detailed description of all tasks performed during the field validation of the Standardized Field Sobriety Test Battery for use at 0.08 percent BAC. The technical approach to the research involved the performance of six major project tasks, as summarized in Figure 2 and described in the following pages.

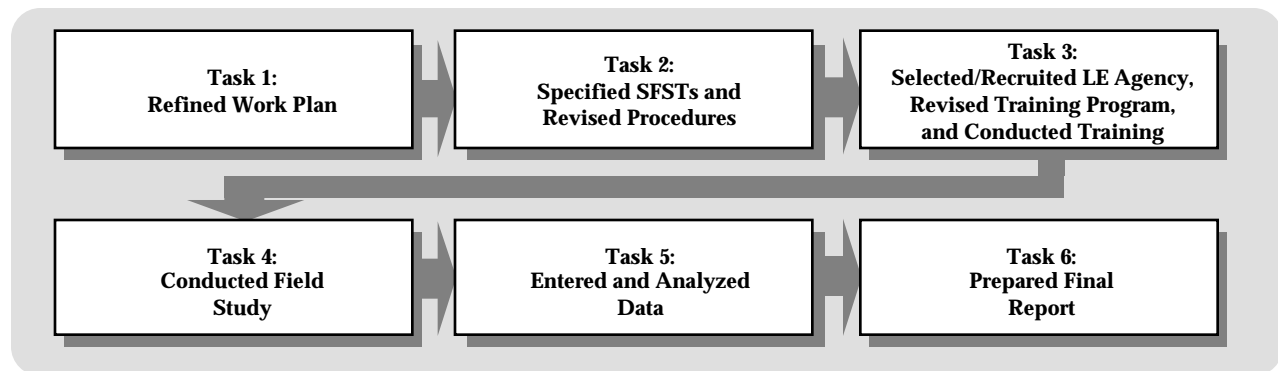


Figure 2. Sequence of major project tasks.

### **TASK 1: REFINED WORK PLAN**

The objectives of the first project task were to meet with the Contracting Officer's Technical Representative (COTR) and other NHTSA SFST experts to discuss the project and to refine the proposed Work Plan based on those discussions. The project kick-off meeting was held at NHTSA headquarters on 24 October 1995. Substantive discussions with NHTSA personnel during and following the meeting contributed to the development of the technical approach described here.

### **TASK 2: SPECIFIED SFSTs AND REVISED PROCEDURES**

Based on the widespread use and acceptance of NHTSA's Standardized Field Sobriety Test (SFST) Battery, validated at 0.10 percent BAC, NHTSA sponsored the current study to evaluate the SFSTs at lower BACs. The only modifications to be made to the SFSTs would be: 1) for officers to use the exhibition of four clues as an indication of BACs at the 0.08 level or greater (as officers presently are trained to use four clues as an indicator of BACs at 0.10 percent or greater), and 2) for officers to use the exhibition of two HGN clues as an indication of BACs greater than zero, but *below* 0.08 percent.

### **TASK 3: SELECTED AND RECRUITED LAW ENFORCEMENT AGENCY AND CONDUCTED TRAINING**

This project task was composed of four subtasks, as described in the following paragraphs.

### **SUBTASK 3.1: IDENTIFIED SITE SELECTION CRITERIA**

The site-selection criteria were:

- Candidate sites must employ lower legal BAC levels (0.08 for adults and zero tolerance for youth under 21 years).
- Candidate sites must generate a sufficient number of traffic enforcement stops and DWI arrests for accurate assessment of the tests' reliability and validity.
- Participating officers must have received NHTSA-approved SFST training from a certified instructor, possess at least one year of field experience administering SFSTs, and receive refresher training from project staff.
- Managers and officers of the participating law enforcement agency must agree to abide by the research procedures for the duration of the field study. For example, officers may use only the SFST Battery (and no other tests) together with their observations of the driver's general appearance and speech to make their arrest decisions; and, all test administrations must be recorded and submitted. Only agencies that could assure an extremely high level of cooperation and commitment would be recommended for participation.
- The site must have the capability of generating cases that represent the full range of alcohol experience. For example, a city with a disproportionate number of younger drivers might be more appropriate to ensure samples of sufficient size for the younger age categories.

### **SUBTASK 3.2: IDENTIFIED CANDIDATE SITES AND APPLIED SELECTION CRITERIA**

Several factors constrained the site-selection process and limited the possible candidates for participation in this study. First, at the time the project was conducted, California, Oregon, and Utah were the only states that met both of the BAC-related site-selection criteria, namely a 0.08 BAC limit for DWI and a zero tolerance law for drivers under 21 years of age. Second, it was important to restrict the data collection period, to the extent possible, because it was believed that an extremely long data collection period might result in officers deviating from the study procedures. Strict adherence to study procedures was considered essential to ensuring the internal validity of the study.

The site-selection strategy adopted was to recruit a police department that serves one large city--a city large enough to generate a sufficient number of SFST administrations for statistical analysis by itself. A large city also was likely to have a traffic division with a dedicated DWI unit composed of trained experts. Focusing on traffic enforcement specialists would permit us to restrict participation in the study to officers who already had received NHTSA-approved SFST training and had additional field experience administering the test battery. Prior training in SFST administration was an important site-selection and methodological issue.

In the study that validated the SFST battery in 1981, all officers of an agency could participate, following training provided by the researchers. The procedure followed during the original study was appropriate then because no other officers (anywhere) had yet to receive the training. However, that procedure could not be followed in the current study because thousands of officers have received SFST

training since 1981. Only trained and experienced test administrators could be permitted to participate in the *current* study to avoid confounding study results with the effects of substantially different officer skill and experience levels in SFST administration and scoring. Officers who are formally trained and experienced in SFST administration tend to be concentrated in traffic enforcement and special DWI units.

This site-selection strategy was judged to provide the best approach to achieve the objectives of the current study, and the City of San Diego, California, was identified as the leading candidate community when the site-selection criteria were applied. The San Diego Police Department serves a resident population of more than one million, with a much larger service population attributable to tourism and several local military installations. The manner in which the San Diego Police Department satisfied the site-selection criteria is outlined below.

#### **Number of SFST Administrations**

The San Diego Police Department maintains a traffic division composed of 50 officers, including ten officers and a sergeant who form the alcohol enforcement unit. The alcohol enforcement unit deploys four or five officers on each night, Wednesday through Sunday. The time necessary to complete the associated paperwork usually limits each officer to a maximum of two DWI arrests each night. This results in about 130 arrests by officers of the special unit during a four week period. The other members of the traffic division, combined, make an additional 130 DWI arrests each month. San Diego Police Department officers do not hesitate to arrest drivers for BACs below 0.08 percent if they exhibit any evidence of impairment, even though low-BAC arrests usually are not prosecuted by the local district attorney.

#### **Demographic Considerations**

The Work Plan discussed the importance of selecting a site that offers cases for analysis that represent the full range of driver ages and BACs of interest. It was believed that a younger, rather than an older, driver population would result in more cases of zero tolerance violations and more SFST administrations overall. In this regard, San Diego and the surrounding area is home to four major US Navy bases and both the Navy and Marine Corps training centers. The area also is home to three major universities and several smaller colleges and technical schools.

#### **Willingness to Participate**

Naturally, formal approval by senior managers is required before any law enforcement agency can participate in a traffic safety study. Further, a manager's personal interest in a study that results in command emphasis concerning participation greatly contributes to the success of a project because of the quasi-military organizational structure of law enforcement agencies. That is, if managers believe participation to be of value to an agency they will direct their officers to follow the study procedures. In this regard, the commanding officer and other senior managers of the San Diego Police Department expressed their considerable interest in the study and directed their personnel to cooperate with the study team.

Command emphasis is an important component to ensure adherence to study procedures, but it is not sufficient; the participating officers also must be committed to the study. The willingness of a law enforcement agency to participate in a traffic safety study also can be measured, although subjectively, by the attitudes of field officers when discussing the general and specific issues involved in the study. The officers of the San Diego Police Department with whom we spoke about the field validation expressed genuine interest in the study and eagerness to be selected for participation.

Finally, the requirement for an agency to modify its established procedures to accommodate special study procedures usually is somewhat negotiable in a traffic safety study, but deviations from established study procedures were not negotiable in this field validation. It was explained that police managers and all participating officers must agree to abide by the study procedures to ensure the internal validity of study results. This was an area for concern to the project team because the San Diego Police Department's established DWI procedures included administering three field sobriety tests in addition to the three NHTSA SFSTs. A firm study requirement was that no other tests be administered to subjects because they might influence an officer's BAC estimates; that is, all officer-estimates of BAC must be based *exclusively* on results of the NHTSA SFST battery using the slightly modified scoring system. In this regard, San Diego police managers inquired with their district attorney and DWI supervisors, those who might object to the restriction, and found no opposition. In fact, it was mentioned that restricting sobriety testing to the three SFSTs would help streamline the procedures for everyone.

#### **Prior SFST Training**

All members of the San Diego Police Department's special alcohol-enforcement unit previously had received SFST training that was administered according to NHTSA-approved procedures and curriculum by certified DWI instructors. Although approximately half of the other members of the Traffic Division also had received SFST training, it was determined that the alcohol-enforcement unit would generate a sufficient number of SFST administrations for statistical analysis. All of the participating officers would receive a four-hour refresher training course prior to beginning the field study.

#### **SUBTASK 3.3: RECRUITED LAW ENFORCEMENT AGENCY TO PARTICIPATE IN THE STUDY**

NHTSA reviewed the site recommendations and approved San Diego as the site for the field study. Further discussions were held with managers and officers of the San Diego Police Department and a Memorandum of Agreement was signed that specified all study procedures and requirements.

#### **SUBTASK 3.4: DEVELOPED SFST TRAINING PROGRAM**

The experimental requirement that all participating officers be both trained and experienced in SFST administration eliminated the need to develop a special training program for this study. It was considered essential that the existing, NHTSA-approved SFST training program remain the training standard for the field evaluation. Because all participating officers already had received NHTSA-approved

SFST training, only a refresher program would be required. A four-hour refresher-training program was developed, based on the (October 1995) NHTSA curriculum. The purposes of the refresher training were to instruct the officers concerning the modified scoring system and obtain confirmation that all participants were administering and scoring the SFST battery correctly before beginning the field study.

#### **TASK 4: CONDUCTED THE FIELD VALIDATION STUDY**

Systematic evaluation of the SFSTs to assist officers in making arrest decisions at BACs below 0.10 percent, under field conditions, was the ultimate objective of this research. Although existing tests were the subject of the evaluation, the reasons for conducting the field study were the same as if the tests previously had not been validated. First, it was necessary to determine the accuracy of the modifications to test scoring, compared to actual BAC levels measured through other means. For cases in which the driver was arrested for DWI, correspondence would be assessed between scored performance on the SFSTs and BAC, as determined by breath test (blood and urine tests were discouraged but used if subjects refused to comply with breath testing). For cases in which a subject was administered SFSTs but then released on the basis of low estimated BAC, hand-held breath testing devices were used to establish actual BAC. The second purpose of the evaluation was to identify problems with test application in the field, which might include test administration, scoring procedures, or other factors that might affect the use of the tests by law enforcement personnel. Third, the courts' acceptance of evidence gathered using the slightly revised scoring procedures in the field evaluation would be assessed.

##### **SUBTASK 4.1: PREPARED FIELD EXPERIMENT PLAN**

A Field Experiment Plan was developed and approved by NHTSA to guide the conduct of the field study. The plan included the seven components depicted in Table 1 and discussed below.

TABLE 1  
COMPONENTS OF THE FIELD EXPERIMENT PLAN

Component 1: Subjects
Component 2: Independent Variables
Component 3: Criterion Measures
Component 4: Materials
Component 5: Procedures
Component 6: Controls
Component 7: Data Analyses

##### **Components 1 and 2: Subjects and Independent Variables**

The primary independent variable of interest, BAC, was inextricably linked to the subjects in this study. Specifically, the experiment plan focused on obtaining data from adult motorists who were suspected of exceeding the legal limit of 0.08 percent BAC and youths under 21 who were suspected of exceeding the "zero-tolerance"

legal limit of 0.00. The accuracy of the SFSTs to discriminate at 0.08 and 0.04 percent BAC could not be assessed without data from individuals who had BACs over and *under* these values. Therefore, it was important to obtain BAC estimates from individuals who had both passed and failed the standardized field sobriety tests.

### **Component 3: Criterion Measures**

The only appropriate criterion measure to assess the accuracy of SFSTs is BAC. Measures of impairment are irrelevant because performance of the SFSTs must be correlated with BAC level, rather than driving performance. BAC provides an objective and reliable measure that states have recognized as presumptive and/or per se evidence of impairment, depending on the statute. To obtain these criterion measures, it was determined that all drivers who were administered the SFST Battery must be tested for BAC, regardless of the results of the SFSTs. In other words, it would be essential to test the individuals who were judged to have BACs below the relevant statutory level and who subsequently would be released. Participating officers were instructed concerning the importance of obtaining BAC data for all subjects, in order to calculate the accuracy of the tests.

All police officers participating in the study were equipped with NHTSA-approved, portable breath testing devices to assess the BACs of all drivers who were administered the SFSTs, including those who were released without arrest. Further, arrested subjects were tested both in the field with a portable device and at the booking site. The use of passive alcohol sensors (PAS) during the study was not permitted.

### **Component 4: Materials**

Only the existing SFSTs were to be administered, which require no equipment. A pen, pencil, or small flash light frequently are used by officers as a stimulus or target for the HGN test, but a finger can be used with equal effectiveness.

The data collection form used in the study is presented as Figure 3. The data collection form was extremely important in this study for several reasons. As is the case in most field studies, the form must be as simple to complete as possible to minimize the workload of participating officers. In the present case, it also was important for the form to be designed to guide the officer in the administration of the SFSTs, to facilitate standardization and systematic scoring of the tests. In addition, the form designed for this study had to both encourage and provide assurances that officers had followed the study procedures. Most important, it was essential that officers would conduct a breath test and record actual subject BAC as the final step of the process; that is, actual BACs were to be entered on the form only after BAC estimates based on SFST performance had been recorded. Hand-held breath testing devices with digital displays were used for this purpose.

### **Component 5: Procedures**

The sixth component of the field experiment plan was the specification of procedures to be used for administering the tests and obtaining independent measures of BAC. The procedures to be followed by participating officers were listed

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as a series of six numbered steps on the data collection form that was used in the field study. The study procedures were to be followed whenever a participating officer suspected an adult driver of being alcohol impaired or a youth under 21 of having a BAC greater than zero. In practice, officers administered the SFSTs to all motorists who exhibited *any* objective behavior or other cue associated with having consumed alcohol, even if impairment was not evident. A breath, blood, or urine test was administered to all motorists who performed the SFSTs, but only after the officer had made an arrest/no arrest decision based on the officer's scoring of the driver's SFST performance, and recorded a BAC estimate. The data collection form structured the procedure by presenting all officer actions as a series of numbered steps. Requiring officers to record the time of BAC estimates and BAC tests ensured that officers' estimates were not influenced by the results of the chemical tests. Completed data collection forms were sent to Anacapa Sciences on a weekly basis for data entry.

In some states, such as California, officers have the right to administer a breath test to a driver who has exhibited any objective sign of alcohol-consumption. Compliance is mandatory if the officer can articulate a reasonable suspicion of the motorist having consumed alcohol (such as the odor of an alcoholic beverage). SFSTs were administered only to drivers who exhibited some objective DWI cue, thus, no problems were experienced in obtaining BAC data, even from subjects whose SFST performance was acceptable. The field breath test was conducted as the final step after the SFST procedure was completed, which is the *de facto* procedure followed by most officers who are equipped with field breath testing devices.

To further ensure compliance with study procedures, the participating law enforcement officers signed a statement affirming that they would abide by the established study procedures. In addition, project staff monitored the data collection effort, periodically riding along with participating officers to ensure that study procedures were being followed.

#### **Component 6: Controls**

Extraneous variables that could affect the outcome of the study must be controlled to the extent possible. The controls that were implemented to ensure the validity of study results have been discussed in this section, including systematic procedures and the use of only trained and experienced officers.

#### **Component 7: Data Analyses**

The data analysis plan was designed to answer the following research questions.

- How accurately do the tests discriminate between subjects who are above or below 0.08 and 0.04 percent BACs?
- Which of the components of the SFST battery is/are the best predictor(s) of BAC?
- How reliable, or consistent, are the tests?
- Are the tests usable by police officers? Are they readily accepted by officers and prosecutors?

**NHTSA/ANACAPA SFST VALIDATION DATA FORM**

Officer ID: \_\_\_\_\_ Driver:  Adult  Male  
 Under 21  Female  
 ↳ Age: \_\_\_\_\_

Month \_\_\_\_\_ Day \_\_\_\_\_ 1996 Time of Stop: \_\_\_\_\_ hr \_\_\_\_\_ min

**FIELD SOBRIETY TESTS ADMINISTERED**

**1. HORIZONTAL GAZE NYSTAGMUS TEST**

Clues

	Right Eye	Left Eye
Lack of smooth pursuit	<input type="checkbox"/>	<input type="checkbox"/>
Nystagmus at maximum deviation	<input type="checkbox"/>	<input type="checkbox"/>
Nystagmus onset before 45 degrees	<input type="checkbox"/>	<input type="checkbox"/>
<b>Clues</b>	<input type="checkbox"/>	<input type="checkbox"/>

+      =

**Total HGN Clues (6 clues maximum)**  ←

*4 or more 0.08 / 2 or more 0.04*

**2. ONE LEG STAND TEST**  (seconds) 0-10 11-20 21-30

	0-10	11-20	21-30
Sways while balancing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uses arms for balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hops to maintain balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Puts foot down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cannot perform test (4 clues -- maximum)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total One Leg Stand Clues</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*2 or more 0.08*

**3. WALK AND TURN TEST**

	Clues	
Loses balance while listening to instructions	<input type="checkbox"/>	<input type="checkbox"/>
Starts before instructions are finished	<input type="checkbox"/>	<input type="checkbox"/>
	1st 9	2nd 9
Stops while walking	<input type="checkbox"/>	<input type="checkbox"/>
Does not touch heel to toe	<input type="checkbox"/>	<input type="checkbox"/>
Steps off the line	<input type="checkbox"/>	<input type="checkbox"/>
Raises arms for balance	<input type="checkbox"/>	<input type="checkbox"/>
Incorrect number of steps	<input type="checkbox"/>	<input type="checkbox"/>
Trouble with turn (explain) _____	<input type="checkbox"/>	<input type="checkbox"/>
Cannot perform the test (8 clues -- maximum)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Total Walk and Turn Clues</b>	<input type="checkbox"/>	<input type="checkbox"/>

*2 or more 0.08*

**4. ESTIMATE OF BAC BASED ON SFSTs:**

Time of estimation \_\_\_\_\_ hr \_\_\_\_\_ min

**5. SUBJECT BAC**  Refused

PBT →  Time of PBT test \_\_\_\_\_ hr \_\_\_\_\_ min

Other →  Time of other test \_\_\_\_\_ hr \_\_\_\_\_ min

↳  Breath  Blood  Urine

**6. DISPOSITION:**  Warning  Citation  DUI Arrest

Figure 3. Data collection form used in the validation study.

#### **SUBTASK 4.2. TRAINED OFFICERS IN THE USE OF THE SFSTs**

Dr. Marcelline Burns, one of the investigators who developed the SFST battery, developed and conducted the refresher training for the participating officers. Dr. Burns' research and training experience in this field ensured that officers received effective and credible refresher instruction. Dr. Burns was assisted in the training session by the project director and NHTSA COTR.

#### **SUBTASK 4.3. IMPLEMENTED EXPERIMENTAL DESIGN AND COLLECTED DATA**

Implementation of the experiment design began immediately following the completion of officer refresher training on 23 May 1996 and continued through 9 November. Specific study procedures were:

- Only officers who were members of the San Diego Police Department's alcohol-enforcement unit and who received NHTSA-approved SFST training participated directly in the study. Dr. Marcelline Burns provided brief "refresher" training to all participating officers to ensure a consistent and systematic approach to SFST administration during the study.
- Upon commencement of the study period, participating officers used only the SFST Battery (i.e., Horizontal Gaze Nystagmus, Walk and Turn, One Leg Stand) together with their observations of a driver's general appearance and speech, to establish inferences about a subject for whom there was reasonable suspicion of driving while impaired. In other words, no tests other than the three SFSTs were performed.
- Participating officers performed the administration steps in the sequence specified on the data collection form; that is, they,
  1. Administered the **Horizontal Gaze Nystagmus** test and recorded results.
  2. Administered the **One Leg Stand** test and recorded results.
  3. Administered the **Walk and Turn** test and recorded results.
  4. Used the scoring systems that were printed on the data collection form (by counting test "clues") to estimate the subject's BAC. Recorded their estimate of the subject's BAC based on SFST performance, together with their observations of the subject's general appearance and speech. Also, they recorded the time when their estimate was made.
  5. Checked the box that indicated the disposition of the stop: Warning, Citation, or Arrest.
  6. Recorded the subject's BAC obtained from a field breath test; or, checked the appropriate box for other tests or responses. Blood and urine test results were provided later; every effort was made to obtain a breath test result for all subjects. Recorded the time when the BAC test was performed.
- Obtained a BAC for all subjects who were administered SFSTs as the final step in the test administration procedure. BACs were obtained for all subjects tested including those subjects who officers estimated, on the basis of SFST results, to have BACs below the legal limit.
- Participating officers completed and submitted a data collection form for each subject tested during the study period; that is, all administrations of the SFST battery by

participating officers were recorded on a data collection form and submitted for analysis.

- All completed data collection forms were sent to Anacapa Sciences, Inc., for data entry and analysis.

#### **SUBTASK 4.4 CONDUCTED COURT AND POLICE INTERVIEWS**

The final data collection task was the conduct of open-ended interviews with participating police officers and prosecutors who were exposed to the new SFSTs during DWI cases. The purposes of the interviews were to determine if the tests were acceptable to the officers for use in the field and to the prosecutors for use of test results in court.

#### **TASKS 5 AND 6: ANALYZED DATA AND PREPARED FINAL REPORT**

All data collection forms were returned to Anacapa Sciences, Inc., sequentially numbered, and the contents entered into a computerized data base. Data analyses were performed by the project director and Dr. Marcelline Burns. The results of those analyses are presented in the following section of this report.

## RESULTS

This study was conducted to evaluate the accuracy of NHTSA's Standardized Field Sobriety Test Battery in assisting officers to make arrest decisions at BACs above and below 0.08 percent under field conditions. A secondary objective of the study was to evaluate the possibility that the test battery also could be used to assist officers in making arrest decisions at BACs lower than 0.08 percent.

The seven participating officers from the San Diego Police Department's alcohol-enforcement unit completed a total of 298 data collection forms during the study period; only one case was eliminated from analysis because the subject refused to submit to any form of BAC testing. Officer compliance with study procedures and motivation to participate in the study remained high throughout the data collection period.

### EVALUATION OF SFST ACCURACY

Three methods were used to evaluate the accuracy of the SFST battery to discriminate at the BACs of interest: comparison of means, correlation analyses, and decision analyses.

#### COMPARISON OF MEANS

Table 2 presents a summary of the estimated and measured BAC data by age category. The table shows that 91.9 percent of the motorists tested were adults, compared to 8.1 percent youth, defined as motorists under the age of 21 years. The mean estimated and measured BACs of the younger motorists were approximately 0.035 lower than the BACs of the adults tested during the field study. The officers' mean estimated BACs, however, were very close to the mean measured BACs for both adults and youth; on average, the difference between officers' estimates and the actual BACs were only 0.005 percent for adults and 0.007 percent for youth.

TABLE 2  
ESTIMATED AND MEASURED BAC (%) BY AGE CATEGORY

Age Category	Number	Percent	Estimated BAC (Mean)	Measured BAC (Mean)
Adults	273	91.9	0.120	0.125
Youth	24	8.1	0.083	0.090
Total	297	100.0	0.117	0.122

Table 3 presents a summary of the estimated and measured BAC data by gender category. The table shows that 87.9 percent of the motorists tested were males, compared to 12.1 percent females, with adults and youth combined. The mean estimated BACs of the male and female motorists tested were identical (i.e., 0.117 percent). Again, for both categories, the officers' mean estimated BACs were very close to the mean measured BACs; on average, the difference between officers' estimates and the actual BACs were only 0.004 percent for males and 0.012 percent for females.

**TABLE 3**  
**ESTIMATED AND MEASURED BAC (%) BY GENDER**

Gender	Number	Percent	Estimated BAC (Mean)	Measured BAC (Mean)
Male	261	87.9	0.117	0.121
Female	36	12.1	0.117	0.129
<b>Total</b>	<b>297</b>	<b>100.0</b>	<b>0.117</b>	<b>0.122</b>

Table 4 presents a more detailed accounting of the estimated and measured BAC data by age and gender category, and by the disposition of the enforcement stop. In addition, the table shows that 73 percent of all motorists who were tested during the field study were arrested for DWI based on SFST performance and officer evaluations. Approximately 22 percent of the motorists tested received warnings and five percent were cited for a motor vehicle violation other than DWI.

**TABLE 4**  
**ESTIMATED AND MEASURED BAC (%) BY DISPOSITION, AGE CATEGORY, AND GENDER**

Disposition & Category	Number	Percent	Estimated BAC (Mean)	Measured BAC (Mean)
<b>Warnings</b>	<b>65</b>	<b>21.9</b>	<b>0.060</b>	<b>0.044</b>
Adults	57		0.063	0.045
Male Adults	53		0.063	0.044
Female Adults	4		0.070	0.054
Youth	8		0.036	0.038
Male Youth	6		0.037	0.038
Female Youth	2		0.035	0.040
<b>Citations</b>	<b>15</b>	<b>5.1</b>	<b>0.055</b>	<b>0.046</b>
Adults	11		0.050	0.040
Male Adults	9		0.047	0.043
Female Adults	2		0.065	0.029
Youth	4		0.070	0.062
Male Youth	2		0.060	0.055
Female Youth	2		0.080	0.070
<b>Arrests</b>	<b>217</b>	<b>73.0</b>	<b>0.138</b>	<b>0.150</b>
Adults	205		0.139	0.152
Male Adults	180		0.139	0.150
Female Adults	25		0.139	0.160
Youth	12		0.119	0.135
Male Youth	11		0.121	0.134
Female Youth	1		0.100	0.140
<b>Total</b>	<b>297</b>	<b>100.0</b>	<b>0.117</b>	<b>0.122</b>

The data presented in Table 4 also show that officers tended to slightly over-estimate the BACs of motorists who had lower BACs, and slightly under-estimate BACs at the higher levels. Overall, however, officers' estimates were extremely accurate. Based on SFST results and officers' observations, the officers' mean estimated BAC of the 297 motorists was 0.117 percent, compared to the mean measured BAC of 0.122. Although statistically significant, the difference of 0.005 percent BAC is a trivial and operationally irrelevant under-estimate of actual BACs that is within the margin of error of sophisticated evidentiary testing equipment.

#### CORRELATION ANALYSES

The accuracy of the SFSTs was further evaluated by conducting a series of correlation analyses to identify the degree to which officers' individual estimates of BAC corresponded with subjects' actual, or measured, BAC. A correlation coefficient is a statistic, usually represented as  $r$ , that expresses the relatedness of two variables, that is, the degree to which the variables co-vary. In this case, the two variables were an officer's estimate and the subject's actual BAC. The Pearson product-moment correlation method was used to calculate the relationship between these variables; cases with complete SFST results ( $n=261$ ) were used in this analysis.

If officers had predicted the precise BACs of all subjects (to three decimal points), the correlation coefficient would be +1.00; the correlation coefficient would be zero if there were no relationship between the estimated and actual BACs. For predictive measures, especially those administered under field conditions, a correlation of 0.65 to 0.70 is considered to be very high.

Table 5 presents the results of the correlation analyses. The table shows that HGN test results had the highest correlation with measured BAC of the three components of the SFST battery ( $r=0.65$ ). However, a slightly higher correlation was obtained when the results of the three component tests were combined ( $r=0.69$ ). The table also shows strong correlations between test results and officers' estimated BACs, indicating that officers were following procedures and interpreting test results correctly. All of the correlations were found to be statistically significant ( $p=.005$ ).

TABLE 5  
CORRELATIONS OF SFST SCORES TO ESTIMATED AND MEASURED BAC (%)  
N=261 CASES WITH COMPLETE SFST SCORES

Rank	SFST(s)	Correlation ( $r$ ) with Estimated BAC	Correlation ( $r$ ) with Measured BAC
1	3 Tests Combined	0.75	0.69
2	HGN	0.71	0.65
3	Walk-and-Turn	0.64	0.61
4	One Leg Stand	0.61	0.45

### DECISION ANALYSES

The third method used to evaluate the accuracy of the SFST battery was to construct a decision matrix that describes the four possible combinations of the two variables of interest, estimated and actual BACs above and below the levels of interest. Figure 4 presents the first decision matrix, with the four major cells of the matrix representing the four possible decisions at 0.08 percent BAC. The numbers in the major cells are the number of cases for each type of decision out of the 297 SFST administrations. The two shaded cells represent correct decisions based on SFST results: 1) 210 motorists who officers estimated to have BACs equal to or greater than 0.08 percent, who later were found to have BACs  $\geq$  0.08 by BAC testing (by breath, blood, or urine analysis); and, 2) 59 motorists who officers estimated to have BACs below 0.08 percent, who later tested below 0.08.

Figure 4 also reveals the incorrect decisions: 1) 24 motorists who officers estimated to have BACs greater than 0.08 who later were found to have BACs below that level (false positives); and, 2) four subjects who officers estimated to have BACs below 0.08 who later tested above 0.08 (false negatives).

It can be calculated from the data contained in Figure 4 that officers' decisions were accurate in 91 percent of the 297 cases (i.e.,  $[210+59] \div 297 = .906$ ). Further, officers' decisions to arrest were correct in 90 percent of the cases in which BAC was estimated to be  $\geq$  0.08 (i.e.,  $210 \div 234 = .897$ ), and decisions not to arrest were correct in 94 percent of the cases in which BAC was estimated to be below 0.08 (i.e.,  $59 \div 63 = .937$ ). These results indicate a high degree of accuracy, but it will be instructive to consider more closely those cases in which incorrect decisions were made.

		Officers' Estimated BACs		
		<0.08%	0.08%	
Measured BACs	0.08%	n=4	<b>n=210</b>	n=214
	<0.08%	<b>n=59</b>	n=24	n=83
		n=63	n=234	<b>N=297</b>

**Accurate in 91% of cases overall**  
**90% accurate in "yes" decisions**  
**94% accurate in "no" decisions**

Figure 4. Decision matrix at 0.08 percent BAC.

Table 6 presents a summary of the data for each of the 24 false positives (FPs). These cases are labeled False Positives because the officers estimated the subjects' BACs to be 0.08 percent, but subsequent testing found BACs below 0.08. However, in several cases, officers were correct in identifying impairment, which probably influenced their estimates of BAC.

TABLE 6  
 SUMMARY OF FALSE POSITIVES

	Case Number	Estimated BAC (%)	Number of HGN Clues	Measured BAC (%)	Is Estimate Consistent with Clues?
1	30	0.08	4	0.050	yes
2	34	0.08	4	0.058	yes
3	121	0.08	6	0.060	yes
4	186	0.08	4	0.063	yes
5	226	0.08	6	0.058	yes
6	227	0.08	4	0.060	yes
7	129	0.09	4	<b>0.070</b>	yes
8	175	0.09	4	<b>0.070</b>	yes
9	32	0.09	6	<b>0.076</b>	yes
10	127	0.09	6	0.028	yes
11	224	0.10	4	<b>0.070</b>	yes
12	16	0.10	6	<b>0.070</b>	yes
13	196	0.10	6	<b>0.074</b>	yes
14	52	0.11	4	0.050	yes
15	178	0.12	6	<b>0.070</b>	yes
16	246	0.12	6	<b>0.069</b>	yes
17	12	0.08	2	0.060	no
18	164	0.08	2	<b>0.070</b>	no
19	165	0.08	2	0.020	no
20	135	0.08	3	<b>0.078</b>	no
21	137	0.09	n/a	0.030	?
22	75	0.09	2	0.048	no
23	104	0.09	3	0.037	no
24	13	0.12	0	0.043	no

In 16 of the cases listed in Table 6, the officers' estimates of BAC were consistent with the number of HGN clues observed (i.e., four or more HGN clues to

support an estimate 0.08), however, the motorists subsequently were found to have actual BACs below 0.08 percent. In seven of the cases, the officers' estimated BACs were inconsistent with the number of HGN clues observed. It is important to note that six of the 24 false positives had measured BACs of 0.07 percent, and three had BACs greater than 0.07 but less than 0.08 (i.e., 0.074, 0.076, and 0.078). All nine of these BACs are within the margin of error of the testing devices. Further, Case Number 16 was a juvenile (0.069), which rendered the difference between estimated and measured BACs irrelevant in a zero tolerance jurisdiction; that is, it was a correct arrest decision despite the BAC estimate. In addition, two of the subjects with measured BACs of 0.07 were arrested for DWI, because the officers' believed that they were too impaired to be permitted to drive. Finally, Case Number 30, with an estimated BAC of 0.08 and a measured BAC of 0.05 percent, was found to be a psychiatric patient, which helped to explain her erratic behavior, poor SFST performance, and apparent impairment.

Although the proportions of correct decisions presented in Figure 4 reflect a high degree of accuracy, the accuracy of officers' decisions is even better if some of the borderline cases are accepted. An accuracy rate of 94 percent for all officer decisions based on SFST results was calculated by including as correct decisions Case 16 (the youth with a 0.069 percent BAC) and the nine false positives with BACs between 0.07 and 0.08, discussed in the previous paragraph.

Table 7 summarizes the four cases in which officers estimated the subjects' BACs to be below 0.08 percent, but later found the measured BACs to be 0.08. Six HGN clues would be expected for Case Number 193 (0.10 percent) and Case Number 99 (0.12 percent). It is unknown why the officers observed only two HGN clues. In contrast, officers recorded four HGN clues for Case Number 131 and Case Number 114, which would indicate BACs greater than 0.08, however, the officers' estimated-BACs were only 0.06 percent. It is unknown why the officers did not follow the test interpretation guidelines in these two cases; their low estimates probably reflect other observations made in combination with SFST performance.

TABLE 7  
SUMMARY OF FALSE NEGATIVES

	Case Number	Estimated BAC (%)	Number of HGN Clues	Measured BAC (%)	Is Estimate Consistent with Clues?
1	193	0.06	2	0.100	yes
2	99	0.06	2	0.120	yes
3	131	0.06	4	0.080	no
4	114	0.06	4	0.116	no

Similarly, in seven of the false positive cases listed previously in Table 6, officers apparently did not follow the test interpretation guidelines; that is, fewer than four HGN clues were reported, yet the officers' estimated-BACs were at least

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0.08 percent. It is possible that other factors influenced the officers' estimates. For example, the subjects might have appeared to be more impaired than indicated by HGN results as a consequence of prescription or recreational drugs taken in addition to alcohol.

A series of decision analyses was performed to calculate the contributions of the component tests of the battery to officers' estimates of BAC. Figure 5 presents three decision matrices, one for each of the SFSTs. The matrices are similar to the one in Figure 4, but with the criterion numbers of clues at 0.08 percent BAC substituted for officers' estimates. Figure 5 shows the HGN test to be the most accurate independent predictor of whether a motorist's BAC is above or below 0.08 percent.

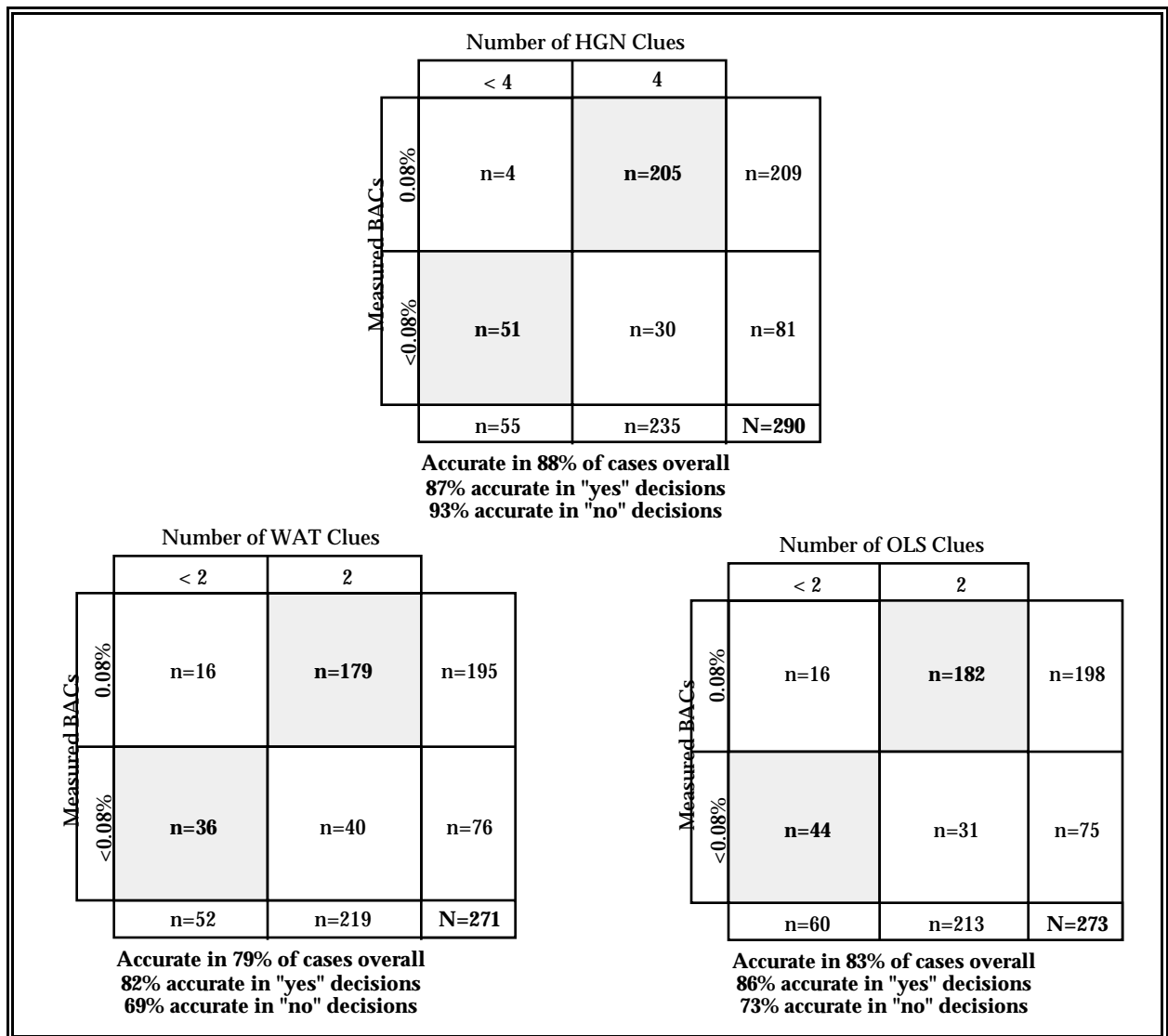


Figure 5. Decision matrices at 0.08 percent BAC for each component test of the SFST battery.

Further analyses were performed to explore methods for combining the results of the three component tests. Only the 261 cases that included test results for all three component tests could be used in this analysis. Of those cases, 73 were found to have BACs below 0.08 percent and 188 cases had measured BACs 0.08 percent. In 162 of the 188 cases (86 percent), all three component SFSTs were unanimous in their predictions.

Figure 6 presents a Venn diagram that illustrates the contributions of the three tests to the 14 percent of cases in which a discrepancy occurred. The figure shows there were 162 cases with BACs 0.08 in which all three SFSTs indicated a BAC 0.08 (the number outside the circles in Figure 6), and 26 cases in which one or more test disagreed (the numbers inside the circles). A single test indicated a BAC below 0.08 in 17 of the cases (8+2+7), and two tests were involved in nine of the cases (1+1+7). There were no cases in which all three tests predicted incorrectly.

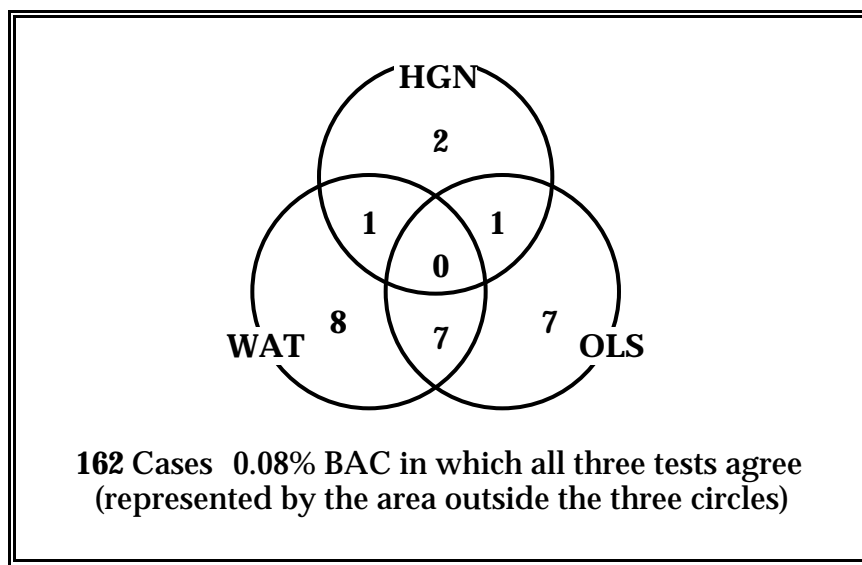


Figure 6. Venn diagram of 188 cases 0.08% BAC; 26 cases in which all three tests do not agree.

The horizontal gaze nystagmus test (HGN in the diagram) was about four times less likely to be the source of a discrepancy than the other two tests. Only two of the single-test discrepancies were attributable to HGN results, compared to eight cases for the Walk and Turn test (WAT), and seven cases for the One Leg Stand (OLS). Overall, the HGN test was involved in only four of the discrepancies, compared to 16 cases for the Walk and Turn and 15 cases for the One Leg Stand.

The question of the SFST battery's accuracy in discriminating BACs above and below 0.04 percent is addressed by the following decision matrix, presented in Figure 7; the shaded cells of the matrix again represent correct decisions based on SFST results. The figure shows that officers estimated motorists' BACs to be equal to or greater than 0.04 but under 0.08 percent in 54 cases, and in 51 of those cases their estimates were found to be correct by subsequent breath, blood, or urine testing;

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these values result in an accuracy rate of 94 percent for these decisions (i.e.,  $51 \div 54 = .94$ ). The figure also shows that officers estimated that 29 motorists had BACs below 0.04, and in 15 of those cases their estimates were found to be correct by subsequent testing, resulting in a 52 percent accuracy rate ( $15 \div 29 = .52$ ). Overall, officers were accurate in 80 percent of the cases when discriminating between subjects who were above 0.04 but below 0.08 percent BAC (i.e.,  $[51 + 15] \div 83 = .80$ ).

		Officers' Estimated BACs		
		<0.04%	0.04 <0.08%	
Measured BACs	0.04 <0.08%	n=14	n=51	n=65
	<0.04%	n=15	n=3	n=18
		n=29	n=54	N=83

**Accurate in 80% of cases overall**  
**94% accurate in "yes" decisions**  
**52% accurate in "no" decisions**

Figure 7. Decision matrix at 0.04 percent BAC.

### EVALUATION OF SFST ACCEPTABILITY

In interviews and during ride-along observations, the officers who participated in the study fully accepted the SFSTs for evaluating motorists for DWI at BACs below 0.10 percent. All of the officers were formally trained in SFST administration and scoring and all had sufficient field experience to develop confidence in their abilities to discriminate at the 0.08 level. Further, it was the officers' experience with the SFST battery that the component tests could be administered to all but a small proportion of drivers and under all reasonable environmental conditions.

Interviews also were conducted with representatives of the San Diego City Attorney's Office to inquire concerning the acceptability of the SFSTs to prosecutors and judges in DWI cases. The attorneys interviewed reported that none of the 298 DWI arrests made by participating officers during the study period was negatively affected by the SFST battery, or by excluding the other tests that traditionally had been used by the department.

The attorneys further explained that as prosecutors they normally prefer as much evidence as possible, and in a DWI case more tests usually generate more evidence they can use. However, it has been their recent experience that a test used by another local law enforcement agency has negatively affected cases they have prosecuted. Defense attorneys have been unsuccessful in their challenges of NHTSA's SFST battery, but they have successfully challenged the validity of the other test because it has not been evaluated in a systematic and scientific manner. Prosecutors who were interviewed suggested that the optimum situation would be for all law enforcement agencies to restrict their field sobriety evaluations to the same standardized battery of three tests.

## IMPLICATIONS

The research documented in this report found that NHTSA's Standardized Field Sobriety Test Battery accurately and reliably assists officers in making DWI arrest decisions at 0.08 percent BAC. The study also found that the SFSTs can be used to assist officers in making arrest decisions at 0.04 percent BAC by using two HGN clues as the criterion rather than four clues, which is the criterion for a 0.08 percent or above BAC determination. The primary implication of the study results is that the SFST battery is a valid method for making roadside DWI decisions at 0.08 and 0.04 percent BAC. Specific implications of the study results are presented in the following paragraphs in response to the research questions listed previously.

### **HOW ACCURATELY DO THE TESTS DISCRIMINATE BETWEEN SUBJECTS WHO ARE ABOVE OR BELOW 0.08 AND 0.04 PERCENT BACs?**

This study found NHTSA's SFST battery to be an accurate method for discriminating motorists' BACs above and below 0.08 percent and above and below 0.04 percent, when the tests are conducted by trained officers, as summarized below.

#### **COMPARISON OF MEANS**

The mean estimated BAC of the 297 motorists included in the study was 0.117 percent, compared to the mean measured BAC of 0.122. The difference of 0.005 percent BAC (i.e., five one-thousandths of a percent BAC) is very small and operationally irrelevant. The accuracy of officers' estimates during this study, in large measure, confirms the anecdotal accounts and observations of officers in the field that suggest remarkable abilities to predict a motorists' BAC on the basis of SFST results.

#### **CORRELATION ANALYSES**

Correlation analyses found the HGN test to be very predictive of measured BACs ( $r=0.65$ ). A higher correlation was obtained when the results of the three component tests were combined ( $r=0.69$ ). All of the correlations are statistically significant, meaningful, and in the rank order expected from previous SFST research.

#### **DECISION ANALYSES**

Decision analyses found that officers' estimates of whether a motorist's BAC was above or below 0.08 or 0.04 percent were extremely accurate. Estimates at or above the 0.08 level were accurate in 91 percent of the cases, or as high as 94 percent if explanations for ten of the false positives are accepted. Estimates at or above the 0.04 level (but below 0.08) were accurate in 94 percent of the relevant cases. It is important to note that officers' decisions not to arrest were more accurate at 0.08 than at 0.04 (94 percent compared to 52 percent).

Although the relatively small number of low BACs in the data base ( $n=83$ ) might constrain confidence in the SFSTs at the 0.04 level, the data strongly suggest

operational utility to accurately discriminate above or below 0.04 percent BAC. Further, these results are consistent with the results of a recent study conducted to evaluate the SFST battery for use by officers in Colorado.

Colorado has a two-tier statute that permits officers to arrest motorists for driving under the influence (DUI) if found to have a BAC  $\geq$  0.10 percent, and for a lesser offense, driving while ability impaired (DWAI), if found to have a BAC  $\geq$  0.05 but below 0.099 percent. Of the 234 drivers tested during the Colorado study for whom BACs were known, 93 percent of the officers' decisions to arrest at the 0.05 percent criterion were correct, and 64 percent of the decisions to release were correct. Overall in the Colorado study, 86 percent of the officers' decisions at the 0.05 level were correct, based on SFST results (Burns and Anderson, 1995; Anderson and Burns, 1997).

### **WHICH OF THE COMPONENTS OF THE SFST BATTERY IS/ARE THE BEST PREDICTOR(S) OF BAC?**

The horizontal gaze nystagmus test was found to be the most predictive of the three component tests, but correlations with measured BACs were higher when the results of all three tests were combined, as reported earlier. The implications of this study result are that all components of the SFST battery should be administered when possible or practical. However, the data indicate that the HGN test alone can provide valid indications to support officers' arrest decisions at both 0.08 and 0.04 percent BAC.

### **HOW RELIABLE, OR CONSISTENT, ARE THE TESTS?**

Reliability is a measurement concept that represents the consistency with which a test measures a type of performance or behavior. In the current context, a reliable field sobriety test provides consistent results when administered to the same individual by two different officers, under nearly identical conditions. This type of "inter-rater" reliability was impossible to measure directly during this study, due to the constraints imposed by field conditions. In particular, it would have been unrealistic to subject motorists to the SFST battery twice, or to require that officers operate in pairs during their patrols.

Evidence of SFST reliability can be found in the results of the previous laboratory studies, in which the constraints on repeated measure were eliminated by the use of paid subjects and officers. Tharp, Burns, and Moskowitz (1981) found relatively high inter-rater reliability for BAC estimates based on SFST results ( $r=.72$ ). The researchers also found that inter-rater reliability increased in subsequent sessions ( $r=.80$ ), indicating the important role of training and experience in achieving accuracy, reliability, and overall proficiency.

In addition, correlation coefficients, in general, are measures of reliability. For this reason, the correlations between estimated and actual BACs obtained during the field study ( $r=.69$ ) indicate a high degree of reliability for tests designed to be administered at roadside.

## **ARE THE TESTS USABLE BY POLICE OFFICERS UNDER A VARIETY OF ROADSIDE CONDITIONS? ARE THEY READILY ACCEPTED BY OFFICERS AND PROSECUTORS?**

All of the officers who participated in this study were members of the San Diego Police Department's alcohol enforcement unit, all had previously received NHTSA-approved training in DWI detection and SFST administration, and all had at least three years of experience in the Traffic Division before joining the special unit. Prior to beginning the field study, the officers demonstrated competence in the administration of the component tests and interpretation of test results. Participation was limited to members of the alcohol-enforcement unit of a single law enforcement agency. These experience and training requirements were imposed, to control variables, to the extent possible, that might affect study results.

As a consequence of the selection criteria, all participating officers were proficient in the use of the SFST battery. The officers reported that they use their SFST skills daily in their work, and their experience has made them confident in the ability of the test battery to discriminate at 0.08 percent BAC, and at lower levels. Further, officers reported that the tests can be administered in all reasonable environmental conditions. In short, the officers who participated in this study consider the SFST battery to be extremely useful, in fact, essential tools for the performance of their professional duties.

The prosecutors interviewed during the study reported that the SFST battery has been acceptable to them and the courts because it was developed and validated in a systematic and scientific manner. They suggested that all law enforcement agencies should limit officers to use of the SFST battery in performance evaluations of DWI because other tests usually lack credibility in court. No problems were experienced in any of the 298 cases resulting from the field study, indicating the SFSTs to be fully acceptable to the courts in establishing probable cause to arrest a motorist for DWI.

### **NOTE ABOUT THE ACCEPTABILITY OF THE HGN TEST**

Many law enforcement officers from across the United States have reported their sincere appreciation to NHTSA for developing the SFST battery, and in particular, the horizontal gaze nystagmus test. However, some officers have expressed frustration about the resistance of some courts to accept HGN results, despite the clear and unequivocal support of scientific research and field experience. It is likely that this remaining resistance to the horizontal gaze nystagmus test is attributable to a misunderstanding concerning the purpose of a field sobriety test, and can be explained by reference to "face validity," a term used in the behavioral sciences to describe one component of a measure's acceptability.

Many individuals, including some judges, believe that the purpose of a field sobriety test is to measure driving impairment. For this reason, they tend to expect tests to possess "face validity," that is, tests that appear to be related to actual driving tasks. Tests of physical and cognitive abilities, such as balance, reaction time, and information processing, have face validity, to varying degrees, based on the

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involvement of these abilities in driving tasks; that is, the tests seem to be relevant “on the face of it.” Horizontal gaze nystagmus lacks face validity because it does not appear to be linked to the requirements of driving a motor vehicle. The reasoning is correct, but it is based on the incorrect assumption that field sobriety tests are designed to measure driving impairment.

Driving a motor vehicle is a very complex activity that involves a wide variety of tasks and operator capabilities. It is unlikely that complex human performance, such as that required to safely drive an automobile, can be measured at roadside. The constraints imposed by roadside testing conditions were recognized by the developers of NHTSA’s SFST battery. As a consequence, they pursued the development of tests that would provide statistically valid and reliable indications of a driver’s BAC, rather than indications of driving impairment. The link between BAC and driving impairment is a separate issue, involving entirely different research methods. Those methods have found driving to be impaired at BACs as low as 0.02 percent, with a sharp increase in impairment at about 0.07 percent (Moskowitz and Robinson, 1988; Stuster, 1997). Thus, SFST results help officers to make accurate DWI arrest decisions even though SFSTs do not *directly* measure driving impairment.

Horizontal gaze nystagmus is the most accurate diagnostic of BAC available to officers in the field. HGN’s apparent lack of face validity to driving tasks is irrelevant because the objective of the test is to discriminate between drivers above and below the statutory BAC limit, not to measure driving impairment. Throughout the United States, DWI laws permit arrest decisions to be made on the basis of the statutory BAC limit, irrespective of a specific motorist’s degree of impairment. Motorists also can be arrested at BACs *below* the statutory limit if their driving performance is demonstrably impaired by alcohol or other drugs.

## CONCLUSIONS

The results of this study provide clear evidence of the validity of the Standardized Field Sobriety Test Battery to discriminate above or below 0.08 percent BAC. Further, study results strongly suggest that the SFSTs also accurately discriminate above or below 0.04 percent BAC.

Finally, in addition to establishing the validity of the SFST battery, this study has found the tests to be acceptable, indeed welcomed, by law enforcement officers and DWI prosecutors.

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**APPENDIX A**  
**STANDARDIZED FIELD SOBRIETY TESTING**

## **STANDARDIZED FIELD SOBRIETY TESTING**

The Standardized Field Sobriety Test (SFST) is a battery of three tests administered and evaluated in a standardized manner to obtain validated indicators of impairment and establish probable cause for arrest. These tests were developed as a result of research sponsored by the National Highway Traffic Safety Administration (NHTSA) and conducted by the Southern California Research Institute. A formal program of training was developed and is available through NHTSA to help police officers become more skillful at detecting DWI suspects, describing the behavior of these suspects, and presenting effective testimony in court. Formal administration and accreditation of the program is provided through the International Association of Chiefs of Police (IACP). The three tests of the SFST are:

- Horizontal gaze nystagmus (HGN),
- Walk-and-turn, and
- One-leg stand.

These tests are administered systematically and are evaluated according to measured responses of the suspect.

### **HGN TESTING**

Horizontal gaze nystagmus is an involuntary jerking of the eye which occurs naturally as the eyes gaze to the side. Under normal circumstances, nystagmus occurs when the eyes are rotated at high peripheral angles. However, when a person is impaired by alcohol, nystagmus is exaggerated and may occur at lesser angles. An alcohol-impaired person will also often have difficulty smoothly tracking a moving object. In the HGN test, the officer observes the eyes of a suspect as the suspect follows a slowly moving object such as a pen or small flashlight, horizontally with his or her eyes. The examiner looks for three indicators of impairment in each eye: if the eye cannot follow a moving object smoothly, if jerking is distinct when the eye is at maximum deviation, and if the angle of onset of jerking is within 45 degrees of center. If, between the two eyes, four or more clues appear, the suspect likely has a BAC of 0.10 or greater. NHTSA research indicates that this test allows proper classification of approximately 77 percent of suspects. HGN may also indicate consumption of seizure medications, phencyclidine, a variety of inhalants, barbiturates, and other depressants.

### **WALK AND TURN**

The walk-and-turn test and one-leg stand test are “divided attention” tests that are easily performed by most unimpaired people. They require a suspect to listen to and follow instructions while performing simple physical movements. Impaired persons have difficulty with tasks requiring their attention to be divided between simple mental and physical exercises.

In the walk-and-turn test, the subject is directed to take nine steps, heel-to-toe, along a straight line. After taking the steps, the suspect must turn on one foot and

return in the same manner in the opposite direction. The examiner looks for eight indicators of impairment: if the suspect cannot keep balance while listening to the instructions, begins before the instructions are finished, stops while walking to regain balance, does not touch heel-to-toe, steps off the line, uses arms to balance, makes an improper turn, or takes an incorrect number of steps. NHTSA research indicates that 68 percent of individuals who exhibit two or more indicators in the performance of the test will have a BAC of 0.10 or greater.

### ONE LEG STAND

In the one-leg stand test, the suspect is instructed to stand with one foot approximately six inches off the ground and count aloud by thousands (One thousand-one, one thousand-two, etc.) until told to put the foot down. The officer times the subject for 30 seconds. The officer looks for four indicators of impairment, including swaying while balancing, using arms to balance, hopping to maintain balance, and putting the foot down. NHTSA research indicates that 65 percent of individuals who exhibit two or more such indicators in the performance of the test will have a BAC of 0.10 or greater.

### COMBINED MEASURES

NHTSA's SFST training materials instruct officers in the use of the following decision table for combining the results of the HGN and Walk and Turn test.

		HGN Clues							
		0	1	2	3	4	5	6	
Walk and Turn Clues	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

Along the top of the table, circle the number of the subject's HGN clues. Along the left side of the table, circle the number of the subject's Walk and Turn clues. Draw a line down from the number of HGN clues and a line across from the number of Walk and Turn clues. If the intersection is within the shaded area, the subject has a BAC 0.10 percent.



# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
STATEMENTS \_\_\_\_\_  
PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
OBSERVATION OF THE EXIT \_\_\_\_\_  
ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
ATTITUDE \_\_\_\_\_  
CLOTHING \_\_\_\_\_  
PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

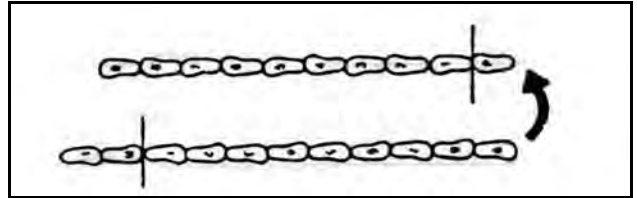
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

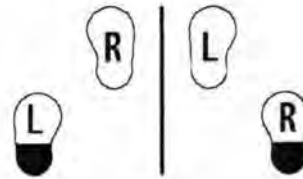
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

40 Minutes

SESSION IX  
TEST BATTERY DEMONSTRATIONS

## SESSION IX

### TEST BATTERY DEMONSTRATIONS

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

- o Demonstrate the appropriate administrative procedures for the Standardized Field Sobriety Testing Battery.

#### CONTENT SEGMENTS

- A. Live Classroom Demonstrations
- B. Video Demonstration

#### LEARNING ACTIVITIES

- o Instructor-Led Demonstration
- o Participant Demonstration
- o Video Presentation



Display IX-O (Session Objectives)

**Aids**

**Lesson Plan**

**Instructor Notes**



40 Minutes



30 Minutes



10 Minutes



**IX TEST BATTERY DEMONSTRATIONS**

**A. Live Classroom Demonstrations**

- 1. Instructor-led demonstrations.
  - a. Horizontal and Vertical Gaze Nystagmus.
  - b. Walk-and-Turn.
  - c. One-Leg Stand.

- 2. Participant-led demonstration.
  - a. Horizontal and Vertical Gaze Nystagmus.
  - b. Walk-and-Turn.
  - c. One-Leg Stand.

**B. Video Demonstration (optional)**

Note: This is the same video segment as shown in Session VII, Phase III, Pre-Arrest Screening.

- 1. Video Segment #8

Choose a participant-subject.

Administer the three tests to the participant-subject, in sequence.

Carefully articulate all verbal instructions and physical demonstrations.

Discuss participant-subject's test performances.

Choose a second participant-subject, and repeat the sequence of test administrations.

Choose a participant to serve as the test demonstrator.

Choose another participant to serve as the test subject.

Monitor and critique demonstrator's administration of the three tests.

Show the NHTSA video entitled "Standardized Field Sobriety Testing." (Last segment on tape one.)

If this video was not shown in Session VII -- show here.

**Aids**

**Lesson Plan**

**Instructor Notes**

Solicit and answer participants' questions concerning SFST administrative procedures.

Fifty Minutes

SESSION X  
"DRY RUN" PRACTICE SESSION

## SESSION X

### "DRY RUN" PRACTICE SESSION

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

- o Demonstrate the proper administration of the three Standardized Field Sobriety Tests.

#### CONTENT SEGMENTS

- A. Procedures and Group Assignments
- B. Live Administration of SFST Battery
- C. Hands-on Practice

#### LEARNING ACTIVITIES

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



Display X-O (Session Objectives)



50 Minutes



5 Minutes

## X "DRY RUN" PRACTICE SESSION



### A. Procedures and Group Assignments

1. Assign participant to work in teams of three or four.
2. Each student will conduct a complete series of tests, using a fellow team member as a subject.
  - a. Horizontal and Vertical Gaze Nystagmus.
  - b. Walk-and-Turn.
  - c. One-Leg Stand.
3. Team members who are not immediately participating in a series of tests (either as test administrator or as test subject) are expected to take notes on test administrator's performance, and to offer constructive criticism.
4. Once one team member has administered a complete series of tests, other members of the team follow in turn.
5. Practice is to continue until every student has administered a complete series of the three tests at least once.

Make team assignments.

Make sure that all participants understand the practice procedures.

Participants should use the checklist to record each other's performance.

Aids	Lesson Plan	Instructor Notes
 <b>15 Minutes</b>	<b>B. Live Administration of SFST Battery</b>	<p>Instructor to conduct the three standardized field sobriety tests on an instructor.</p> <p>Participants to observe technique and scoring <u>only</u>.</p>
 <b>30 Minutes</b>	<b>C. Hands-on Practice</b>	<p>Participants carry out "dry run" practice procedures.</p> <p>Instructors circulate among teams to observe and coach Participants' performance, as necessary.</p>

Two Hours

SESSION XI

"TESTING SUBJECTS" PRACTICE: FIRST SESSION

## SESSION XI

### "TESTING SUBJECTS" PRACTICE: FIRST SESSION

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

- o Properly administer the SFST's.
- o Properly observe and record subject's performance utilizing the standard note taking guide.
- o Properly interpret the subject's performance.
- o Proper use and maintenance of the SFST Field Arrest Log.

#### CONTENT SEGMENTS



- A. Procedures
- B. Hands-on Practice
- C. Use and Maintenance of SFST Field Arrest Log
- D. Session Wrap-Up

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Participant Practice Session
- o Instructor-Led Presentation
- o Instructor-Led Discussion



Display XI-O (Session Objectives)

Aids	Lesson Plan	Instructor Notes
 <p data-bbox="181 443 310 474"><b>2 Hours</b></p>  <p data-bbox="181 583 339 615"><b>5 Minutes</b></p>	<p data-bbox="423 302 860 405"><b>XI "TESTING SUBJECTS" PRACTICE: FIRST SESSION</b></p> <p data-bbox="423 512 690 543"><b>A. Procedures</b></p> <ol data-bbox="461 653 943 1875" style="list-style-type: none"> <li>1. Participants work in the same teams that were constituted for the Dry Run Practice Session.</li> <li>2. Each team will test at least as many drinking volunteers as the team has members.</li> <li>3. Each team member will administer one complete series of tests to at least one drinking volunteer.</li> <li>4. If time permits, teams will test additional volunteers.</li> <li>5. While one student is administering tests to a volunteer, the other team members will observe and record the volunteer's performance.</li> <li>6. As soon as the team has completed the SFSTs on a particular volunteer, the volunteer must be escorted by a monitor to the next scheduled team.</li> <li>7. Upon termination of this practice segment, monitors will escort the volunteer subjects to the Breath Testing Station.</li> </ol>	<p data-bbox="997 302 1425 443">NOTE: See Section E, "Guidelines for Controlled Drinking Practice Sessions", pages 12-14 of the Administrator's Guide.</p> <p data-bbox="997 653 1425 758">Make sure that all participants understand the practice procedures.</p> <p data-bbox="997 793 1430 934"><u>Example:</u> If a team has four members, that team will administer a complete set of tests to at least four volunteers.</p> <p data-bbox="997 968 1425 1178">Emphasize that each team member is to prepare a descriptive, written test record on each volunteer tested (using the standard note-taking guide).</p> <p data-bbox="997 1213 1425 1455">Example: Three members in a team evaluating one subject will result in three individual written records. EACH team member must determine if the subject should or should not be arrested.</p> <p data-bbox="997 1560 1430 1665">Define the sequence in which volunteers will circulate among teams.</p> <p data-bbox="997 1738 1425 1875">Emphasize that teams will not be informed of the volunteers' BACs until the session "Wrap-Up".</p>



90 Minutes

**B. Hands-on Practice**

Participants carry out the "drinking subjects" practice procedures.

Instructors circulate among teams to observe and coach participants' performance, as necessary.

Upon completion of practice, teams escort volunteers to the Breath Testing Station.

Teams return to classroom to complete report writing assignment. An instructor records the BACs of the volunteer.



5 Minutes

**C. Use and Maintenance of SFST Field Arrest Log (IACP strongly recommends the use of this log)**

1. If options using video subjects are used, maintaining the SFST Field Arrest Log is mandatory and extremely important.
2. The SFST Field Arrest Log is used to record the results of the SFSTs performed on suspected impaired subjects.
3. This log is extremely important in documenting an officer's experience and proficiency in performing and interpreting SFSTs.
4. This log has the following components:
  - a. The actual date the SFSTs were administered.



(Sessions XI-A or XIV-A)

Point out log should be used to record the results of ALL SFSTs administered.

Emphasize: The logs may be used as evidence in court.



Display  
XI-1

Aids	Lesson Plan	Instructor Notes
 <p data-bbox="181 934 357 966"><b>20 Minutes</b></p> 	<ul style="list-style-type: none"> <li>b. Subject's full name.</li> <li>c. Results of each SFST test.</li> <li>d. Classification of BAC as above or below 0.10 BAC.</li> <li>e. Arrest/Not Arrest.</li> <li>f. Subject's measured BAC (if available).</li> <li>g. Remarks.</li> </ul> <p>5. Utilization of log.</p> <p><b>D. Session Wrap-Up</b></p> <ul style="list-style-type: none"> <li>1. Teams report their observations of volunteers.</li> <li>2. Instructors notify participants of volunteers' BACs.</li> </ul>	<p>Direct participants to transfer their documentation from the note taking guide to the log.</p> <p>NOTE: Classification should reflect your state standard (i.e., 0.08, 0.10).</p> <p><u>Solicit</u> SFST results on each volunteer. Record results on dry-erase board (See sample chalk-board array on next page).</p> <p>Instructor notifies participants of volunteers' BACs, as obtained during the breath tests.</p> <p>Write BACs next to volunteers' names or code letters on the dry-erase board.</p> <p>Solicit participants' comments, questions or observations concerning the relationship between volunteers' BACs and their performances on the tests.</p>

SAMPLE DRY-ERASE BOARD ARRAY FOR  
TABULATING RESULTS

<u>"Designated Suspects"</u>	<u>Horizontal Gaze Nystagmus</u>	<u>Walk And Turn</u>	<u>One-Leg Stand</u>	<u>Arrest ?</u>
"A"	_____	_____	_____	_____
"B"	_____	_____	_____	_____
"C"	_____	_____	_____	_____
"D"	_____	_____	_____	_____
"E"	_____	_____	_____	_____
"F"	_____	_____	_____	_____
"G"	_____	_____	_____	_____
"H"	_____	_____	_____	_____
"I"	_____	_____	_____	_____
"J"	_____	_____	_____	_____

# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
STATEMENTS \_\_\_\_\_  
PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
OBSERVATION OF THE EXIT \_\_\_\_\_  
ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
ATTITUDE \_\_\_\_\_  
CLOTHING \_\_\_\_\_  
PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

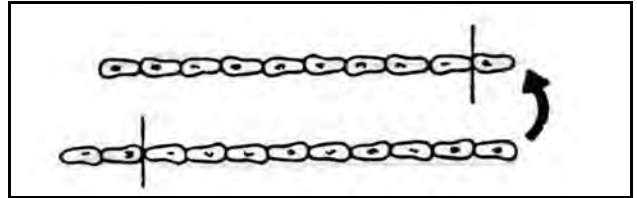
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

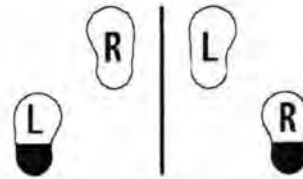
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_





Two Hours

SESSION XI-A

"TESTING SUBJECTS" PRACTICE: FIRST SESSION

(USED FOR OPTIONS ONE OR TWO)

## SESSION XI-A

### "TESTING SUBJECTS" PRACTICE: FIRST SESSION

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

- o Properly administer the SFST's.
- o Properly observe and record subject's performance utilizing the standard note taking guide.
- o Properly interpret the subject's performance.
- o Proper use and maintenance of SFST field arrest log.

#### CONTENT SEGMENTS

- A. Procedures
- B. Practical Exercise
- C. Use and Maintenance of SFST Field Arrest Log
- D. Session Wrap-Up

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Participant Practice Session
- o Instructor-Led Presentation
- o Instructor-Led Discussion



Display XI-A-O (Session Objectives)

**Aids**

**Lesson Plan**

**Instructor Notes**



**2 Hours**



**5 Minutes**

**XI-A "TESTING SUBJECTS"  
PRACTICE: FIRST  
SESSION**

**A. Procedures**

1. Participants work in the same teams that were constituted for the Dry Run Practice Session.
2. Distribute video score sheets, have participants fill in their name and team number.
  - a. Advise participants that each subject will be viewed performing all three tests. Pauses are provided between each test to allow participants time to record observed clues.
  - b. Advise participants that when viewing the administration of HGN (in the check for angle of onset) they will be provided two views. The first will show the stimulus in relation to the subject's shoulder at onset. The second view will be a close-up of the eye captured in that position.

Make sure that all participants understand the practice procedures.

NOTE: Have sufficient copies of handout XI-A1 available. (Minimum of six copies per student.)

NOTE: Point out that participants will have only one chance to view each subject. Review can be conducted after the "wrap-up".

Participants shall record the number of clues observed, in the boxes located opposite each test.

**Aids**

**Lesson Plan**

**Instructor Notes**



**90 Minutes**

- c. Advise participants that two views of the subject performing the walk and turn are also provided. The first is an overall view of both stages. The second is a close up of the subject's feet while walking.

**B. Practical Exercise**

1. Divide class into two groups.
  
2. It is recommended that half the class perform the SFSTs under the direction of instructor while the remainder of the class views, records and interprets the NHTSA/IACP approved videos for this session. Once completed, the groups switch roles.
  
3. If time permits, participants will administer additional tests to each other.

**C. Use and Maintenance of SFST Field Arrest Log**



**5 Minutes**

Each team member will administer a complete SFST battery on another student under the direct supervision of an instructor.

EACH team member viewing the videos must determine if the subject should or should not be arrested.

Emphasize that each officer is to prepare a descriptive, written test record on each videoed subject, using the standard note taking guide.

Emphasize that teams will not be informed of the volunteers' BACs until the session "Wrap-Up".

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
XI-A-1**

1. If options using video-taped subjects are used, maintaining the SFST Field Arrest Log is mandatory and extremely important.
2. The SFST Field Arrest Log is used to record the results of the SFSTs performed on suspected impaired subjects.
3. This log is extremely important in documenting an officer's experience and proficiency in performing and interpreting SFSTs.
4. This log has the following components:
  - a. The actual date the SFSTs were administered.
  - b. Subject's full name.
  - c. Results of each SFST test.
  - d. Classification of BAC.
  - e. Arrest/Not Arrest.
  - f. Subject's measured BAC (if available).
  - g. Remarks.
5. Utilization of log.
  - a. The documentation will include subject's name, date, results of each test, the officer's classification of subject's BAC and measured BAC, if available. A sample log is included in Session VIII.

Point out log will be used to record the results of ALL SFSTs administered.

Emphasize: The logs may be used as evidence in court.

Direct participants to transfer their documentation from the note taking guide to the log.

Point out each category as it is addressed.

Above or below your state's limit (i.e., 0.10 BAC or 0.08 BAC).

NOTE: Student may enter refusals, referrals to DRE or other appropriate information.

**Aids**

**Lesson Plan**

**Instructor Notes**



**20 Minutes**

**D. Session Wrap-Up**

1. Officers report their observations of video-taped subjects.
2. Instructors notify participants of video-taped subjects' BACs.

Solicit officer's SFST results on each video-taped subject. Record results on dry-erase board (See sample dry-erase board array on next page).

Instructor notifies participants of video-taped subjects' BACs.

Write BACs next to video-taped subjects' names or code letters on the dry-erase board.

Solicit participants' comments, questions or observations concerning the relationship between video-taped subjects' BACs and their performances on the tests.

SAMPLE DRY-ERASE BOARD ARRAY FOR  
TABULATING RESULTS

<u>"Designated Suspects"</u>	<u>Horizontal Gaze Nystagmus</u>	<u>Walk And Turn</u>	<u>One-Leg Stand</u>	<u>Arrest ?</u>
"A"	_____	_____	_____	_____
"B"	_____	_____	_____	_____
"C"	_____	_____	_____	_____
"D"	_____	_____	_____	_____
"E"	_____	_____	_____	_____
"F"	_____	_____	_____	_____
"G"	_____	_____	_____	_____
"H"	_____	_____	_____	_____
"I"	_____	_____	_____	_____
"J"	_____	_____	_____	_____

Standardized Field Sobriety Testing  
Option Video  
Subject Results

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Bob</u></b>		BAC: <b><u>.155</u></b>
HGN Clues	<b>6</b>	Lack of smooth pursuit present in each eye, Distinct and sustained nystagmus and maximum deviation present in each eye, Onset of nystagmus present in each eye, vertical nystagmus present in each eye.
W & T	<b>2</b>	Missed heel to toe, uses arms for balance.
OLS	<b>0</b>	None
Teaching points/Comments: Left leg is slightly bent, which will improve the subject ability to perform the test without demonstrating clues.		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Brandon</u></b>		BAC: <b><u>.073</u></b>
HGN Clues	<b>4</b>	Lack of smooth pursuit in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye.
W & T	<b>3</b>	Loses balance during instructional stage, Used arms to balance, Stopped walking.
OLS	<b>0</b>	None
Teaching points/Comments: None		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Jason</u></b>		BAC: <b><u>.000</u></b>
HGN Clues	<b>0</b>	None
W & T	<b>0</b>	None
OLS	<b>0</b>	None
Teaching points/Comments: None/Placebo		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Carl</u></b>		<b>BAC: <u>.134</u></b>
HGN Clues	<b>5</b>	Lack of smooth pursuit in each eye, Distinct and sustained nystagmus at maximum deviation in each eye, Onset of nystagmus in left eye only.
W & T	<b>4</b>	Lost balance during instructional stage, Uses arms for balance, Stepped off line, Misses heel to toe.
OLS	<b>1</b>	Swaying
Teaching points/Comments: Subject looked beyond stimulus at maximum deviation , not allowing clue to be observed in that eye.		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Suzanne</u></b>		<b>BAC: <u>.074</u></b>
HGN Clues	<b>4</b>	Lack of smooth pursuit in each eye, Distinct and sustained nystagmus at maximum deviation in each eye.
W & T	<b>0</b>	None
OLS	<b>1</b>	Hopping
Teaching points/Comments: Give opportunity to remove shoes, especially those with high heels		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Christina</u></b>		<b>BAC: <u>.093</u></b>
HGN Clues	<b>5</b>	Lack of smooth pursuit in each eye, Distinct and sustained nystagmus at maximum deviation in each eye, Onset of nystagmus in right eye. Vertical nystagmus present.
W & T	<b>3</b>	Stepped off line, Uses arms for balance, Stopped while walking.
OLS	<b>1</b>	Swaying
Teaching points/Comments: None		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Keith</u></b>		BAC: <b><u>.140</u></b>
HGN Clues	<b>6</b>	Lack of smooth pursuit in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye, Onset of nystagmus present in each eye.
W & T	<b>4</b>	Lost balance during instructional stage, Uses arms for balance, Steps offline, Misses heel to toe.
OLS	<b>3</b>	Sways, Puts foot down, Uses arms for balance, Stopped test
Teaching points/Comments: Consider stopping the psychophysical tests for the safety of the subject.		

<b>CD/Video Day 1</b>		
Subjects Name: <b><u>Josh</u></b>		BAC: <b><u>.132</u></b>
HGN Clues	<b>6</b>	Lack of smooth pursuit present in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye, onset of nystagmus present in each eye.
W & T	<b>2</b>	Stepped off line, Misses heel to toe.
OLS	<b>0</b>	None
Teaching points/Comments: None		

**VIDEO SCORE SHEET - SESSION XI-A**

SUSPECT'S NAME: \_\_\_\_\_ OFFICER'S NAME: \_\_\_\_\_

Pupil Size: Equal                  Unequal	Tracking: Equal          Unequal		Unequal Pupil Size: Explain:
Resting Nystagmus Yes                  No	Eyelids: Normal          Droopy		
Lack Of Smooth Pursuit	Left Eye	Right Eye	Vertical Nystagmus Yes          No
Distinct Nystagmus At Maximum Deviation			Eyes: Normal Bloodshot Watery
Onset Of Nystagmus Prior To 45 Degrees			

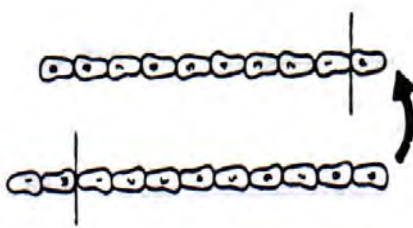
**HGN CLUES**

Observed	Actual

**WALK AND TURN TEST**

Cannot keep balance \_\_\_\_\_  
Starts too soon \_\_\_\_\_

**WALK AND TURN**



- Stops Walking
- Misses Heel-to-Toe
- Steps Off Line
- Raises Arms
- Actual Steps Taken

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

Observed	Actual

Improper Turn (Describe)	Cannot Do Test (explain)
--------------------------	--------------------------

<b>Team Information</b>
Team No: _____
Arrest Decision: Yes: _____ No: _____
BAC: Above 0.10: _____ Below 0.10: _____ Above 0.08: _____ Below 0.08: _____

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

**ONE LEG STAND**

Observed	Actual



One Hour and Thirty Minutes

SESSION XII  
PROCESSING THE ARRESTED SUSPECT  
AND  
PREPARATION FOR TRIAL

## SESSION XII

### PROCESSING THE ARRESTED SUSPECT AND PREPARATION FOR TRIAL

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

- o Discuss the importance of correct processing and report writing procedures in DWI arrests.
- o Discuss the correct sequence of DWI suspect processing procedures.
- o Discuss the essential elements of the DWI arrest report.
- o Discuss the importance of pretrial conferences and presentation of evidence in the DWI trial.

#### CONTENT SEGMENTS

- A. The Processing Phase
- B. Preparing the DWI Arrest Report:  
Documenting The Evidence
- C. Narrative DWI Arrest Report
- D. Case Preparation and Pretrial Conference
- E. Guidelines for Direct Testimony

#### LEARNING ACTIVITIES

- o Instructor-Led Presentations
- o Video Presentation
- o Interactive Discussion
- o Video Presentation
- o Video Presentation



Display XII-O (Session Objectives)



90 Minutes



5 Minutes



Display  
XII-1

**XII PROCESSING THE ARRESTED SUSPECT AND PREPARATION FOR TRIAL**

**A. The Processing Phase**

1. Relationship to overall DWI enforcement function.
  - a. Processing of arrested suspect is the bridge between arrest and conviction of a DWI offender.
  - b. During processing phase, all evidence gathered during the detection phases is organized to ensure that it will be available and admissible in court.
  - c. Additional evidence may be obtained during the processing phase, subsequent to arrest.
  - d. It is important that proper procedures be followed during this phase; otherwise, important evidence might be ruled inadmissible, and therefore worthless.
2. The processing phase begins with the arrest of the offender.
3. Processing ends when the offender is incarcerated or released to a responsible third party (depending on jurisdiction).

Remind participants to become thoroughly familiar with their agency's guidelines for processing individuals.

**?** Ask a student to give an example of such post-arrest evidence. (e.g. evidential chemical test).

**?** Ask a student to suggest how a procedural error during the processing phase might cause some evidence to be ruled inadmissible.



15 Minutes

**B. Preparing the DWI Offense/  
Arrest Report: Documenting  
the Evidence**

1. Successful prosecution depends on clarity and completeness with which the arresting officer's and the evaluator's observations are presented.
  - a. Arresting officer must be able to convey observations with sufficient clarity to convince others there was probable cause to believe the suspect was under the influence.
  - b. Chemical test evidence and additional evidence gathered subsequent to the arrest may be suppressed if the arresting officer does not adequately establish probable cause for the arrest prior to the chemical test.
  - c. DWI trials are often held many months after the defendant's arrest.
  - d. A clear, concise report will enable the officer to recall those details and present them through direct testimony.
2. Evidence must be clearly conveyed in the formal structured reports (forms) and in a narrative offense/arrest report.

Point out that officer's efforts in detecting, apprehending, investigation, arresting and testing DWI offenders are of little value if officer cannot document sufficient evidence to prove each element of the DWI offense.



**Display**  
XII-2

3. A well-written, clear and convincing narrative report increases the likelihood that conviction will result because:
  - o Prosecutor is more likely to file the charge if the evidence is organized, clearly documented and compelling.
  - o Defense is less likely to contest the charge when the report is descriptive, detailed and complete.
  - o Helps to ensure convincing verbal testimony in court.
4. The written report should document all evidence available to establish the essential ingredients of the prosecution's case.
  - a. That there was probable cause for arrest.
    - (1) the accused was the operator or in actual physical control of the vehicle;
    - (2) there was reasonable suspicion for stopping/ contacting the accused; and,
    - (3) there was probable cause to believe the accused was impaired.
  - b. That proper arrest procedures were followed.
  - c. That proper procedure was followed with regards to the rights of the accused.

NOTE: Instructor should be familiar with all applicable state laws defining these terms.

**Aids**

**Lesson Plan**

**Instructor Notes**



**20 Minutes**

d. That subsequent observation and interview of the accused provided additional evidence relevant to the alleged offense.

e. That there was a proper request for the accused to submit to the chemical test.

5. The narrative offense/arrest report should be organized around the total sequence of events, beginning at the first observation of the offender, continuing through the arrest, and ending with the incarceration or release of the subject.

6. The DWI Investigation Field Notes describing the evidence observed during the three phases of detection greatly assist preparation of the narrative offense/arrest report.

7. Video segment of nighttime DWI arrest.

**C. Narrative DWI Arrest Report**

1. Report writing is an essential skill for every officer.

2. While there is no one best way to write a report, it is helpful to follow a uniform format.

Handout copies of DWI Investigation Field Note form. Show video #2 segment #1. Allow participants 4-5 minutes to complete notes.

Point out that good report writing becomes second nature with practice.

Point out that officers should be guided by departmental policies and/or instructions or requirements specified by the prosecutor.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
XII-3A and  
3B

- 3. Observation/results recorded on the field notes can be used to refresh the officer's memory when preparing the narrative report.
  
- 4. Suggested report writing format.
  - a. Initial Observations
    - o First observations of the offender and their actions;
    - o Factors that drew officer's attention;
    - o Time and location of first observations.
  
  - b. Vehicle Stop
    - o Unusual actions taken;
    - o Offender's response to the stop command;
    - o Method(s) officer used to signal the stop command;
    - o The fashion in which the offender stopped the vehicle.
  
  - c. Face-to-Face Contact
    - o Offender's personal appearance;
    - o Condition of eyes, speech, etc.;

Selectively reveal the essential elements of narrative report via slides XII-3a and XII-3b.

Point out that not every report will require all elements: some may be missing or irrelevant to some DWI investigations.

Briefly discuss each element.

**Aids****Lesson Plan****Instructor Notes**

- o Names, numbers, seating locations of passengers;
- o Unusual actions taken;
- o Unusual statements made;
- o What officer saw, heard and smelled.
- d. Operation/Actual Physical Control.
  - o Establish offender as the operator.
- e. Exit from Vehicle
  - o Unusual actions, occurrences.
- f. Field Sobriety Tests
  - o Physical performance;
  - o Mental performance.
- g. The Arrest
- h. Disposition/Location of Vehicle and Keys
- i. Disposition of Passengers and Property.
- j. Transport of Offender
  - o Departure time;
  - o Arrival time.
- k. Evidential Tests
  - o What tests;
  - o Who administered;
  - o Test results.

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>l. Implied Consent/Miranda Admonitions               <ul style="list-style-type: none"> <li>o When given.</li> </ul> </li> <li>m. Statements of Witnesses</li> <li>n. Notification of Offender's Attorney or Other Party               <ul style="list-style-type: none"> <li>o Time of call(s);</li> <li>o Result of call(s).</li> </ul> </li> <li>o. Citations/Complaints               <ul style="list-style-type: none"> <li>o Charges issued;</li> <li>o When issued.</li> </ul> </li> <li>p. Incarceration or Release               <ul style="list-style-type: none"> <li>o Time;</li> <li>o If released, to whom.</li> </ul> </li> <li>q. Additional Chemical Tests               <ul style="list-style-type: none"> <li>o Types of test;</li> <li>o Time taken;</li> <li>o Where taken;</li> <li>o By whom administered.</li> </ul> </li> <li>5. Video presentation "Conducting The SFSTs on a DUI Stop"               <ul style="list-style-type: none"> <li>a. Discussion</li> </ul> </li> </ul>	<p>Solicit participants' questions concerning the narrative DWI arrest report elements.</p> <p>Refer participants to sample report in their manual.</p> <p>Show segments 1 and 2 of tape two. Distribute copies of sample narrative arrest report.</p> <p>Emphasize the Phase One, Two, and Three indicators of impairment.</p> <p>Solicit participants questions and comments concerning the video and sample narrative report.</p>



25 Minutes

**D. Case Preparation and Pretrial Conference**

1. Guidelines for case preparation.
  - a. Case preparation continues with your first contact with the subject:
    - o Use field notes to document evidence.
    - o Accurately note statements and other observations.
    - o Review the case with other officers who witnessed the arrest or otherwise assisted you and note relevant facts.
  - b. Upon receipt of subpoena or other notification of trial date:
    - (1) Review all records and reports.
      - o Field notes
      - o Narrative report
      - o Chemical test results
      - o Other
    - (2) Revisit the scene if appropriate.

Point out that it is essential that reports are corroborative or when differences occur, that they be adequately explained. The defense will try to impeach your testimony over any inconsistencies.



Ask participants to identify relevant records/ reports to be reviewed. Probe until appropriate items are identified.

Aids	Lesson Plan	Instructor Notes
	<p>(3) During discovery, list all evidence and properly document it.</p> <p>(4) Compare notes with assisting officers.</p> <p>2. The pretrial conference.</p> <p>a. Successful DWI prosecution also depends on clarity and completeness with which an officer's observations are presented.</p> <p>(1) Officer must be able to convey observations with sufficient clarity to convince others that there was probable cause to believe the suspect was under the influence.</p> <p>(2) Chemical test evidence may be suppressed if the officer does not adequately establish that there were reasonable grounds for the arrest prior to the test.</p> <p>b. A pretrial conference with the prosecutor assigned to the case is essential. Try to insist on a pre-trial conference if at all possible.</p> <p>(1) The prosecutor needs an opportunity not only to review the evidence but to discuss case strategy.</p>	<p>Point out that evidence will not be admitted if these procedures are not followed.</p> <p>Exactness and attention to detail are very important.</p> <p>Emphasize that the defendant in a DWI case could be acquitted if the officers testimony was not sufficient to establish probable cause or prove beyond a reasonable doubt that the defendant was impaired.</p> <p>Point out to participants that the prosecutor will be able to develop an officer's testimony to bring out the most important facts necessary to convict the defendant.</p>

Aids	Lesson Plan	Instructor Notes
	<p>(2) <b>BE HONEST AND FORTHRIGHT.</b></p> <p>(3) Review all evidence and reasons for your conclusions.</p> <p>(4) If there are weak/strong points in your case, bring them to the attention of the prosecutor.</p> <p>c. Ask the prosecutor to review the trial tactics/ evidence to be presented:</p> <ul style="list-style-type: none"> <li>o The officer's training and experience.</li> <li>o The narrative arrest report.</li> <li>o The officer's ability to articulate observations.</li> <li>o Documents to be presented at the trial.</li> <li>o Questions the prosecutor will ask the officer.</li> <li>o Anticipated defense tactics.</li> <li>o Responses to defense arguments and questions.</li> <li>o The defendant's driving record.</li> </ul> <p>d. The main point is to familiarize the prosecutor with the case and your qualifications as a witness,</p>	<p><b>Point out that there should be "no surprises" during the trial.</b></p> <p>Ask the participants to give examples of items to be discussed at a pretrial conference.</p> <p>Again, "no surprises."</p>

**Aids**

**Lesson Plan**

**Instructor Notes**



**25 Minutes**

and to review case strategy.

- e. If you cannot have a pretrial conference, try to identify the main points to be discussed with the prosecutor in the few minutes you will have just before the trial.

3. Pretrial conference

- a. Video
- b. Discussion

**E. Guidelines for Direct Testimony**

- 1. General guidelines.
  - a. Basic job is to prove that suspect was impaired by alcohol and/or other drugs.
  - b. Don't be afraid to say "I don't know."
  - c. Avoid contact with the defense attorney if possible.
  - d. Don't be upset if prosecutor and defense attorney appear friendly to each other.

Point out that due to a variety of reasons, prosecutors are not able to have pre-trial conferences. That does not mean they are unconcerned. Try to see it from their viewpoint.

If time allows, show video #2 segment #2 . (10 minutes)

Emphasize the importance of the discussion of a DWI case between the arresting officer and the prosecuting attorney prior to going to trial.

Solicit participants' questions concerning the pretrial conference.

Keep this in mind at all times.

Remind participants that both sides have a specific role to play in the case, but that does not preclude a personal or professional relationship.

Aids	Lesson Plan	Instructor Notes
	<p>e. Jury focuses on an officer's demeanor more than content of testimony.</p> <p>f. Do <u>not</u> bring manuals or articles into court for reference.</p> <p>g. Explain technical terms in layman's language.</p> <p>h. Pay attention to what evidence/testimony can be and is excluded.</p> <p>i. When describing suspect's performance on SFST's, state that suspect "performed the test as demonstrated" or "did not perform the test as demonstrated." Provide specific descriptive details concerning exactly what the suspect did or failed to do on the test (e.g., "stepped off the line twice and staggered while turning.")</p> <p>j. <u>Do not</u> appear biased against defendant. Testify accurately and completely, but also dispassionately.</p>	<p>Point out that officer should be polite and courteous during testimony...do not become agitated as a result of defense questions. Do not take personal issue with defense statements, stick to the facts.</p> <p>Review training manuals and other materials before court to become familiar with contents.</p> <p>For example, nystagmus means an involuntary jerking of the eyes. Horizontal Gaze Nystagmus occurs as the eyes gaze toward the side.</p> <p>Point out that if officer testifies on subject matter that was excluded, it could result in a mistrial.</p> <p>Be sure to emphasize that <u>all</u> evidence is taken into account before forming an opinion.</p> <p>Point out that officers should <u>not</u> embellish their testimony...be careful not to open any doors for the defense.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**



2. Video segment three, tape two  
(The Courtroom Testimony)

3. Typical defense tactics.

a. The defense relies on several factors to "impeach" or discredit your testimony.

(1) By impeaching your credibility:

- o Inconsistencies
- o Comparison with past testimony
- o Testimony that is at odds with other established experts
- o Lack of recall

Point out that the defense attorney's job is to try to create a "reasonable doubt." Don't take it personally.

**During this video segment, the prosecutor asks three important questions of the officer. Each question is followed by a stop sign icon.**

**Instructors are asked to solicit responses from the participants on how they would answer that question. Discussion can follow.**

Arresting officer's and assisting officer's testimony should be corroborative. Any differences must be explained.

Get your facts straight and stick to them.

Try to get copies of transcripts of previous trials to review your strong/weak points. If possible, review your testimony with the prosecutor.

Do your homework...review the literature. Explain any differences if possible.

**Try to be prepared, but don't be afraid to say "I don't know." Be honest.**

**Aids**

**Lesson Plan**

**Instructor Notes**



- b. By exposing the court to alternative conditions which account for your observations:
  - o Sickness,
  - o Injury,
  - o Other.
  
- c. Defense will challenge your credentials... a bona fide expert has both formal training resulting in a high degree of knowledge and experience in applying that knowledge, by:
  - o Directly challenging formal training and experience.
  - o Demonstrating the officer lacks knowledge in the field by contrasting officer's knowledge with the defense expert's knowledge.
  
- d. By demonstrating that the officer did not follow testing procedures established by departmental policy, training or legal precedent.
  
- 4. Video segment four, tape two (DWI Courtroom Testimony)
  - a. Video
  - b. Discussion

Point out that if the defense can discredit your training and/or experience your testimony will have little "weight" with the jury.

The trial tactic is to show that the officer does not have the expertise to accurately identify impairment because of inadequate formal training which lessens the value of field experiences and increases likelihood that the officer's conclusions are wrong.

Point out that field sobriety tests should be administered "by the book" each and every time they are conducted.

If time allows, show the video segment of actual courtroom testimony in "DWI Courtroom Testimony" (15 minutes).

Summarize the relationship between detection phases, field notes, narrative report, pre-trial conference and direct testimony.

**Aids**

**Lesson Plan**

**Instructor Notes**

Aids	Lesson Plan	Instructor Notes
		<p>Emphasize the need for clear and convincing testimony.</p> <p>Solicit participants questions and comments concerning direct testimony.</p>



*TRIAL TIPS & TECHNIQUES*

**Courtroom Decorum**

1. **TELL THE TRUTH.** Honestly is the best policy. Telling the truth requires that a witness testify accurately as to what he knows. If you tell the truth and are accurate, you have nothing to fear on cross- examination.
2. Condense your professional resume on to a 3x5 card, which you bring to court with you each time you receive a subpoena. On it, include your P.O.S.T. certification date, classes taken as a law enforcement officer, and other special awards or permits you have.
3. **READ YOUR INCIDENT REPORT** before you come to court. Go over the details in your mind so that you will have an independent recollection of the events of the arrest. **DO NOT** come to court and ask the prosecutor for a copy of your report. Do ask, prior to court, if you cannot locate a copy of your request.
4. Dress neatly and professionally; leave sunglasses, PR-24, flashlight and other cumbersome equipment in your car before coming into the courtroom, unless needed for a demonstration. Wear a coat and tie if you prefer.
5. Do not guess the answer to any question asked. It is **OKAY** to say “I don’t know” or “I can’t remember” in response to questions. Do not give the impression that you are guessing the answer by prefacing your response with “I think” or “I believe.” If you do not know the answer, it is okay to look at your report and refresh your memory. Always give definitive, positive, sure answers.
6. Listen carefully to the question asked. Do not begin your answer until the prosecutor has finished asking the question. Be sure you understand the question before you attempt to give an answer. If necessary, ask that the question be repeated or rephrased if you do not understand it.
7. Take your time. Do not feel pressured to give a quick answer. After a question is asked, there may be an objection; allow this to happen. When you hear the word, “objection”, stop testifying.

8. Answer the question that is asked, then stop. Do not volunteer information not asked for, or you will risk causing a mistrial, or even an immediate acquittal. DO explain an answer, if you feel your answer might appear ambiguous to the jury. You are always permitted to explain your answer. Tell the prosecutor prior to your testimony if there is anything you feel the prosecutor needs to know, but might not!
9. Be serious in the courthouse...Jurors are aware that criminal prosecutions are serious business.
10. Speak clearly and loudly enough so that you can be easily heard.
11. Look at the jury when testifying, even when the defense attorney asking the question is not standing near the box. Always talk to the jury, and maintain eye contact with them, even if it feels unnatural to you.
12. Always be courteous, even when the defense attorney is not. Control your temper, and never allow yourself to be drawn into an argument with that attorney. Remember, the best way to make a good impression with the jury is to appear courteous and professional. You were just doing your job during the arrest, and you do not have a personal stake in the case.
13. Testify in English. Do not say, "The perpetrator exited the vehicle" when in reality "the defendant got out of his car." The person on trial is never a "lady" or "gentlemen," but is always "the defendant." Do not use military times without clarifying the time in laymen's terms. Do not use call signals. It makes more sense to the jury when you speak the same language as they do.
14. It is permissible and desirable to discuss the case with the prosecutor before trial. A defense attorney may ask this question; tell the truth. Obviously, a prosecutor will try to discuss the case with the witnesses before trial; be straight forward in answering this question.
15. A defense attorney will always ask whether you have an independent recollection of the case. That is, aside from your police report or other notes, do you remember the event? Any fact that you remember about the stop and/or arrest of the defendant would be sufficient to answer this question positively.

## Specific DUI Trial Recommendations

1. Never give the numerical alco-sensor reading of the defendant when asked by the prosecutor. However, if the defense attorney asks you for the NUMERICAL reading, give it to him/her. The prohibition of alco-sensor results of a defendant do not apply to witnesses, such as passengers in the car.
2. Always demonstrate how you conducted field sobriety evaluations. If the prosecutor forgets to ask you to come off the witness stand to demonstrate, suggest that it will aid your testimony. Be certain, however, that you can do in court all the evaluations you asked the defendant to perform the night of the arrest. If you cannot do them, the jury will not expect the defendant to have done them properly.
3. Know the reasons for giving field sobriety evaluations:
  - They are **divided attention test**, designed to detect when a person is impaired by alcohol and/or drugs.
  - They provide evidence of intoxication in case defendant refuses to take a state administered test under implied consent.
  - They prevent an arbitrary decision to arrest, and allow an Office to articulate the reasons for concluding a driver was DUI to someone not present at the scene.
4. You are not required to know, and in fact know nothing, about the Intoxilyzer 5000 or your jurisdiction breath test instrument, its internal workings or anything other than how to operate it and take a breath sample from a defendant. You are merely an operator of an instrument, and while you have been taught something about how the instrument works when you became certified as an operator, never testify to its internal workings, or the defense attorney will discredit you, and make you out to be a “thinks-he-knows-it-all” who really knows nothing.

Do Not bring the Intoxilyzer 5000 Operator’s manual to court, or the log, unless instructed to by the prosecutor. Discuss any subpoena to produce that you may receive with the prosecutor, before complying with the subpoena.

5. Be aware that the margin of error in the Intoxilyzer 5000 is not + or - .02. The .02 grams comes into play in that the State's breath test results are not admissible if the sequential breath tests differ by more than .020 grams. If the two breath samples differ by more than .02 grams then the Intoxilyzer 5000 will give you an error message and you can either wait 20 minutes and give the defendant another breath test or take the defendant for a blood test. Also, margin of error only applies to statistical sampling such as polling data used in political campaigns. It does not apply to scientific instruments such as the Intoxilyzer 5000. According to the manufacturer the precision of the instrument is a standard deviation of 0.003 BrAC or better and the accuracy is better than federal requirements,  $\pm 3\%$  or  $\pm 003$  BrAC, whichever is greater. Furthermore, the instrument has been approved by the Federal Department of Transportation.
6. If you get an "Invalid Sample" on the Intoxilyzer 5000 the instrument has detected residual mouth alcohol in the subject's breath. You must restart a twenty-minute waiting period and repeat the test or take the subject for a blood test. Remember to write the blood drawer's name on the police report! It is also a "best practice" to witness the blood draw yourself – this may allow the prosecutor not to have to call the hospital personnel as a witness.
7. When testifying about field sobriety evaluations remember to discuss the level of impairment of the defendant. Officers can testify to numerical scores on a field sobriety test, including HGN, and can testify to the level of impairment. For example you could say; "the defendant scored four out of a possible six clues on the HGN and four clues is considered impaired." Sieveking v. State, 220 Ga. App. 218 (1996). A police officer can state a defendant "failed" a field sobriety test. **However, see number 9 below!!!!**
8. If you are NHTSA trained and testify as to the accuracy of the field sobriety tests, make sure you know the numbers and their significance. Considered independently, the Nystagmus test was 77% accurate, the Walk-and-Turn, 68% accurate, and the One-Leg Stand, 65% accurate in identifying subjects whose BAC were .10 or more. NHTSA also found that it would be possible to combine the results of Nystagmus and Walk-and-Turn in a: decision matrix", and achieve 80% accuracy. The problem with numbers is that if you get confused, you can jeopardize a driving under the influence case. So follow the dictates of number 9 below.

Be sure the officer is aware that NHTSA has done validation studies, and the SFST is considered very useful in determining whether or not a defendant is driving while intoxicated. The officer doesn't have to know the numbers, or care, because in *this* case, *this* defendant was impaired.

9. With a proper Motion In Limine from the prosecutor, you can testify only as to the observations you make on the field sobriety evaluations. You would therefore not testify about the numbers of clues or whether the defendant passed or failed any tests. Thus, you would ignore the advice given in numbers seven and eight above. It is very important that you discuss this option with the prosecutor in advance of trial. This avoids the NHTSA requirements of passing or failing a test based on the number of clues. You would only testify as to what you observed regarding the defendant's manifestations of intoxication and performance of the field sobriety evaluations.

### **Police Witnesses**

Although police officers and other professionals peripherally involved with the criminal justice system should be by nature more cooperative and competent as witnesses, it is not wise to assume too much, particularly if you haven't had that person as a witness on prior occasions. Leave nothing to chance. It is safer to prepare these witnesses as any other civilian witness. Accomplish this by always being mindful of the same considerations listed above and cover everything, even the basics. Some frequently encountered pitfalls with these kinds of witnesses include: a) relying too much on notes and reports; b) arguing with defense counsel; c) appearing to be too invested in obtaining a conviction; d) offering unsolicited and improper conclusions and opinion testimony; e) being non-responsive to the point of adding gratuitous comments; f) using too much law enforcement jargon; g) being overly defensive when in error; h) relying on too much "we" type of testimony instead of telling what they did themselves, or testifying to what they usually do as opposed to what they actually did in this case.



## SAMPLE DWI INCIDENT REPORT

Defendant: Eryn Greenfield  
Age: 31  
Date of Birth: 10/03/70  
Date of Arrest: XX-XX-XX  
Time of Arrest: 9:20 pm  
CA - D.L. #: CA 1234567

### **First Observations:**

On XX-XX-XX at approximately 9:00 p.m., I was patrolling westbound on Reed Avenue at the intersection with Interstate-80 (fully marked CHP patrol vehicle #904534). I was stopped at the intersection preparing to make a left turn onto eastbound I-80. I observed a yellow Volkswagon (S/V) traveling down the eastbound I-80 exit ramp approaching the intersection with Reed Avenue. I noticed the S/V traveling with no headlights. Furthermore, I noticed the right tires of the S/V travel over the solid white fog line on the exit ramp by approximately 2 feet. The S/V made a brief stop at the intersection, then made a right turn onto eastbound Reed Avenue. I made a U-turn and followed the S/V. The S/V then made a wide right turn from Reed Avenue onto southbound Riverpoint Drive. An enforcement stop was initiated at which point the S/V began to pull to the right. At the point the right front tire of the S/V rubbed up onto the raised concrete curb that paralleled the roadway.

### **Observations After The Stop:**

I approached the S/V on the passenger side and made contact with the driver (convertible-top down). I immediately noticed that the driver had red and watery eyes. I advised her of the reason for the stop and asked if her vehicle had any mechanical problems. She stated, "no." I requested her driver's license, registration, and insurance. The driver removed a stack of cards from her wallet, which was located in her purse on right front passenger seat. She began sifting through the stack of cards. I observed her clearly pass by her license and continue searching through the cards. Unable to locate her license on the first attempt, she started over at the top and located the license on the second attempt. She was identified as Eryn Greenfield by California driver's license (#CA1234567). After handing me the license, she did not make an attempt to retrieve the other documents I had requested. I asked her again for the registration and insurance cards. She then retrieved them out of the glove compartment. I asked her how much alcohol she had consumed and she stated "a couple of beers about an hour ago." I asked her what size and type of beer and she replied with 12oz. bottles of Heineken. I asked her if she felt the effects of the drinks and she stated, "No, I feel fine." As she spoke, I noticed that her speech was slurred. I asked her to exit the vehicle and step to the side walk so I could administer several field sobriety tests to her (see field sobriety test section). As she exited the vehicle, she stepped around the front as instructed, then stumbled on the raised curb. I asked her several pre-field sobriety test questions of which she answered accordingly (see page 2 of face page). As I communicated with her, I smelled an odor of alcoholic beverage emitting from her breath.

### **Field Sobriety Tests:**

This evaluation was performed on Riverpoint Drive, just south of Reed Avenue. The evaluation surface was smooth concrete. Lighting conditions consisted of patrol vehicle headlights, spotlights, overhead lights, streetlight, and my flashlight. No surface defects were noted or claimed.

#### **Horizontal Gaze Nystagmus (explained):**

I observed lack of smooth pursuit, distinct and sustained nystagmus at maximum deviation, and an onset of nystagmus prior to 45 degrees in both of Greenfield's eyes.

#### **Walk and Turn (explained and demonstrated):**

Instruction Stage: Lost balance (feet broke apart)

Walking Stage (1<sup>st</sup> Nine): Walked 10 steps (counted 10).  
Raised left arm over 6 inches away from body to assist with balance (at steps 4-5).

Walking Stage (2<sup>nd</sup> Nine): Walked 10 steps (counted 9).  
Raised left arm over 6 inches away from body to assist with balance (at steps 6-7).

Turn: Lost balance during turn.

#### **One Leg Stand (explained and demonstrated):**

Greenfield raised her left leg and began counting. She put her foot down on counts 1006 and 1009. As she was counting, she skipped 1017 (counting from 1016 to 1018). Used right arm for balance (6+ inches from body). She counted to 1019 after 30 seconds.

### **Arrest:**

Based on the following information, I formed the opinion that Greenfield was driving under the influence of an alcoholic beverage:

- Driving at night with no headlights.
- Driving to the right of the solid white fog line on exit ramp.
- Making wide right turn from eastbound Reed Avenue to southbound Riverpoint Drive.
- Right tire rubbing against raised concrete curb after stop was initiated.
- My observed divided attention problems while retrieving her license/registration and insurance.
- Her red, watery eyes, and slurred speech.
- Her admissions to consuming alcoholic beverages.

- Stumbling over curb after exiting the vehicle.
- Odor of alcoholic beverage emitting from her breath.
- My observed signs of impairment as she performed the field sobriety tests.

I arrested Greenfield for driving under the influence of an alcoholic beverage at 9:20 p.m. Greenfield was given the proper chemical testing advisement. She chose a breath test and was transported to the breath testing facility. She provided two breath samples of 0.10 and 0.10 at 9:50 p.m. and 9:52 p.m. She was then booked along with her property.

**Recommendations:**

I recommend a copy of this report be forwarded to the district attorney's office for review and prosecution of Greenfield for driving under the influence and driving with a blood alcohol concentration at or above the legal state limit.

**Vehicle Disposition:**

Greenfield's vehicle was stored by Reliable Towing.



One Hour and Thirty Minutes

SESSION XIII  
REPORT WRITING EXERCISE  
AND MOOT COURT

## SESSION XIII

### REPORT WRITING EXERCISE AND MOOT COURT

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

- o Discuss the required information on a narrative arrest report.
- o Successfully complete a narrative arrest report.
- o Discuss the need for competent courtroom testimony.
- o Demonstrate the proper techniques of courtroom testimony.

#### CONTENT SEGMENTS






- A. Procedures
- B. Report Writing Exercise
- C. Courtroom Testimony Exercise

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Video Presentation
- o Writing Skills Exercise
- o Participant's Courtroom Testimony Exercise
- o Instructor-Led Discussion



Display XIII-O (Session Objectives)



Aids	Lesson Plan	Instructor Notes
  <b>90 Minutes</b>  <b>10 Minutes</b>  <b>Display XIII-1</b> 	<p><b>XIII REPORT WRITING EXERCISE AND MOOT COURT</b></p> <p><b>A. Procedures</b></p> <ol style="list-style-type: none"> <li>1. Report writing exercise consists of two sections. <ol style="list-style-type: none"> <li>a. The first section employs a video segment to simulate the first two phases of DWI Detection. <ol style="list-style-type: none"> <li>o Class will view the video segment.</li> <li>o Video segment begins with initial observation of a vehicle in operation, proceeds through the stop command and the observation of the stop, continues through the face-to-face interview with the driver, and ends with the observation of the driver's exit from the vehicle.</li> </ol> </li> <li>b. Following the video segment, participants will have 10 minutes to make notes and complete a narrative arrest report based on what was seen and heard in the video segment.</li> </ol> </li> </ol>	<p>Selectively reveal only the first major element of the slide.</p> <p>Point out that the video segment used for the report writing exercise is somewhat longer than the video segments viewed in previous modules because this segment also includes the exit decision and observation of the exit.</p> <p>Emphasize that the standardized note taking guide/narrative arrest report form is to be used to record all evidence depicted in the video.</p>

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>o The report will include all the evidence portrayed in the video segment.</li> <li>o Report will be collected following the courtroom testimony exercise for grading by instructors.</li> </ul> <p>2. The Moot Court Exercise.</p> <ul style="list-style-type: none"> <li>a. This exercise involves a moot court situation in which participants are required to "testify" in a DWI trial based on information included in the narrative arrest report they had prepared in the report writing exercise.</li> <li>o The classroom will be arranged in a typical court room setting.</li> <li>o Two participants will be selected by the instructor as patrol partners in a DWI case. They will be required to take the stand separately and testify from the facts listed on their completed narrative arrest reports.</li> </ul>	<p>Instruct the participants that in this exercise the suspect refused to take the standardized field sobriety tests or a chemical test. They are to end their narrative report at the completion of the driver's exit.</p> <p>NOTE: This is optional.</p> <p>Reveal the second major element of Slide XIII-1.</p> <p>Point out that in this exercise, participants will be required to appear in a realistic court situation, take the stand, and testify before a jury about their observations of the defendant at the time of the traffic stop.</p> <p>Re-emphasize the importance of a complete arrest report when testifying in court.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

 <p><b>40 Minutes</b></p> 	<ul style="list-style-type: none"><li>o After both "officers" have testified, the remainder of the class will be asked for comments as to the testimony given.</li><li>o The video segment will be replayed in its entirety to the class.</li><li>o Class members will again be asked for their comments.</li><li>o Instructor critique.</li></ul> <p>3. The report writing exercise will begin in a few moments.</p> <ul style="list-style-type: none"><li>a. The video segment will be shown.</li><li>b. Participants will compile notes, using the standard note taking guide.</li><li>c. Participants will prepare their own narrative arrest reports.</li></ul> <p>4. Distribution of standardized note taking guide/narrative arrest report forms.</p> <p>B. Report Writing Exercise</p> <p>1. Impaired Driver video segment (Segment Four, Tape Two). (This is a combination of video segment Number Four, Phase One, and video segments One and Two, Phase Two, Tape One.)</p>	<p>Solicit participants' questions concerning the report writing exercise procedures.</p> <p>Hand out sufficient copies of the standard note taking guide and narrative arrest report forms.</p> <p>Show the combination Impaired Driver video segment. While this video segment is being shown participants may fill out note taking guides.</p>
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**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
XIII-2



**40 Minutes**

2. Completion of narrative arrest reports.
3. Instruct participants that in this case the suspect refused the chemical test and to end their report at the completion of the driver's exit from vehicle.
4. When reports have been completed participants will take a break. When they return, they will be prepared to take the stand and testify in "The Impatient Driver" DWI case.

**C. Moot Court Exercise**

1. The purpose of this exercise is to have the participants demonstrate their ability to testify in a logical sequence to the evidence they collected during the two phases of DWI Detection with "The Impatient Driver".
2. A student judge will be appointed to preside over the case and two participants will be selected as arresting officers and sequestered until they are called to testify. The remainder of the participants will serve as members of the jury. Two instructors will serve as prosecutor and defense counsel.

Reference back to Sessions V and VI for appropriate clues.

Allow 10 minutes for the participants to complete their reports individually.

Point out that the sample report used in Session XII may be used as a guide in this exercise.

During the break following this segment, arrange the classroom in the moot court setting.

Choose the two participants who will testify as "arresting officers".

When the two participants are chosen as "arresting officers" have them move to another room where they cannot hear or see what is happening in the court room.

**Aids**

**Lesson Plan**

**Instructor Notes**



3. The judge will call the court to order, the case will be announced and the prosecutor and defense counsel will give their opening statements.
4. The first officer will be called to testify.
5. The second officer will be called to testify.
6. Prosecutor and defense counsel will give closing statements.
7. Judge will direct jury to render a verdict.
8. Discussion
9. (Optional)

One instructor shall give instructions to the jury. Have judge and jury move into their appropriate positions.

The officers should only testify to what they actually observed. They may refer to their written reports if necessary. When one "arresting officer" testifies, the other will remain sequestered.

Have the jury render a verdict with a show of hands.

Solicit participants comments as to the testimony of the two arresting officers.

The Impaired Driver video segments may be shown again if time permits.



# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
STATEMENTS \_\_\_\_\_  
PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
OBSERVATION OF THE EXIT \_\_\_\_\_  
ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
ATTITUDE \_\_\_\_\_  
CLOTHING \_\_\_\_\_  
PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

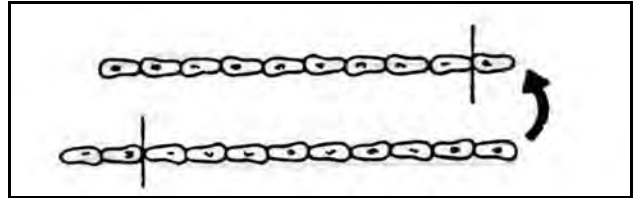
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

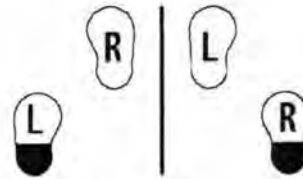
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

Two Hours

SESSION XIV

"TESTING SUBJECTS" PRACTICE: SECOND SESSION

## SESSION XIV

### "TESTING SUBJECTS" PRACTICE: SECOND SESSION

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

- o Properly administer the SFST's.
- o Properly observe and record subject's performance utilizing the standard note taking guide.
- o Properly interpret the subject's performance.

#### CONTENT SEGMENTS



- A. Procedures
- B. Hands-on Practice
- C. Session Wrap-Up




#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Participant Practice Session
- o Instructor-Led Discussion



Display XIV-O (Session Objectives)

Aids	Lesson Plan	Instructor Notes
 <p data-bbox="190 459 310 489">2 Hours</p>  <p data-bbox="190 623 339 653">5 Minutes</p>	<p data-bbox="425 306 857 405"><b>XIV "TESTING SUBJECTS" PRACTICE: SECOND SESSION</b></p> <p data-bbox="425 552 688 581"><b>A. Procedures</b></p> <ol data-bbox="464 695 941 1875" style="list-style-type: none"> <li>1. Participants work in the same teams that were constituted for the Dry Run Practice Session.</li> <li>2. Each team will test at least as many drinking volunteers as the team has members.</li> <li>3. Each team member will administer one complete series of tests to at least one drinking volunteer.</li> <li>4. If time permits, teams will test additional volunteers.</li> <li>5. While one student is administering tests to a volunteer, the other team members will observe and record the volunteer's performance.</li> <li>6. As soon as the team has completed the SFSTs on a particular volunteer, the volunteer must be escorted by a monitor to the next scheduled team.</li> <li>7. Upon termination of practice, monitors will escort the volunteer subject to the Breath Testing Station.</li> </ol>	<p data-bbox="998 306 1406 510">NOTE: Guidelines for Achieving BACs - See Section E, "Guidelines for Controlled Drinking Practice Session " in Administrator's Guide pages 12-14.</p> <p data-bbox="998 695 1425 793">Make sure that all participants understand the practice procedures.</p> <p data-bbox="998 835 1422 968"><u>Example:</u> If a team has four members, that team will administer a complete set of tests to at least four volunteers.</p> <p data-bbox="998 1287 1425 1491">Emphasize that each team member is to prepare a descriptive, written test record on each volunteer tested (using the standard note-taking guide).</p> <p data-bbox="998 1533 1425 1631">Define the sequence in which volunteers will circulate among teams.</p> <p data-bbox="998 1740 1417 1875">Emphasize that teams will not be informed of the volunteers' BACs until the session "Wrap-Up".</p>

Aids	Lesson Plan	Instructor Notes
 <p data-bbox="191 445 357 478"><b>90 Minutes</b></p>	<p data-bbox="428 304 764 338">B. Hands-on Practice</p>	<p data-bbox="1002 304 1373 407">Participants carry out the "drinking subjects" practice procedures.</p> <p data-bbox="1002 445 1395 581">Instructors circulate among teams to observe and coach participants' performance, as necessary.</p> <p data-bbox="1002 619 1408 722">Upon completion of practice, teams escort volunteers to the Breath Testing Station.</p> <p data-bbox="1002 760 1396 928">Teams return to classroom to complete report writing assignment. An instructor records the BACs of the volunteer.</p>
 <p data-bbox="191 1043 357 1077"><b>25 Minutes</b></p>	<p data-bbox="428 968 748 1001">C. Session Wrap-Up</p> <ol data-bbox="464 1108 922 1381" style="list-style-type: none"> <li data-bbox="464 1108 922 1245">1. Officers report their observations of volunteers. Remind participants to continue using their SFST Field Arrest Log.</li> <li data-bbox="464 1318 922 1381">2. Instructors notify participants of volunteers' BACs.</li> </ol>	<p data-bbox="1002 1108 1424 1281"><u>Solicit</u> officer's SFST results on each volunteer. Record results on dry-erase board (See sample dry-erase board array on next page).</p> <p data-bbox="1002 1318 1419 1455">Instructor notifies participants of volunteers' BACs, as obtained during the breath tests.</p>
		<p data-bbox="1002 1495 1419 1598">Write BACs next to volunteers' names or code letters on the dry-erase board.</p> <p data-bbox="1002 1635 1429 1808">Solicit participants' comments, questions or observations concerning the relationship between volunteers' BACs and their performances on the tests.</p>

SAMPLE DRY-ERASE BOARD ARRAY FOR  
TABULATING RESULTS

<u>"Designated Suspects"</u>	<u>Horizontal Gaze Nystagmus</u>	<u>Walk And Turn</u>	<u>One-Leg Stand</u>	<u>Arrest ?</u>
"A"	_____	_____	_____	_____
"B"	_____	_____	_____	_____
"C"	_____	_____	_____	_____
"D"	_____	_____	_____	_____
"E"	_____	_____	_____	_____
"F"	_____	_____	_____	_____
"G"	_____	_____	_____	_____
"H"	_____	_____	_____	_____
"I"	_____	_____	_____	_____
"J"	_____	_____	_____	_____



# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
 D.O.B. \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
 VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
 DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
 INCIDENT LOCATION \_\_\_\_\_  
 DATE \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_  
 \_\_\_\_\_  
 OBSERVATION OF STOP \_\_\_\_\_  
 \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_  
 \_\_\_\_\_  
 STATEMENTS \_\_\_\_\_  
 \_\_\_\_\_  
 PRE-EXIT SOBRIETY TESTS \_\_\_\_\_  
 \_\_\_\_\_  
 OBSERVATION OF THE EXIT \_\_\_\_\_  
 \_\_\_\_\_  
 ODORS \_\_\_\_\_  
 \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_  
 ATTITUDE \_\_\_\_\_  
 CLOTHING \_\_\_\_\_  
 PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils       Yes  No      ⚙ LACK OF SMOOTH PURSUIT  
 Equal Tracking       Yes  No      ⚙ DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
 Vertical Nystagmus       Yes  No      ⚙ ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
 Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

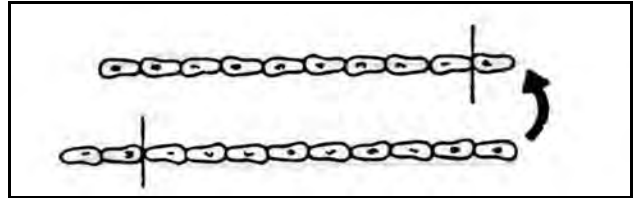
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

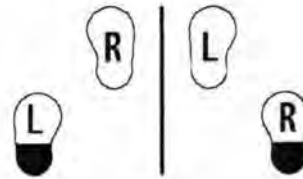
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

Two Hours

SESSION XIV-A

"TESTING SUBJECTS" PRACTICE: SECOND SESSION  
(OPTION TWO ONLY)

## SESSION XIV-A

### "TESTING SUBJECTS" PRACTICE: SECOND SESSION (OPTION TWO ONLY)

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

- o Properly administer the SFST's.
- o Properly observe and record subject's performance utilizing the standard notetaking guide.
- o Properly interpret the subject's performance.

#### CONTENT SEGMENTS

- A. Procedures
- B. Practical Exercise (OPTION TWO ONLY)
- C. Session Wrap-Up

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Video Presentations
- o Instructor-Led Discussion



Display XIV-A-O (Session Objectives)

**Aids**

**Lesson Plan**

**Instructor Notes**



**2 Hours**



**5 Minutes**

**XIV-A "TESTING SUBJECTS"  
PRACTICE: SECOND  
SESSION (OPTION TWO  
ONLY)**

**A. Procedures**

1. Participants work in the same teams that were assigned for the Dry Run Practice Session.
2. Distribute video score sheets, have participants fill in their name and team number.
  - a. Advise participants that each subject will be viewed performing all three tests. Pauses are provided between each test to allow participants time to record observed clues.
  - b. Advise participants that when viewing the administration of HGN (in the check for angle of onset) they will be provided two views. The first will show the stimulus in relation to the subject's shoulder at onset. The second view will be a close-up of the eye captured in that position.

Make sure that all participants understand the practice procedures.

NOTE: Have sufficient copies of handout XIV-A1 available. (Minimum of six copies per student.)

NOTE: Point out that participants will have only one chance to view each subject. Review can be conducted after the "wrap-up".

Participants shall record the number of clues observed, in the boxes located opposite each test.



90 Minutes

- c. Advise participants that two views of the subject performing the walk and turn are also provided. The first is an overall view of both stages. The second is a close up of the subject's feet while walking.

### B. Practical Exercise

1. Divide class into two groups.
2. It is recommended that half the class perform the SFSTs under the direction of instructor while the remainder of the class views, records and interprets the NHTSA/IACP approved videos for this session. Once completed, the groups switch roles.
3. If time permits, participants will administer additional tests to each other.

### C. Session Wrap-Up

1. Officers report their observations of videoed subjects. Remind participants it is mandatory they use the SFST Field Arrest Log.



25 Minutes

Each team member will administer a complete SFST battery on another student under the direct supervision of an instructor.

EACH team member must determine if the subject should or should not be arrested.

Emphasize that each officer is to prepare a descriptive, written test record on each videoed subject, using the standard notetaking guide.

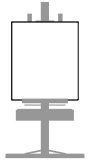
Emphasize that teams will not be informed of the volunteers' BACs until the session "Wrap-Up".

Solicit officer's SFST results on each videoed subject. Record results on dry-erase board (See sample dry-erase board array on next page).

**Aids**

**Lesson Plan**

**Instructor Notes**



2. Instructors notify participants of videoed subjects' BACs.

Instructor notifies participants of videoed subjects' BACs.

Write BACs next to videoed subjects' names or code letters on the dry-erase board.

Solicit participants' comments, questions or observations concerning the relationship between videoed subjects' BACs and their performances on the tests.

SAMPLE DRY-ERASE BOARD ARRAY FOR  
TABULATING RESULTS

<u>"Designated Suspects"</u>	<u>Horizontal Gaze Nystagmus</u>	<u>Walk And Turn</u>	<u>One-Leg Stand</u>	<u>Arrest ?</u>
"A"	_____	_____	_____	_____
"B"	_____	_____	_____	_____
"C"	_____	_____	_____	_____
"D"	_____	_____	_____	_____
"E"	_____	_____	_____	_____
"F"	_____	_____	_____	_____
"G"	_____	_____	_____	_____
"H"	_____	_____	_____	_____
"I"	_____	_____	_____	_____
"J"	_____	_____	_____	_____

<b>CD/Video Day 2</b>		
Subjects Name: <b><u>Laura</u></b> BAC: <b><u>.141</u></b>		
HGN Clues	<b>6</b>	Lack of smooth pursuit present in both eyes, Distinct and sustained nystagmus present in both eyes, Onset of nystagmus prior to 45 degrees present on both eyes.
W & T	<b>3</b>	Used arms for balance, Stepped off line, Improper turn
OLS	<b>0</b>	None
Teaching points/Comments: None		

<b>CD/Video Day 2</b>		
Subjects Name: <b><u>Andrew</u></b> BAC: <b><u>.000</u></b>		
HGN Clues	<b>2</b>	Distinct and sustained nystagmus at maximum deviation
W & T	<b>0</b>	None
OLS	<b>0</b>	None
Teaching points/Comments: Not uncommon to see to see distinct and sustained nystagmus at maximum deviation, Placebo		

<b>CD/Video Day 2</b>		
Subjects Name: <b><u>Joe</u></b> BAC: <b><u>.104</u></b>		
HGN Clues	<b>6</b>	Lack of smooth pursuit present in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye, Onset of nystagmus prior to 45 degrees present in each eye.
W & T	<b>0</b>	None
OLS	<b>1</b>	Puts foot down
Teaching points/Comments: Subject did not count as instructed by officer		

<b>CD/Video Day 2</b>		
Subjects Name: <b>Wayne</b>		BAC: <b>.000</b>
HGN Clues	<b>0</b>	None
W & T	<b>0</b>	None
OLS	<b>0</b>	None
Teaching points/Comments: <b>Placebo</b>		

<b>CD/Video Day 2</b>		
Subjects Name: <b>Merideth</b>		BAC: <b>.122</b>
HGN Clues	<b>4</b>	Lack of smooth pursuit present in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye.
W & T	<b>1</b>	Stepped off line
OLS	<b>1</b>	Hopped
Teaching points/Comments: Subject did not count as instructed by officer		

<b>CD/Video Day 2</b>		
Subjects Name: <b>Orin</b>		BAC: <b>.142</b>
HGN Clues	<b>6</b>	Ack of smooth pursuit present in each eye, Distinct and sustained nystagmus at maximum deviation present in each eye, onset of nystagmus present in each eye.
W & T	<b>1</b>	Missed heel to toe
OLS	<b>3</b>	Swaying, Uses arms to balance, put foot down.
Teaching points/Comments: None		

<b>CD/Video Day 2</b>		
Subjects Name: <b><u>Phil</u></b>		BAC: <b><u>.000</u></b>
HGN Clues	<b>0</b>	None
W & T	<b>3</b>	Missed heel to toe, stops walking, improper turn.
OLS	<b>0</b>	None
Teaching points/Comments: None / Placebo		

<b>CD/Video Day 2</b>		
Subjects Name: <b><u>Joannah</u></b>		BAC: <b><u>.132</u></b>
HGN Clues	<b>6</b>	Lack of smooth pursuit present in each eye, distinct and sustained nystagmus at maximum deviation present in each eye, Onset of nystagmus present in each eye.
W & T	<b>2</b>	Lost balance during instructional stage, Improper turn.
OLS	<b>0</b>	None
Teaching points/Comments:		



# DWI INVESTIGATION FIELD NOTES

I. NAME \_\_\_\_\_ SEX \_\_\_\_\_ RACE \_\_\_\_\_  
ADDRESS \_\_\_\_\_ CITY/STATE \_\_\_\_\_ OP.LIC.NO. \_\_\_\_\_  
D.O.B. \_\_\_\_/\_\_\_\_/\_\_\_\_ SOC. SEC. # \_\_\_\_\_  
VEHICLE MAKE \_\_\_\_\_ YEAR \_\_\_\_\_ LIC. \_\_\_\_\_ STATE \_\_\_\_\_  
DISPOSITION \_\_\_\_\_ NO. PASSENGERS \_\_\_\_\_  
INCIDENT LOCATION \_\_\_\_\_  
DATE \_\_\_\_/\_\_\_\_/\_\_\_\_ TIME \_\_\_\_\_ CRASH YES  NO

## II. VEHICLE IN MOTION

INITIAL OBSERVATIONS \_\_\_\_\_

OBSERVATION OF STOP \_\_\_\_\_

## III. PERSONAL CONTACT

OBSERVATION OF DRIVER \_\_\_\_\_

STATEMENTS \_\_\_\_\_

PRE-EXIT SOBRIETY TESTS \_\_\_\_\_

OBSERVATION OF THE EXIT \_\_\_\_\_

ODORS \_\_\_\_\_

### GENERAL OBSERVATIONS

SPEECH \_\_\_\_\_

ATTITUDE \_\_\_\_\_

CLOTHING \_\_\_\_\_

PHYSICAL DEFECTS / DRUGS OR MEDICATIONS USED \_\_\_\_\_

## IV. PRE-ARREST SCREENING

### HORIZONTAL GAZE NYSTAGMUS

Equal Pupils  Yes  No  LACK OF SMOOTH PURSUIT  
Equal Tracking  Yes  No  DISTINCT AND SUSTAINED NYSTAGMUS AT MAXIMUM DEVIATION  
Vertical Nystagmus  Yes  No  ONSET OF NYSTAGMUS PRIOR TO 45 DEGREES  
Other (i.e., Resting Nystagmus) \_\_\_\_\_

LEFT	RIGHT

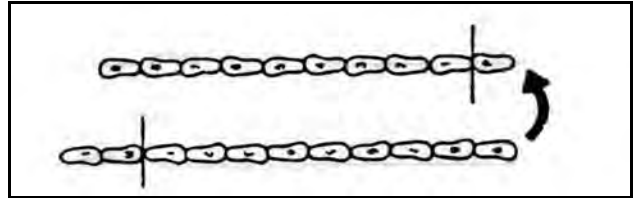
# WALK AND TURN

## INSTRUCTIONS STAGE

CANNOT KEEP BALANCE

STARTS TOO SOON

## WALKING STAGE



### FIRST NINE STEPS

### SECOND NINE STEPS

STOPS WALKING

MISSES HEEL -TO- TOE

STEPS OFF LINE

RAISES ARMS

ACTUAL STEPS TAKEN



IMPROPER TURN (Describe) \_\_\_\_\_

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# ONE LEG STAND

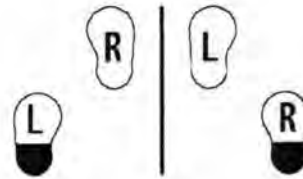
L	R

Sways while balancing.

Uses arms to balance.

Hopping.

Puts foot down.



Type of Footwear

CANNOT DO TEST (EXPLAIN) \_\_\_\_\_

OTHER: \_\_\_\_\_

# OTHER FIELD SOBRIETY TESTS

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

NAME OF TEST \_\_\_\_\_

DESCRIBE PERFORMANCE \_\_\_\_\_

PBT (1) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

PBT (2) (optional) Time: \_\_\_\_\_ Results: \_\_\_\_\_

One Hour and Fifty Minutes

SESSION XV  
REVIEW AND PROFICIENCY EXAMINATIONS

## SESSION XV

### REVIEW AND PROFICIENCY EXAMINATIONS

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

- o Demonstrate knowledge and proficiency in administering the Standardized Field Sobriety Test battery.

#### CONTENT SEGMENTS

- A. Review of Horizontal Gaze Nystagmus
- B. Review of Walk-and-Turn
- C. Review of One-Leg Stand
- D. Video Demonstration
- E. Proficiency Exam

#### LEARNING ACTIVITIES

- o Instructor-Led Presentation
- o Instructor- and Participant-Led Demonstrations
- o Video Demonstration
- o Participant Proficiency Examination



Display XV-O (Session Objectives)



110 Minutes



15 Minutes



**Display**

XV-1



**Display**

XV-2



**Display**

XV-3

**XV REVIEW AND EXAMINATIONS**

**A. Review of Horizontal Gaze Nystagmus**

1. Involuntary jerking of the eyes, occurs as the eyes gaze to the side.
  - a. The subject is generally unaware of the nystagmus.
  - b. Nystagmus is caused by alcohol and/or other drugs and some medical conditions.
2. Review pupil size, resting nystagmus, and equal tracking.
3. Three specific clues of Horizontal Gaze Nystagmus.
  - a. Look for these clues in each eye.
    - o Lack of smooth pursuit,
    - o Distinct and sustained nystagmus at maximum deviation,
    - o Onset of nystagmus prior to 45 degrees.
4. Clue No. 1: Lack of Smooth Pursuit.

Select a student to serve as a demonstration subject.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display XV-4**

- a. Position stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose, slightly above eye level.
- b. Start with the left eye.
- c. Move the stimulus smoothly all the way to the right side (checking subject's left eye) then all the way to the left side (across subject's nose) to the left side (checking subject's right eye).
- d. Observe eyes for signs of nystagmus as they move side-to-side.

**5. Clue No. 2: Distinct and Sustained Nystagmus at Maximum Deviation.**

- a. Move the stimulus to the right until the subject's left eye reaches maximum deviation.
- b. Verify that no white is showing in the corner of the eye.
- c. Hold the stimulus steady for a minimum of four seconds, and watch for distinct and sustained nystagmus.
- d. Repeat for right eye.

Demonstrate initial positioning of object.

Demonstrate.

Make at least two complete passes.

Select another student to serve as a demonstration subject.

Demonstrate

Remind participants that the nystagmus must be distinct. Very slight nystagmus at maximum deviation is common among some unimpaired people.

Remind participants to conduct a second pass the same as the first.

Check each eye twice for each clue.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
XV-5

6. Clue No. 3: Onset of Nystagmus prior to 45 Degrees.

- a. Position stimulus approximately 12-15 inches (30-38 cm) in front of subject's nose, slightly above eye level.
- b. Begin to make a slow pass in front of the left eye.
- c. When you see nystagmus, stop the stimulus.
- d. Hold the stimulus steady and verify that the nystagmus continues.
- e. Verify that there is still some white showing in the corner of the eye.
- f. Check the alignment of the object with the subject's shoulder.
- g. Repeat for right eye.

Select another student to serve as a demonstration subject.

Demonstrate.

Demonstrate.

Demonstrate.

Remind participants that in most individuals there will be some white showing in the corner of the eye at 45 degrees.

Remind participants to conduct a second pass the same as the first.

Check each eye twice for each clue.



**Display**  
XV-6

7. Nystagmus Administrative Procedures.

- a. Step I: Check for Eyeglasses.
- b. Step II: Verbal Instructions.
  - o Feet together, hands at sides

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
XV-7**

- o Head still
- o Look at stimulus
- o Follow movement with eyes
  
- c. Step III: Positioning the Stimulus.
  
- d. Step IV: Pupil Size and Resting Nystagmus.
  
- e. Step V: Check for Tracking.
  
- f. Step VI: Check for Lack of Smooth Pursuit.
  
- g. Step VII: Check for Distinct and Sustained Nystagmus.
  
- h. Step VIII: Check for Onset of Nystagmus Prior to 45 Degrees.
  
- i. Step IX: Total the clues.
  
- j. Step X: Check for vertical nystagmus.
  
- 8. Test Interpretation.
  - a. Maximum possible number of clues is 6.
  - b. Test criterion is 4 or more.
  - c. Test is 77% accurate.
  
- 9. Student-Led Demonstration.
  - a. Test Administration.
    - o Verbal instructions.

Remind participants that vertical nystagmus was not included in SFST battery during the original research. However, it is a reliable indicator of impairment by certain other drugs, as well as high doses of alcohol for that individual.

Based on the original research.

Choose a student to serve as the test administrator.

Choose another student to serve as a subject.

Have student-administrator conduct a complete test of the student-subject's eyes.



**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
XV-10



**Display**  
XV-11



**10 Minutes**

- b. Basic test requirements (nine steps, turn, nine steps).
  - c. Specific turn procedures (front foot on line, series of small steps with other foot).
  - d. Final verbal instructions.
4. Test Interpretation.
- a. Eight specific clues of impairment.
  - b. Test criterion is 2 or more.
  - c. Test is 68% accurate.
5. Student-Led Demonstration.
- a. Test Administration.
    - o Instructions positioning.
    - o Verbal instructions.
    - o Turn demonstration.
  - b. Critique.

**C. Review of One-Leg Stand**

Choose a student to serve as the test administrator.

Choose another student to serve as the test subject.

Based on the original research.

Have student administrator initiate the test of the subject.

Terminate the test after the subject has taken two or three steps.

Comment on, and solicit other participants' comments on student-administrator's performance.

**Aids****Lesson Plan****Instructor Notes**

**Display**  
XV-12



**Display**  
XV-13A








**Display**  
XV-13B

1. Two stage test.
  - a. Instructions stage.
  - b. Balance and Counting stage.
  
2. Instructions stage positioning.
  - a. Feet together.
  - b. Arms at the side.
  - c. Hold position until told to begin.
  
3. Administrative Procedures.
  - a. Simple verbal instructions.
    - o Raise one leg, either leg.
    - o With the foot approximately six inches (15 cm) off the ground, keeping your raised foot parallel to the ground.
    - o Keep both legs straight.
    - o Look at elevated foot.
    - o Count out loud in the following manner: “one thousand and one, one thousand and two, one thousand and three and so on,” until told to stop.
  - b. Simple physical demonstrations.
    - o Demonstrate one-leg stand.
    - o Demonstrate counting.

Demonstrate positioning for the instructions stage.

Demonstrate the administrative procedures.

Demonstrate count: one thousand and one; one thousand and two; one thousand and three, etc.

Aids	Lesson Plan	Instructor Notes
 <p><b>Display</b> XV-14</p>	<p>4. Test Interpretation.</p> <ul style="list-style-type: none"> <li>a. Four specific clues of impairment.</li> </ul>	
 <p><b>Display</b> XV-15</p>	<ul style="list-style-type: none"> <li>b. Test criterion is 2 or more.</li> <li>c. Test is 65% accurate.</li> </ul>	<p>Based on the original research.</p>
	<p>5. Student-Led Demonstration.</p> <ul style="list-style-type: none"> <li>a. Test Administration. <ul style="list-style-type: none"> <li>o Instructions positioning</li> <li>o Verbal instructions</li> <li>o Physical demonstrations</li> </ul> </li> <li>b. Critique.</li> </ul>	<p>Choose a student to serve as the test administrator.</p> <p>Choose another to serve as the test subject.</p> <p>Have student-administrator initiate the test of the subject.</p> <p>Terminate the test after the subject has counted out three or four seconds.</p> <p>Comment on, and solicit other participants' comments on, student-administrator's performance.</p>
 <p><b>15 Minutes</b></p>	<p>D. Video Demonstrations (Second Showing) IF TIME PERMITS</p>	<p>Show the NHTSA video called "Standardized Field Sobriety Testing, DWI Detection, Phase Three, Segment One of Tape One" (15 Minutes).</p>
		<p>Solicit and answer participants' questions concerning test administrative procedures.</p>
 <p><b>50 Minutes</b></p>	<p>E. Proficiency Examination.</p> <ul style="list-style-type: none"> <li>1. Procedures.</li> </ul>	<p>Make sure all participants understand the proficiency examination procedures.</p>

Aids	Lesson Plan	Instructor Notes
	<ul style="list-style-type: none"> <li>a. Each student must demonstrate the ability to administer properly the three standardized field sobriety tests.</li> <li>b. Horizontal Gaze Nystagmus. <ul style="list-style-type: none"> <li>o Demonstrate ability to give proper verbal instructions.</li> <li>o Demonstrate ability to carry out the mechanics of testing for each clue.</li> <li>o Demonstrate ability to estimate a 45 degree angle.</li> </ul> </li> <li>c. Walk-and-Turn. <ul style="list-style-type: none"> <li>o Demonstrate ability to give proper verbal instructions.</li> <li>o Demonstrate ability to carry out appropriate physical demonstrations to support the verbal instructions.</li> </ul> </li> <li>d. One-Leg Stand. <ul style="list-style-type: none"> <li>o Demonstrate ability to give proper verbal instructions.</li> <li>o Demonstrate ability to carry out appropriate physical demonstrations to support the verbal instructions.</li> </ul> </li> </ul>	<p>Inform participants that each must satisfactorily administer the horizontal gaze nystagmus test to one of the fellow participants.</p> <p>Inform the participants that each must satisfactorily administer the Walk-and-Turn test to one of the fellow participants.</p> <p>Inform the participants that each must satisfactorily administer the one-leg stand test to a fellow student.</p>

Aids	Lesson Plan	Instructor Notes
	<p>2. Group Assignments.</p> <p>3. Conduct Examinations.</p> <p>a. Each student conducts a complete test of Horizontal and Vertical Gaze Nystagmus.</p> <p>b. Each student administers the verbal instructions and physical demonstrations of the Walk-and-Turn test.</p> <p>c. Each student administers the verbal instructions and physical demonstrations of the One-Leg Stand test.</p>	<p>Divide the class among the instructors.</p> <p>Within each group, participants conduct their tests one at a time.</p> <p>While one student is conducting the tests, another student assists by serving as the test subject. Other participants in the group observe the student-administrator's performance.</p> <p>Instructor critiques/comments on student-administrator's performance in conducting Horizontal Gaze Nystagmus test. (Use the performance checklist from the student manual.)</p> <p>Instructor terminates the test after the student-subject has taken two or three heel-toe steps.</p> <p>Instructor critiques/comments on student-administrator's performance in conducting Walk-and-Turn test.</p> <p>Instructor terminates the test after the student-subject has counted out three or four seconds.</p> <p>Instructor critiques/comments on student-administrator's performance in conducting One-Leg Stand test.</p>

**Aids**

**Lesson Plan**

**Instructor Notes**

4. Re-examinations (as necessary).

Participants who have failed to exhibit adequate proficiency in administering the tests will receive additional practice, and a repeat examination. This may be conducted during the lunch hour, or after regular class hours, as appropriate.

NOTE: "Adequate proficiency" for purposes of this session means the student successfully administers the entire 3-test battery at least once without missing any of the performance checklist items that are marked with an asterisk (\*).



PARTICIPANT PROFICIENCY EXAMINATION  
STANDARDIZED FIELD SOBRIETY TEST BATTERY

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

I. HORIZONTAL GAZE NYSTAGMUS

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

II. WALK-AND-TURN

- \_\_\_\_ 1. Instructions given from a safe position.
- \* \_\_\_\_ 2. Tells subject to place feet on a line in heel-to-toe manner (left foot behind right foot) with arms at sides and gives demonstration.
- \* \_\_\_\_ 3. Tells subject not to begin test until instructed to do so and asks if subject understands.
- \* \_\_\_\_ 4. Tells subject to take nine heel-to-toe steps on the line and demonstrates.
- \* \_\_\_\_ 5. Explains and demonstrates turning procedure.

- \*\_\_\_6. Tells subject to return on the line taking nine heel-to-toe steps.
- \*\_\_\_7. Tells subject to count steps out loud.
- \*\_\_\_8. Tells subject to look at feet while walking.
- \*\_\_\_9. Tells subject not to raise arms from sides.
- \*\_\_\_10. Tells subject not to stop once they begin.
- \*\_\_\_11. Asks subject if all instructions are understood.

### III. ONE-LEG STAND

- \_\_\_1. Instructions given from a safe position.
- \_\_\_2. Tells subject to stand straight, place feet together, and hold arms at sides.
- \_\_\_3. Tells subject not to begin test until instructed to do so and asked if subject understands.
- \*\_\_\_4. Tells subject to raise one leg, either leg, approximately 6" from the ground, keeping your 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 in the following manner: one thousand and one, one thousand and two, one thousand and three, until told to stop, and gives demonstration.
- \_\_\_7. Checks actual time subject holds leg up. (Time for 30 seconds.)

Instructor: \_\_\_\_\_

Fifty Minutes

SESSION XVI

WRITTEN EXAMINATION AND PROGRAM CONCLUSION

## SESSION XVI

### WRITTEN EXAMINATION AND PROGRAM CONCLUSION

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

- o Complete a written examination with a passing grade.
- o Provide comments and suggestions for improving the course.

#### CONTENT SEGMENTS





- A. Post Test
- B. Critique
- C. Review of Post Test
- D. Concluding Remarks
- E. Certificates and Dismissal





#### LEARNING ACTIVITIES

- o Written Participant Examination
- o Written Participant Critique
- o Instructor-Led Presentation



Display XVI-O (Session Objectives)

Aids	Lesson Plan	Instructor Notes
	<b>XVI PROGRAM CONCLUSION</b>	
<b>50 Minutes</b>		
	<b>A. Post-Test</b>	
<b>20 Minutes</b>		
	<ol style="list-style-type: none"> <li>1. Purpose of Post-Test: to compare with pretest, and determine extent of knowledge gained by participants.</li> </ol>	<p>NOTE: "closed book" test. Passing score is 80%.</p>
	<ol style="list-style-type: none"> <li>2. Distribute Post-Tests.</li> </ol>	<p>Allow participants approximately 17 minutes to complete the post-test.</p>
	<ol style="list-style-type: none"> <li>3. Collect Completed Post-Tests.</li> </ol>	<p>Instructors grade post-test and redistribute to participants for review.</p>
	<b>B. Critique</b>	
<b>10 Minutes</b>		
	<ol style="list-style-type: none"> <li>1. Purpose of the Critique Form: to identify possible improvements that can and should be made to this program.</li> </ol>	
	<ol style="list-style-type: none"> <li>2. Distribute Critique Forms.</li> </ol>	<p>Allow participants approximately 8 minutes to complete the critique form.</p>
	<ol style="list-style-type: none"> <li>3. Collect completed critique forms.</li> </ol>	
	<b>C. Review of Post-Test</b>	
<b>10 Minutes</b>		
	<ol style="list-style-type: none"> <li>1. If passing score is not achieved, student(s) will be allowed to take "make-up" exam.</li> </ol>	<p>Read aloud each question on the Post-Test, and ask class to supply correct answer.</p>
		<p>Correct class response, as necessary.</p>
		<p>Explain correct answers briefly, as necessary.</p>

Aids	Lesson Plan	Instructor Notes
 <b>5 Minutes</b>  <b>Display XVI-1</b>  <b>Display XVI-2</b>	<p><b>D. Concluding Remarks</b></p> <ol style="list-style-type: none"> <li>1. Overall Goal.</li> <li>2. Job-Performance Objectives.</li> </ol>	<p>Briefly remind participants of the enormous importance of DWI deterrence.</p> <p>Express the hope that the participants will strive always to obtain and clearly convey all of the evidence that is present in their DWI contacts.</p>
 <b>5 Minutes</b>	<p><b>E. Certificates and Dismissal</b></p>	<p>Hand out Certificates.</p> <p>Thank the participants for their time and attention.</p>

DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING

REMEDIAL TEST

1. While performing the WAT test, the subject steps off the line twice. How many clues are counted?
  - A. 1
  - B. 2
  - C. 4
  - D. 6
  - E. Stepping off the line is not a validated clue.
  
2. In the OLS test, if the subject raises arms more than \_\_\_\_\_ inches, a clue is counted.
  - A. 2
  - B. 4
  - C. 6
  - D. 8
  
3. Which of the following is/are standardized field sobriety test(s)?
  - A. Alphabet
  - B. Finger Count
  - C. Walk-and-Turn
  - D. PBT
  - E. All of the Above
  
4. What are the two stages of the Walk-and-Turn test?  

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5. When conducting HGN the stimulus should be approximately \_\_\_\_\_ inches from the suspect's nose.
  
6. When administering the HGN test, start with the suspect's \_\_\_\_\_ eye.

7. Alcohol, at high levels for that individual, may cause vertical gaze nystagmus.
  - A. True
  - B. False
  
8. Which is/are not types of nystagmus?
  - A. Post Rotational
  - B. Caloric
  - C. Photosynthetic
  - D. Vertical
  
9. The landmark court decision regarding HGN is State vs. \_\_\_\_\_.
  - A. Loomis
  - B. Frye
  - C. Blake
  - D. Armstrong
  
10. What is the position of the feet during the instruction stage of the One-Leg Stand?
  - A. Together
  - B. Left in front of Right
  - C. Right in front of Left
  - D. Apart
  
11. If you terminate the Walk-and-Turn test because the suspect cannot do the test at all, how many clues do you record?
  - A. 6
  - B. 4
  - C. 8
  - D. 2
  
12. During the OLS test, the subject must be instructed to stand on one foot and count one-thousand-and-one to one-thousand-and-thirty.
  - A. True
  - B. False

13. Accurate field notes are essential in a DWI investigation because:
- A. The suspect may refuse the chemical test.
  - B. It will assist in drawing a picture of what was observed for the jury.
  - C. The evidence of DWI is short-lived.
  - D. All of the Above
14. In the original validation study, HGN was found to be \_\_\_ percent accurate.
- A. 65
  - B. 68
  - C. 77
  - D. 80
15. What are the three senses an officer uses to gather evidence of alcohol impairment during face-to-face contact?
- 
- 
- 
16. DWI Detection Phase One, Vehicle in Motion, consists of the initial observation of vehicular operation, the stop decision, and \_\_\_\_\_.
17. In the HGN test, the minimum number of passes for each eye is \_\_\_\_\_
- A. 1
  - B. 2
  - C. 3
  - D. 4
18. The use of PBTs or passive alcohol sensors are validated field sobriety tests.
- A. True
  - B. False
19. Psychophysical tests are methods of directly assessing a suspect's mental and/or \_\_\_\_\_ impairment.
20. The number one priority during any traffic stop is officer safety.
- A. True
  - B. False



## REMEDIAL TEST ANSWER SHEET

- |     |                       |     |                         |
|-----|-----------------------|-----|-------------------------|
| 1.  | A                     | 11. | C                       |
| 2.  | C                     | 12. | B                       |
| 3.  | C                     | 13. | D                       |
| 4.  | Instructions, Walking | 14. | C                       |
| 5.  | 12-15                 | 15. | Sight, Smell, Hearing   |
| 6.  | Left                  | 16. | Observation of the Stop |
| 7.  | True                  | 17. | B                       |
| 8.  | C                     | 18. | B                       |
| 9.  | C                     | 19. | Physical                |
| 10. | A                     | 20. | A                       |



DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING

POST-TEST

Name \_\_\_\_\_ Rank \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Agency \_\_\_\_\_

1. There are a total of \_\_\_\_\_ observable clues in the HGN test.
  - A. 1
  - B. 2
  - C. 4
  - D. 6
  - E. 8
  
2. The "Illegal Per Se" law makes it an offense to operate a vehicle while\_\_\_\_\_.
  - A. Having a statutorily prohibited blood alcohol content.
  - B. Under the influence of alcohol and/or drugs.
  - C. Impaired by alcohol or drugs to the slightest degree.
  - D. Having consumed any alcohol (if the operator is a minor).
  - E. Incapable of safely operating, regardless of cause.
  
3. A good, structured field sobriety test is simple and \_\_\_\_\_.
  - A. Focuses the suspect's attention.
  - B. Interrupts the suspect's attention.
  - C. Captures the suspect's attention.
  - D. Divides the suspect's attention.
  - E. Multiplies the suspect's attention.
  
4. The police officer's principal decision during the Detection Phase Two usually is \_\_\_\_\_.
  - A. Do I have sufficient grounds to request a chemical test?
  - B. Should I arrest the operator for DWI?
  - C. Is this person the operator of the vehicle?
  - D. Should I instruct the driver to exit the vehicle?
  - E. Is the impairment due to alcohol or drugs?

5. There are a total of \_\_\_\_\_ observable clues in the OLS test.
- A. 1
  - B. 2
  - C. 4
  - D. 6
  - E. 8
6. The word "nystagmus" means \_\_\_\_\_.
- A. Eyes unable to move independently of the head.
  - B. Impaired pupillary contraction ("alcohol dilation effect")
  - C. Gaze fixation ability.
  - D. Vision impairment due to central nervous system depression.
  - E. Involuntary jerking of the eye.
7. According to law, a person cannot be convicted of DWI/alcohol, if the blood alcohol content is below your state's legal limit.
- A. True
  - B. False
8. In the Walk-and-Turn test, the suspect is required to take nine heel-to-toe steps in a straight line, to turn around in a prescribed manner, and to return \_\_\_\_\_ heel-to-toe steps back along the line.
- A. Nine
  - B. Any specific number other than nine.
  - C. Eight
  - D. Seven
  - E. Ten
9. During the One-Leg Stand test the subject must be timed to stand on one foot for \_\_\_\_\_ seconds.
- A. 25
  - B. 30
  - C. 45
  - D. 60
10. Name the two stages of the One-Leg Stand, divided attention test.

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11. There are a total of \_\_\_\_\_ observable clues in the WAT test.
- A. 1
  - B. 2
  - C. 4
  - D. 6
  - E. 8
12. The police officer's principal decision during Detection Phase One is \_\_\_\_\_.
- A. Do I have sufficient grounds to stop this vehicle?
  - B. Should I instruct the driver to exit the vehicle?
  - C. Is this person the operator of the vehicle?
  - D. Do I have sufficient grounds to request a chemical test?
  - E. Is the operator's ability to drive impaired to any degree?
13. The three phases of DWI detection are \_\_\_\_\_.
- A. Vehicle in motion, personal contact, pre-arrest screening.
  - B. Investigation, arrest, chemical test.
  - C. Driver identification, vehicle identification, probable cause.
  - D. The stop, the field test, the chemical test.
14. The Implied Consent Law states drivers must submit to a chemical test or be subject to license sanctions.
- A. True
  - B. False
15. When checking for distinct and sustained nystagmus at maximum deviation, the eye is held out for a minimum of \_\_\_\_\_ seconds.
- A. 1
  - B. 2
  - C. 4
  - D. 6
  - E. 8
16. The three clues of horizontal gaze nystagmus are (fill in the blanks):
- o \_\_\_\_\_
  - o \_\_\_\_\_
  - o \_\_\_\_\_

17. Which of the following is one of the validated clues of the Walk and Turn test:
- A. "Starting too soon"
  - B. "Hopping"
  - C. "Putting foot down"
  - D. "Failing to Count Steps Out Loud"
18. List the standardized field sobriety tests:
- 
- 
19. How many clues are assessed a suspect who displays 1) lack of smooth pursuit in both eyes; 2) distinct and sustained nystagmus in both eyes at maximum deviation; and, 3) no onset of nystagmus prior to 45 degrees in either eye.
- A. 2
  - B. 4
  - C. 6
  - D. 0
20. The police officer's principal decision during Detection Phase Three is \_\_\_\_\_.
- A. Do I have sufficient ground to request a chemical test?
  - B. Should I arrest the operator for DWI?
  - C. Is this person the operator of the vehicle?
  - D. Should I instruct the driver to exit the vehicle?
  - E. Is the impairment due to alcohol or drugs?

## POST-TEST ANSWER SHEET

- |     |                                                   |     |                                                                                                                                      |
|-----|---------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | D                                                 | 12. | A                                                                                                                                    |
| 2.  | A                                                 | 13. | A                                                                                                                                    |
| 3.  | D                                                 | 14. | A                                                                                                                                    |
| 4.  | D                                                 | 15. | C                                                                                                                                    |
| 5.  | C                                                 | 16. | Lack of smooth pursuit;<br>Distinct and sustained<br>nystagmus at<br>maximum deviation;<br>Onset of Nystagmus<br>prior to 45 degrees |
| 6.  | E                                                 | 17. | A                                                                                                                                    |
| 7.  | B                                                 | 18. | HGN; Walk and Turn;<br>One Leg Stand                                                                                                 |
| 8.  | A                                                 | 19. | B                                                                                                                                    |
| 9.  | B                                                 | 20. | B                                                                                                                                    |
| 10. | Instruction Stage<br>Balancing and Counting Stage |     |                                                                                                                                      |
| 11. | E                                                 |     |                                                                                                                                      |

Note: Each correct answer is worth five (5) points.



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Course Location

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Date

DWI DETECTION AND STANDARDIZED FIELD SOBRIETY  
TESTING TRAINING PROGRAM

PARTICIPANT'S CRITIQUE

A. Workshop Objectives

Please indicate whether you feel that you personally achieved the following course objectives.

	<u>Yes</u>	<u>No</u>	<u>Not Sure</u>
1. Enable you to understand enforcement's role in general DWI deterrence.	___	___	___
2. Enable you to understand the detection phases.	___	___	___
3. Enable you to understand requirements for organizing and presenting testimonial and documentary evidence in DWI cases.	___	___	___
4. Improve your ability to recognize and interpret evidence of DWI violations.	___	___	___
5. Enable you to administer and interpret validated psychophysical tests to DWI suspects.	___	___	___
6. Improve your ability to describe DWI evidence clearly and convincingly in written reports and verbal testimony.	___	___	___

B. Workshop Sessions and Quality of Instruction

Please rate how helpful each workshop session was for you personally. Also, please rate the quality of instruction (subject knowledge, instructional techniques and learning activities).

Use a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

	<u>Session/Activity</u>	<u>Quality</u>
Detection and General Deterrence	_____	_____
The Legal Environment	_____	_____
Overview of Detection, Note Taking & Testimony	_____	_____
Phase One: Vehicle in Motion	_____	_____
Phase Two: Personal Contact	_____	_____
Phase Three: Pre-Arrest Screening	_____	_____
Concepts and Principles of Standardized Field Sobriety Tests	_____	_____
Test Battery Demonstrations	_____	_____
"Dry Run" Practice	_____	_____
"Drinking Subjects" Practice	_____	_____
Processing the Arrested Suspect & Preparation for Trial	_____	_____
Report Writing Exercise and Moot Court	_____	_____

C. Course Design

Please circle the appropriate word to indicate your agreement or disagreement with each of the following statements.

- The program contains some information that is not needed and that should be deleted.

Agree

Disagree

Not Sure

2. There are some important topics missing from the program that should be added.  

Agree	Disagree	Not Sure
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3. The program is too short.  

Agree	Disagree	Not Sure
-------	----------	----------
4. I feel this program has improved my own ability to enforce DWI laws.  

Agree	Disagree	Not Sure
-------	----------	----------
5. The instructors did a good job.  

Agree	Disagree	Not Sure
-------	----------	----------
6. I am very glad I attended the program.  

Agree	Disagree	Not Sure
-------	----------	----------
7. The program is too long.  

Agree	Disagree	Not Sure
-------	----------	----------
8. The instructors should have been better prepared.  

Agree	Disagree	Not Sure
-------	----------	----------
9. I feel fully qualified to use the nystagmus test now.  

Agree	Disagree	Not Sure
-------	----------	----------
10. I feel fully qualified to use the two divided attention tests now.  

Agree	Disagree	Not Sure
-------	----------	----------
11. Too much time was spent practicing with drinking volunteers.  

Agree	Disagree	Not Sure
-------	----------	----------
12. These three new tests definitely will improve our ability to identify impaired drivers.  

Agree	Disagree	Not Sure
-------	----------	----------

13. I wish we had more practice with drinking volunteers.

Agree

Disagree

Not Sure

D. If you absolutely had to delete one session or topic from this course, what would it be?

---

E. If you could add one new topic or session to this course, what would it be?

---

F. Overall Course Rating

Please rate the overall quality of the seminar on a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

Overall Course Rating: \_\_\_\_\_

G. Quality of Instruction

Please rate each instructor on a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

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Instructor

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Rating

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Instructor

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Rating

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Instructor

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Rating

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Instructor

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Rating

H. Please provide any final comments or suggestions that you feel are appropriate.

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I. Please comment on the "Drugs That Impair Driving" portion of the class, if presented.

---

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## INTRODUCTION TO DRUGGED DRIVING

## ADMINISTRATOR'S GUIDE

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## A. Purpose Of This Document

This Administrator's Guide provides an introduction to and an overview of the half-day instructional module entitled "Introduction to Drugged Driving". The module is designed to be delivered with the curriculum entitled "DWI Detection and Standardized Field Sobriety Testing", a program of instruction intended for delivery to as many as possible of the nation's traffic law enforcement officers. That curriculum is designed to help those officers become more proficient at detecting, apprehending, testing and convicting alcohol-impaired drivers.

The module's subject matter relates to a second curriculum, "Drug Evaluation and Classification", which provides a seven-day classroom training program as the first step in qualifying an officer to serve as a drug recognition expert (DRE). This training is intended to be delivered on a much more selective basis, e.g., perhaps to only a few percent of traffic law enforcement officers. 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 conducts an evaluation only after a suspect has been apprehended (for DWI or some other offense), and only when there is reason to believe that alcohol alone is not responsible for the impairment.

A mounting body of data suggests that an appreciable percentage of DWI violators may be under the influence of drugs other than alcohol, either alone or in combination with alcohol. Estimates of this "appreciable percentage" vary, but all estimators agree that the average DWI enforcement officer almost inevitably will encounter drug-impaired drivers from time to time. Therefore, it is important that the officer be able to recognize when he or she has encountered a drug-impaired suspect, and to call this to the attention of a qualified DRE. The half-day module is designed to address that need.

This Administrator's Guide is intended for law enforcement agencies that have already trained their personnel in standardized field sobriety testing. The Guide supports delivery of the module "Introduction to Drugged Driving" as a stand-alone program of instruction, e.g., for in-service training.

This Administrator's Guide facilitates planning and implementation of the module. The Guide overviews the half-day course of instruction and the documents and other materials that make up the module's curriculum package.

It describes the module's curriculum package. It describes the module's administrative requirements and offers guidelines for discharging those requirements satisfactorily. It outlines the preparatory work that must be accomplished by a law enforcement agency before the module can be offered to that agency's personnel. And, it describes the follow-up work that should be undertaken to ensure the continuing delivery of the highest possible quality of instruction.

Before addressing the details of this introductory module, it is appropriate to emphasize one thing that the module will not do:

**THIS TRAINING WILL NOT QUALIFY AN OFFICER TO SERVE AS A DRUG RECOGNITION EXPERT.**

True, the subject matter covered touches upon some (but not all) of the factors a DRE considers in examining a drug-impaired suspect. But no one should attempt to identify drug categories based only on the knowledge acquired through this module. Any such attempt will cheapen, and perhaps diminish the court's willingness to accept, the highly specialized knowledge and skills that a DRE must work long and hard to develop.

**B. Overview Of The Module**

**1. For Whom Is The Training Intended?**

This module is designed primarily for police officers who are able to administer and interpret the horizontal gaze nystagmus 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, and the procedures for those eye examinations derive largely from HGN procedures.

**2. What Are The Purposes Of The Module?**

The purpose of the module is to improve participants' ability to recognize suspects who may be under the influence of drugs other than alcohol, and to take appropriate action when they encounter such suspects. The "appropriate action" usually will be to request a medical examination of the suspect. The hope and expectation is that, due to this training, fewer drug- or medically-impaired suspects will avoid detection or be treated simply as alcohol-impaired. In those agencies that have a drug evaluation and classification program, the "appropriate action" would be to summon a DRE.

Note that the purpose of this module does not require that the student develop the ability to distinguish what type of drug is responsible for the observed impairment. Indeed, we assert that this module, by itself, cannot develop that ability. But, the student should become more adept to recognizing the possible presence of some drug other than alcohol, or a medical condition, and at conveying a credible basis for that suspicion.

### 3. What Will The Participants Get Out Of The Module?

The student who successfully completes the module will be able to:

- o define the term "drug" in the context of this course;
- o describe in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and DWI enforcement;
- o name the major categories of drugs;
- o describe the observable signs of impairment generally associated with the major drug categories;
- o describe medical conditions and other situations that can produce similar signs of impairment; and,
- o describe appropriate procedures for dealing with drug-impaired or medically impaired suspects.

It should be noted that material to support training in the appropriate procedures for dealing with drug- or medically-impaired suspects must be developed by each department participating in this training. NHTSA has not attempted to prepare generic lesson plans to cover these procedures, since it is not possible to anticipate the logistic and other considerations that will face every department.

### 4. What Subject Matter Does The Module Cover?

The principal content topics include:

- (1) The concept of "drugs" in the context of DWI enforcement. Basically, as far as the traffic law enforcement officer is concerned, a "drug" is a substance that impairs driving ability.
- (2) The magnitude and scope of drug use and abuse in America, and the involvement of drugs in impaired driving incidents.

- (3) The role of eye examinations in disclosing the possibility of drug impairment, and in suggesting the possible category or categories of drugs, or medical conditions causing a particular suspect's impairment.
- (4) The observable effects of each of seven major categories of drugs.
- (5) The effects likely to result from various combinations of drugs.
- (6) The department's prescribed procedures for dealing with cases involving suspected drug influence or medical conditions.

5. What Activities Take Place During The Training?

The module relies primarily on instructor-led presentations. This is in keeping with its focus on information development, rather than skill development.

6. How Long Does The Module Take?

The total instructional time (excluding breaks) is three hours and thirty minutes.

C. Overview Of The Curriculum Package

In addition to this Administrator's Guide, the curriculum package for this module includes the following materials:

- o Instructor's Lesson Plans Manual
- o Visual Aids
- o Student's Manual

1. Instructor's Lesson Plans Manual

The Instructor's Lesson Plans Manual is a complete and detailed blueprint of what the module covers and how it is to be taught. The lesson plans are arranged in a standard, side-by-side format. The left side page outlines the subject-matter content, i.e., what is to be taught. The "content" page presents:

- o Facts;
- o Concepts;
- o Procedural Steps;
- o Rules and Regulations;
- o Etc.

The right side page presents "instructional notes" associated with the content. The notes outline how the content is to be taught. Typical entries under the instructional notes column include:

- o The approximate amount of time to be devoted to each major content segment;
- o Indications of what visual aids are to be used and when they are to be used;
- o Questions that can be posed to the participants to involve them more actively in the presentation;
- o Indications of points requiring special emphasis;
- o Examples and other techniques for clarifying the concepts being presented.

The Instructor's Lesson Plans Manual serves, first, as a means of preparing the instructor to teach the module. They should review the entire set of lesson plans, and become familiar with their contents and learning activities, to develop a clear understanding of how the various segments of the module "fit" together. The instructor is expected to become thoroughly familiar with each segment that they are assigned to teach, to prepare the relevant visual aids, and to assemble all "props" and other instructional equipment referenced in the lesson plans. The instructor should also modify or augment the instructional notes as necessary to ensure that their own teaching style is applied to the content.

Subsequently, the Instructor's Lesson Plans Manual serves as an in-class reference document for the instructor, to help them maintain the sequence and pace of presentations and other learning activities.

It is worth emphasizing that the Instructor's Lesson Plans Manual does not contain the texts of speeches. Although its outlines of content information are fairly well detailed, those outlines are not to be read verbatim to the participants.

## 2. Visual Aids

Three types of visual aids are used in this module:

- o Dry-erase board/flip-chart presentations (which are indicated in the "instructional notes" of the lesson plans, and are self-explanatory);

- o Overhead transparencies;
- o Video/DVD;
- o PowerPoint.

The overhead transparencies, or "visuals", are simple displays of graphic and/or narrative material that emphasize key points and support the instructor's presentation.

Each visual is numbered, and is referenced by number in the lesson plans to indicate when and how the visual is to be used.

Paper copies of all visuals are included in the Instructor's Lesson Plans Manual. Those copies can be photocopied onto acetate to produce overhead transparencies, or they can be photographed to produce 35mm slides.

The videos are excerpts from the videos developed for NHTSA's Drug Evaluation and Classification Training Program. They depict portions of examinations of persons suspected of drug impairment.

### 3. Student's Manual

The Student's manual is the principal reference source for this module. It contains summaries of the main points of the module's content, and guidance for further study and review by the student.

## D. General Administrative Requirements

### 1. Delivery Contexts

This module is compatible with a wide variety of delivery contexts. NHTSA designed the module as an integral part of the "DWI Detection and Standardized Field Sobriety Testing" curriculum. But the module can also be delivered as a stand-alone training program, e.g., as a portion of the department's annual in-service training schedule. With some minor modifications, it should also be possible to sub-divide the module into 20-30 minute segments suitable for delivery as roll call training. The module is also suited to serve as briefing material for judges, prosecutors and other traffic safety personnel.

## 2. Facility Requirements

The module requires no special instructional facilities. A standard classroom, equipped with a screen, dry-erase board, appropriate projector, (LCD as necessary) video player and monitor and adequate seating/table space for all participants will suffice.

## 3. Instructor Qualifications

Ideally, the principal instructor(s) for this module should at least have completed the classroom training phase of the Drug Evaluation and Classification Program. However, it is possible to teach this module adequately without having had that training, provided:

- (1) The instructor is thoroughly versed in Standardized Field Sobriety Testing; and,
- (2) has studied the student manual for the module in detail; and,
- (3) has participated in demonstrations of the eye examinations featured in the module.

## 4. Class Size Considerations

Because the module is concerned primarily with information delivery rather than skills development, reasonably large classes can be accommodated. A practical upper limit is approximately 35-40 participants. Any larger class probably would not afford individual participants sufficient opportunity to interact with instructors (e.g., through questions, comments, etc.) as much as would be desired.

## E. Planning and Preparation Requirements

The planning and preparation requirements for this module are the standard requirements associated with any classroom training:

- o Select instructors and assign them to deliver specific segments of the module. Make sure that all instructors review all portions of the module, so that they understand how their assignments "fit into" the total program.
- o Prepare all visuals.

- o Obtain the necessary instructional equipment and make sure that all equipment is in proper working order (including LCD projector for PowerPoint)
- o Verify that all candidate participants have previously completed (or will have completed, prior to delivery of the module) training in horizontal gaze nystagmus.
- o Arrange the classroom so that all participants will have a clear view of the instructor, screen, dry-erase board and video monitor.
- o Obtain (or reproduce) sufficient copies of the Student's manual and any other handout materials.

F. Follow-Up Requirements

It is highly desirable that both the delivery and impact of this module be evaluated. Evaluation of "delivery" focuses on the general question "what did the participants think of this training?" Evaluation of "impact" concerns itself with "how has the training affected participants' on-the-job performance?"

Important data for evaluating training "delivery" can be obtained from the anonymous Student's Critique Form (included in the Instructor's Lesson Plans Manual). Each student should be requested to complete and submit the form immediately upon conclusion of the training. Guidelines for analyzing the student's Critique Form and preparing a post-course evaluation report are covered in Section G.

G. Guidelines For Preparing Post-Course Evaluation

A standard NHTSA/TSI participant's critique form is provided to document participant's initial ratings of course content and activities. The form is divided into eight parts:

- A. Workshop/Seminar Objectives
- B. Course Activities
- C. Course Design
- D. Topic Deletions
- E. Topic Additions
- F. Overall Quality of the Course
- G. Quality of Instruction
- H. Final Comments or Suggestions

The following instructions are provided to guide review, analysis and interpretation of participant's comments:

#### Section A - Workshop/Seminar Objectives

Determine raw tabulation and percentages for each objective:

- o If the "no"/"not sure" responses total 20% or more, some explanation should be provided. Assess the problem and explain or recommend changes as appropriate.

#### Section B - Course Activities

The rating choices are as follows:

1. Very Important
2. Somewhat Important
3. Un-Important
4. Not Sure

#### Analysis Procedures

Step 1: Tabulate total number of responses in each category for each category for each activity.

Step 2: The following values should be applied:

- o +2 for each "very important"
- o 0 for each "somewhat important"
- o -2 for each "un-important"
- o -1 for each "not sure"

Step 3: Determine total number of points for each activity.

Step 4: Divide the totals by twice the number of votes (N).

Step 5: The result is the final rating.

Any rating of +.5 or higher indicated the participant's consensus was that the activity (segment) was "very important".

If the rating is below +.2, some explanation should be provided... assess the reason(s) and explain or recommend changes as appropriate.

If the rating is below 0 there is a serious problem...assess the problem(s) and explain or recommend changes as appropriate.

#### Section C - Course Design

Determine raw tabulation and percentage for each statement.

Some comment or explanation should be provided if the inappropriate ("agree"/"disagree") or "not sure" responses exceed 20%.

#### Section D & E - Topic Deletion/Additions

Prepare a summary of responses for each section. Comment as appropriate.

#### Section F - Overall Quality of the Seminar

Total the numerical ratings, and divide by the number of responding participants. That gives the average rating for the seminar, on the scale from 1 ("very poor") to 5 ("excellent"). Comment as appropriate.

#### Section G - Quality of Instruction

For each instructor, tabulate his or her numerical ratings, and divide by the number of responding participants. Comment as appropriate.

#### Section H - Final Comments

Prepare a summary of responses for each section. Comment as appropriate.

NOTE: A copy of the completed post course evaluation report should be forwarded to the appropriate State Highway Safety Office and/or NHTSA Field Region Office.

#### H. Requests For Information, Assistance or Materials

Requests for further assistance should be directed to the Transportation Safety Institute, via your State's Office of Highway Safety and your NHTSA Regional Office.



U.S. DEPARTMENT  
OF TRANSPORTATION

# Introduction to Drugged Driving

Instructor Manual





# INTRODUCTION TO DRUGGED DRIVING

## Instructor's Lesson Plans

## INTRODUCTION TO DRUGGED DRIVING

Upon successfully completing this module of instruction, the participant will be able to:

- o Define the term "drug" in the context of DWI enforcement.
- o Describe in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and in DWI enforcement.
- o Name the major categories of drugs.
- o Describe the observable signs generally associated with the major drug categories.
- o Describe medical conditions and other situations than can produce similar signs.
- o Describe appropriate procedures for dealing with drug-impaired or medically-impaired suspects.

### Content Segments

- A. Overview
- B. Eye Examinations: Detecting Signs of Drug Influence
- C. Drug Categories and Their Observable Effects
- D. Combinations of Drugs
- E. Demonstrations of Drug Influence (Video/DVD)
- F. Dealing with Suspected Drug Influence or Medical Impairment

### Learning Activities

- o Instructor-Led Presentations
- o Participant Practice
- o Video Presentations



45 Minutes



Display 1

## INTRODUCTION TO DRUGGED DRIVING

### A. Overview

1. Session purpose and objectives.
  - a. The purpose of this session is to improve your ability to recognize suspects who may be medically impaired or impaired by drugs other than alcohol and to take appropriate action when you encounter such a suspect.
  - b. Alcohol certainly remains the most frequently abused drug, and most impaired drivers are under the influence of alcohol.
  - c. But many other drugs also are routinely abused by many drivers.
  - d. It is highly likely that every experienced DWI enforcement officer has encountered at least some suspects who were under the influence of drugs other than alcohol.
  - e. Depending upon the specific types of drugs they have taken, some drug-impaired suspects may look and act quite a bit like persons who are under the influence of alcohol.

Ask participants: “What is responsible for most DWI violations in America?”



Display 2A



Display 2B

- f. But others will look and act very differently from alcohol-impaired suspects.
- g. It is important that you be able to recognize suspects who may be under the influence of other drugs, so that you will know when to summon assistance from physicians or other appropriate persons, or trained drug recognition experts.
- h. Upon successfully completing this session, you will be better able to:
  - o Define the term "drug" in the context of DWI enforcement.
  - o Describe in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and DWI enforcement.
  - o Name the major categories of drugs.
  - o Describe the observable signs generally associated with the major drug categories.
  - o Describe medical conditions and other situations that can produce similar signs.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 3**



**Display 4**

o Describe appropriate procedures for dealing with drug-impaired or medically impaired suspects.

i. One important thing that this session will not accomplish: it will not qualify you to perform the functions of a Drug Recognition Expert (DRE).

j. Officers become DREs only after they have completed a very challenging program that includes nine days of classroom training and many weeks of closely-supervised on-the-job training.

2. Definition of "drug".

a. The word "drug" is used in many different ways, by many different people.

b. The corner druggist and the U.S. Drug Enforcement Administration are both concerned with "drugs", but they don't have exactly the same thing in mind when they use that word.

c. And neither the druggist nor the DEA have the same perspective as the DWI enforcement officer.

Solicit participants' questions concerning these objectives.

Two-day Pre-School followed by Seven-day classroom training.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 5**

- d. For our purposes, a "drug" is:  
  
Any substance which, when taken into the human body, can impair the ability of the person to operate a vehicle safely.
  - e. This definition excludes some substances that physicians consider to be drugs.  
  
examples: nicotine; caffeine.
  - f. This definition includes some substances that physicians don't usually think of as drugs.  
  
examples: model airplane glue; paint.
3. Within this simple, enforcement-oriented definition, there are seven categories of drugs.

Working definition is derived from California Vehicle Code, Section 312; 1985.

Ask participants: what are some things that physicians would consider to be "drugs" that would not be covered under this definition?

Ask participants: what are some common chemical substances that doctors don't usually consider drugs, but that definitely impair driving ability?



**Display 6**

- a. Central Nervous System Depressants include the most familiar drug, alcohol, but also include numerous other substances that slow down the operation of the central nervous system. Rohypnol, Valium, Xanax, and GHB are some CNS Depressants.



Display 7

- b. Central Nervous System Stimulants include cocaine, numerous drugs of the amphetamine family including methamphetamine, and many other substances that cause impairment by speeding up, or over-stimulating, the central nervous system.



Display 8

- c. Hallucinogens include some natural, organic substances found in certain cactus and mushrooms, and many artificial substances including LSD and MDMA (Ecstasy). They all impair the user's ability to perceive the world as it really is.



Display 9

- d. The category Dissociative Anesthetic includes the drug PCP and its various analogs. Dissociative Anesthetics are in a category by themselves because they produce some effects that are similar to depressants, some similar to stimulants, and some similar to hallucinogens.



Display 10

- e. Narcotic Analgesics include heroin, morphine and other derivatives of opium, and many synthetic drugs that affect people in similar ways.

Point out that "Analgesic" means "pain killer".

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 11**



**Display 12**

- f. Inhalants include many familiar household materials, such as glue (Toluene), paint, gasoline, aerosol sprays, etc. that produce volatile fumes.
  - g. The category Cannabis includes the various products of the Cannabis Sativa plant, e.g., marijuana, hashish, hash oil.
4. These seven categories are organized on the basis of the clinical effects that they produce.
- a. The drugs that belong to a particular category all produce basically the same effects.
  - b. Two different categories produce different effects.
5. Because many drugs are illegally manufactured, sold and consumed, it is difficult to determine how many people actually use the various drugs.

Point out that some medical texts may use different numbers of drug categories, with different names for the various categories.

Example: Alcohol and Valium both are CNS depressants. A person under the influence of Valium will look, act and feel basically the same as a person under the influence of alcohol.

Example: A person under the influence of a CNS Stimulant will not look, act or feel exactly like someone under the influence of a Dissociative Anesthetic.

Solicit participants' questions concerning drug categories.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 13**



**Display 14**

a. All available information shows that drug use and abuse are widespread among large segments of the American public.

(1) In 2004, 19.1 million Americans (7.9% of the population) aged 12 years or older were current illicit drug users.

(2) Marijuana was the most commonly used illicit drug in 2004, with 14.6 million.

(3) In 2004, 6.0 million people were users of psychotherapeutic drugs taken non-medically.

(4) In 2004, an estimated 2 million persons were current Cocaine users.

b. It is especially disturbing that juveniles frequently abuse drugs.

c. Evidence of drug use frequently shows up in people killed or injured in motor vehicle crashes.

(1) Fact: University of Tennessee (1988) found 40% of crash injured drivers had drugs other than alcohol in them.

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings



Display 15



35 Minutes

(2) Fact: The Maryland Shock Trauma Center (1986) found nearly one-third of crash injured drivers had recently used Marijuana.

e. Studies of fatally-injured drivers consistently show that nearly 20 percent had drugs or the combination of drugs and alcohol in their systems at the time of the crash.

B. Eye Examinations: Detecting Signs of Drug Influence

1. The eyes disclose some of the clearest signs of drug impairment or medical conditions.
  - a. Horizontal gaze nystagmus is a very clear indication, in a suspect's eyes, of possible alcohol impairment.
  - b. There are a number of drugs, other than alcohol, that will cause horizontal gaze nystagmus.
  - c. There are a number of other drugs that will not cause horizontal gaze nystagmus.
  - d. There are many other clues that the eyes will disclose, all of which will suggest the presence or absence of drugs or medical impairment.

FARS, 1995.

Solicit participants' questions or comments concerning drug use and drug involvement in impaired driving.

Ask participants: what is one of the most reliable signs of alcohol influence that can be observed in the eyes?



Display 16

2. Overview of eye examinations.
  - a. The eye examinations that you can conduct to assess possible drug or medical impairment include:
    - o Resting nystagmus
    - o Tracking ability
    - o Pupil size
    - o Horizontal gaze nystagmus
    - o Vertical nystagmus
  - b. Resting Nystagmus is referred to as jerking as the eyes look straight ahead. This condition is not frequently seen. Its presence usually indicates a pathology or high doses of a Dissociative Anesthetic drug such as PCP.
  - c. Tracking Ability will be affected by certain categories of drugs, and also by certain medical conditions or injuries involving the brain:
    - o If the two eyes do not track together, the possibility of a serious medical condition or injury is present.
    - o By passing a stimulus across both eyes, you can check to see if both eyes are tracking equally.

NOTE: Resting Nystagmus may also be a medical problem.

Although this observation is an important medical assessment, it is NOT an HGN administrative procedure step.

Select a student to serve as a demonstration subject.

Position a stimulus in front of that student's eyes, and check for lack of smooth pursuit across both of the student's eyes.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 17**



**Display 18**

- o If they don't (i.e., if one eye tracks the stimulus, but the other fails to move, or lags behind the stimulus) there is the possibility of a neurological disorder.
  
- o If a person has sight in both eyes, but the eyes fail to track together, there is a possibility that the person is suffering from an injury or illness affecting the brain.
  
- o If the eyes track equally, but "jerk" while they are moving, then the possible presence of three categories of drugs should be noted:
  - Central Nervous System Depressants
  - Dissociative Anesthetics
  - Inhalants
  
- d. Pupil Size will be affected by several categories of drugs, and also by some medical conditions or injuries:
  - o If the two pupils are distinctly different in size, it is possible that the subject has a glass eye, or is suffering from a head injury or a neurological disorder.

Point out that this can occur because the suspect is blind (or nearly blind) in one eye. This can be checked by having the suspect cover one eye, and instructing the suspect to reach out and touch the tip of the stimulus.

Point out that "unequal tracking" is a condition that should prompt the officer to request a medical examination of the suspect.

Point out that this "jerking" is horizontal gaze nystagmus.

Point out that it is sufficient to look at a suspect's pupils and estimate whether they look noticeably small, about normal, or noticeably large.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 19A**



**Display 19B**

o If the pupils are noticeably dilated, then the possibility exists that the subject could be impaired by certain categories of drugs:

- CNS stimulants
- Hallucinogens
- Cannabis

o If the pupils are noticeably constricted, then the possibility exists that the subject could be impaired by a narcotic analgesic.

o CNS Depressants, Dissociative Anesthetics, and Inhalants usually do not affect pupil size.

3. The test of Horizontal Gaze Nystagmus for subjects suspected of drug impairment is identical to the HGN test for alcohol-impaired subjects.

- a. First clue - lack of smooth pursuit.
- b. Second clue - distinct and

Examples: cocaine, methamphetamine, amphetamine sulfate, etc.

Examples: LSD, peyote, psilocybin, MDA, Ecstasy, etc.

Examples: Marijuana, Hashish, Hash Oil.

Examples: Heroin, codeine, demerol, etc.

Point out that the types of drugs that usually cause nystagmus usually don't affect pupil size.

Major exception: Methaqualone (a CNS Depressant) will cause pupils to dilate.

Ask participants: "What are the three clues of HGN?"

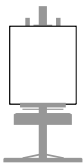
**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 19C**



**Display 20**

sustained nystagmus at maximum deviation.

- c. Third clue - onset of nystagmus prior to 45 degrees.

4. The angle of onset becomes of special interest when a subject is under the influence of a Dissociative Anesthetic such as PCP.

- a. PCP-impaired subjects may exhibit immediate onset, i.e., the jerking begins virtually as soon as the eyes start to move toward the side.

- b. Sometimes, PCP-impaired subjects will exhibit resting nystagmus, i.e., the eyes jerk while they are looking straight ahead.

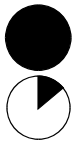
5. The Vertical Nystagmus test is very simple to administer.

- a. Position the stimulus horizontally, approximately 12-15 inches (30-38 cm) in front of the subject's nose.
- b. Instruct the subject to hold their head still, and follow the stimulus with the eyes only.
- c. Raise the stimulus until the subject's eyes are elevated as far as possible, hold for four seconds.

Write "Resting Nystagmus" on dry-erase board or flip-chart.

Point out that vertical nystagmus was not examined in the research that led to the validation of the Standardized Field Sobriety Test battery, horizontal gaze nystagmus, walk and turn and one leg stand.

Select a student or another instructor to serve as a subject and demonstrate the vertical nystagmus test.



70 Minutes



Display 21

- d. Watch closely for evidence of jerking (up and down).
- 6. Vertical Nystagmus usually will be present in subjects under the influence of PCP.
- 7. Vertical Nystagmus may be present in subjects under the influence of CNS depressants or inhalants.

C. Drug Categories and Their Observable Effects.

- 1. CNS Depressants slow down the operations of the brain, and usually depress the heartbeat, respiration, and many other processes controlled by the brain.
  - a. The most familiar CNS Depressant is alcohol.
  - b. Other CNS Depressants include:
    - o Barbiturates (such as Secobarbital and Pentobarbital)
    - o Non-Barbiturates (GHB - Gama hydroxy Butyrate and soma)

Point out that vertical nystagmus usually develops after high doses of alcohol, other depressants or inhalants.

Solicit participants' questions concerning nystagmus.



Display 22A

- o Anti-Anxiety Tranquilizers (such as Valium, Librium, Xanax, and Rohypnol)
- o Anti-Depressants (such as Prozac and Elavil)
- o Muscle relaxants and many other drugs.
- c. CNS Depressants usually are taken orally, in the form of pills, capsules, liquids, etc.
- d. In general, people under the influence of any CNS Depressant look and act like people under the influence of alcohol.
- e. General indicators of CNS Depressant influence:
  - o "Drunken" behavior and appearance
  - o Uncoordinated
  - o Drowsy
  - o Sluggish
  - o Disoriented
  - o Thick, slurred speech
- f. Eye indicators of CNS Depressant influence:
  - o Horizontal gaze nystagmus usually will



Display 22B

be present.

- o Vertical nystagmus may be present (with high doses).
- o Pupil size usually will be normal, except that Methaqualone and Soma will cause pupil dilation.

2. CNS Stimulants accelerate the heart rate, respiration and many other processes of the body.

- a. The two most widely abused kinds of CNS Stimulants are cocaine and methamphetamines.
- b. Cocaine is made from the leaves of the coca plant.
- c. Methamphetamines are chemically produced (manufactured) drugs.
- d. Cocaine abusers may take the drug
  - o by "snorting"
  - o by smoking (freebase, or "Crack")
  - o by injection
  - o orally
- e. Abusers of amphetamines may take their drugs:
  - o by injection
  - o orally
  - o by "snorting"

Solicit participants' questions concerning indicators of CNS Depressant influence.

Illegal and illicit production.



Display 23A



Display 23B

- o or smoked (i.e., “ice”)
- f. People under the influence of CNS Stimulants tend to be hyperactive, indicated by nervousness, extreme talkativeness and an inability to sit still. They also are usu-ally unable to concentrate, or to think clearly for any length of time.
- g. General indicators of CNS stimulant influence:
  - o Restlessness
  - o Talkative
  - o Excitation
  - o Euphoria
  - o Exaggerated reflexes
  - o Loss of appetite
  - o Anxiety
  - o Grinding teeth (bruxism)
  - o Redness to nasal area (if “snorting”)
  - o Runny nose (if “snorting”)
  - o Body tremors
- h. Eye indicators of CNS Stimulant influence:
  - o Neither horizontal nor vertical nystagmus will be observed.
  - o The pupils generally will be dilated.
- 3. Hallucinogens are drugs that affect a person’s perceptions, sensations, thinking, self

Solicit participants' questions concerning indicators of CNS Stimulant influence.

The word “Hallucinogen” means something that may cause hallucinations.



Display 24A

awareness and emotions.

- a. One common type of hallucination caused by these drugs is called synesthesia, which means a transposing of the senses.
  - o Sounds, for example, may be transposed into sights.
  - o Sights, for example, may be transposed into odors or sounds.
- b. Some hallucinogenic drugs come from natural sources.
  - o Peyote is an hallucinogen found in a particular specie of cactus.
  - o Psilocybin is an hallucinogen found in a number of species of mushroom.
- c. Other hallucinogens are synthetically manufactured:
  - o LSD (Lysergic Acid Diethylamide)
  - o MDA (3,4-Methylene-dioxyamphetamine)
  - o MDMA (Ecstasy)
  - o Many others.

Definition from The Random House College Dictionary (Revised Edition, 1980).

Example: the user may "see" a flash of color whenever the telephone rings.

Example: the user may "smell" a particular fragrance when he or she looks at something painted red.



Display 24B

- d. Hallucinogen abusers usually take their drugs orally; however, some hallucinogens can be smoked, or injected or "snorted".
- e. General indicators of Hallucinogen influence:
  - o Hallucinations
  - o Dazed appearance
  - o Body tremors
  - o Uncoordinated
  - o Perspiring
  - o Disorientation
  - o Paranoia
  - o Difficulty in speech
  - o Nausea
  - o Piloerection (goose bumps)
- f. Eye indicators of Hallucinogen influence:
  - o Neither horizontal nor vertical nystagmus will be present.
  - o The pupils usually will be noticeably dilated.



Display 24C

- 4. Dissociative Anesthetics is the category of drugs that includes PCP and its various analogs.
  - a. PCP is a synthetic drug, that was first developed as an intravenous anesthetic.
  - b. Because PCP produces very undesirable side effects, it is no longer legally manufactured. However, an analog (chemical cousin)

Point out that the indicators of hallucinogen influence are very similar to the indicators of CNS Stimulant Influence.

Solicit participants' questions concerning indicators of hallucinogen influence.

Point out that PCP is a very powerful anesthetic, or pain-killer.



Display 25A

Ketamine is still being legally manufactured and available.

- c. However, it is easy to manufacture:
  - o The formula for making PCP and PCP analogs have been widely publicized.
  - o The manufacturing process involves readily available chemicals.
- d. Many Dissociative Anesthetic users smoke the drug, by using it to adulterate tobacco, marijuana, or various other substances.
- e. Dissociative Anesthetics can also be taken orally or by injection, or inhaled.
- f. General indicators of Dissociative Anesthetic influence:
  - o Warm to the touch
  - o Perspiring
  - o Blank stare
  - o Repetitive speech
  - o Incomplete verbal responses
  - o Confused
  - o Muscle rigidity
  - o Possibly violent & combative
- g. Eye indicators of Dissociative Anesthetic



Display 25B

influence:

- o Horizontal gaze nystagmus generally will be present, often with very early onset and very distinct jerking.
- o Vertical nystagmus generally will be present.
- o Pupil size usually will be normal.

5. Narcotic Analgesics include a large number of drugs that share three important characteristics.

- a. They will relieve pain.
- b. They will produce withdrawal signs and symptoms, when the drug is stopped after chronic administration.
- c. They will suppress the withdrawal signs and symptoms of chronic morphine administration.
- d. Some narcotic analgesics are natural derivatives of opium:
  - o Morphine
  - o Heroin
  - o Codeine

Solicit participants' questions concerning indicators of Dissociative Anesthetic influence.

Point out that "analgesic" means "pain killer".

Point out that this characteristic implies that narcotic analgesics are physically addicting.



Display 26A



Display 26B

- o Many Others.
- e. Some are synthetic drugs:
  - o Demerol
  - o Methadone
  - o Numorphan
  - o Fentanyl
  - o OxyContin
  - o Many Others.
- f. Some narcotic analgesics (such as heroin) usually are injected.
- g. Others (such as codeine) usually are taken orally.
- h. An important characteristic of narcotic analgesics is that users develop tolerance to them.
- i. "Tolerance" means that the same dose of the drug will produce diminishing effects, or that a steadily larger dose is needed to produce the same effects.
- j. A tolerant user who has taken his or her "normal" dose of heroin (for example), may exhibit little or no evidence of physical impairment.
- k. General indicators of Narcotic Analgesic influence:
  - o "On the nod"
  - o Droopy eyelids

Clarification: "On the nod" is a sedated condition. The subject

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 26C**



**Display 27A**

- o Depressed reflexes
- o Dry mouth
- o Facial itching
- o Low, raspy speech
- o Fresh puncture marks may be evident

1. Eye indicators of Narcotic Analgesic influence:

- o Neither horizontal nor vertical nystagmus will be present.
- o Pupils generally will be constricted.

6. Inhalants are breathable chemicals that produce mind-altering results.

- a. A wide variety of familiar household items are sometimes abused as inhalants.
- b. Certain anesthetics also may be abused as inhalants.
- c. General indicators of Inhalant influence:
  - o Disorientation
  - o Slurred speech
  - o Residue of substance on face, hands, clothing

is in a semi-conscious type of sleep.

Solicit participants' questions concerning indicators of Narcotic Analgesic influence.

Examples:

- o plastic cement (model airplane glue, Toluene)
- o gasoline
- o paint
- o vegetable frying pan lubricants
- o hair sprays
- o insecticides
- o many others

Examples:

- o nitrous oxide
- o ether
- o chloroform

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display 27B**

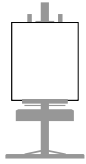


**Display 28A**

- o Confusion
- o Possible nausea
  
- d. Eye indicators of Inhalant influence:
  - o Horizontal gaze nystagmus generally will be present.
  - o Vertical nystagmus may be present (especially with high doses).
  - o Pupil size generally will be normal.

- 7. Cannabis is the category that includes the various products of the Cannabis Sativa plant.
  - a. Marijuana
  - b. Hashish
  - c. Hash Oil
  - d. Cannabis products generally are smoked, although they also can be ingested orally.
  - e. General indicators of Cannabis influence:
    - o Marked reddening of the Conjunctiva (white part of the eyeball)
    - o Body tremors
    - o Odor of marijuana
    - o Disoriented
    - o Relaxed inhibitions
    - o Difficulty in dividing

Solicit participants' questions concerning inhalants.



20 Minutes

Display 28B



attention.

- f. Eye indicators of Cannabis influence:
  - o Neither horizontal nor vertical nystagmus will be present.
  - o Pupil size generally will be dilated, but may be normal.

D. Combinations of Drugs

1. Many drug users routinely ingest drugs from two or more drug categories at the same time.
  - a. The term for this condition is "polydrug use".
  - b. In the Los Angeles Field Study (1985), 72% of the suspects had two or more drugs in them.
  - c. In that study, alcohol was often found in combination with one or more other drugs.
  - d. But even if we discount alcohol, nearly half (45%) of the Field Study suspects had two or more other drugs in them.
  - e. During Certification

Solicit participants' questions concerning Cannabis.

Point out that the prefix "poly" derives from the Greek word for "many".

Point out that 81 of the 173 suspects (47%) in the Los Angeles Field Study had alcohol in combination with one or more other drugs.

Training in New York City in early 1989, two-thirds (67%) of the suspects evaluated had two or more drugs **other than alcohol** in their urine.

2. Certain combinations of drugs appear to be fairly common.
  - a. Alcohol and some other drug is the most frequent combination.
  - b. PCP and Cannabis is another common combination.
  - c. Cocaine and Heroin is another common combination.
3. Because polydrug use is so common, you should not be surprised to encounter suspects who are under the influence of more than one category of drugs.
  - a. At some times and places, polydrug users may be more common than single drug users.
  - b. Be especially alert to the possibility that suspects who have been drinking may also have ingested some other drug or drugs.
4. The effects of polydrug use may vary widely, depending on exactly what combination of

Write these common combinations on the dry-erase board or flip-chart.

Remind participants that many PCP users prefer to ingest that drug by smoking, and a favorite method is to sprinkle powdered PCP on marijuana.



**Display 29**  
A, B, C, D

drugs is involved, how ingested and when they were ingested.

5. Any particular combination of drugs may produce four general kinds of effects.

a. Null - Neither drug has an effect on the indicator.

Null Effect: The combination of no action plus no action equals no action.

EXAMPLE OF NULL

EFFECTS: CNS Stimulant and Narcotic Analgesic. Neither drug causes nystagmus, therefore you will not see nystagmus with this combination.

b. Overlapping - Each drug may affect the suspect in some different way. In combination, both effects may appear.

Overlapping Effect: Action plus no action equals action.

EXAMPLE OF

OVERLAPPING EFFECTS: PCP and Narcotic Analgesic. PCP will enhance nystagmus, while a Narcotic Analgesic does not cause nystagmus. Therefore, you will see nystagmus.

c. Additive - The two drugs may independently produce some similar effects. In combination, these effects may be enhanced.

Additive Effect: Action plus the same action reinforces the action.

EXAMPLE OF ADDITIVE

EFFECTS: Stimulants and Hallucinogens both cause pupil dilation. Pupils would be dilated.

d. Antagonistic - The two drugs may produce some effects that are exactly opposite. In combination, these effects may mask each

Antagonistic Effect: Action versus opposite action can't predict the outcome.

**Aids**

**Lesson Plan**

**Instructor Notes**

other.



**15 Minutes**

E. Demonstrations of Drug Influence (Video)

EXAMPLE OF ANTAGONISTIC EFFECTS: A CNS

Stimulant usually causes pupil dilation, a narcotic usually causes constriction. It is possible that someone who is simultaneously under the influence of a stimulant and a narcotic may have pupils that are nearly normal in size. It is also possible that the suspect's pupils may be dilated at one time, and then become constricted, as the effects of one drug diminish while the effects of the other increase.

Show the video of the examinations of suspects under the influence of various drugs.



**25 Minutes**



Dealing With Suspected Drug Influence or Medical Impairment.

Instructor Note: This may be an opportunity to discuss various medical conditions that mimic impaired driving, i.e., diabetic shock and hypoglycemia.

NOTE: This segment of the Lesson Plans must be developed locally. Relevant topics may include:

- o Local and state laws governing drug-impaired driving and chemical testing of drug-



**Display 30**

impaired suspects.

- o Departmental procedures for interviewing, searching, etc. drug-impaired suspects.
- o Procedures for contacting drug recognition technicians and assisting in or witnessing the drug evaluation and classification examination.
- o Procedures for requesting, obtaining and handling chemical test specimens.

**G. Closing**

1. Although this course is not designed to qualify you as a DRE, it is intended to make you more knowledgeable when encountering suspects impaired by substances other than alcohol.

Consult with a DRE, if possible, and document in detail all observations.



U.S. DEPARTMENT  
OF TRANSPORTATION

# Introduction to Drugged Driving

Student Manual





# INTRODUCTION TO DRUGGED DRIVING

## PARTICIPANT'S MANUAL

## INTRODUCTION TO DRUGGED DRIVING

Upon successfully completing this module of instruction, the participant will be able to:

- o define the term "drug" in the context of DWI enforcement.
- o describe in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and in DWI enforcement.
- o name the major categories of drugs.
- o describe the observable signs generally associated with the major drug categories.
- o describe medical conditions and other situations than can produce similar signs.
- o describe appropriate procedures for dealing with drug-impaired or medically-impaired suspects.

### Content Segments

### Learning Activities

- |                                                                |                                |
|----------------------------------------------------------------|--------------------------------|
| A. Overview                                                    | o Instructor-Led Presentations |
| B. Eye Examinations: Detecting Signs of Drug Influence         | o Participant Practice         |
| C. Drug Categories and Their Observable Effects                | o Video Presentations          |
| D. Combinations of Drugs                                       |                                |
| E. Demonstrations of Drug Influence (Video/DVD)                |                                |
| F. Dealing with Suspected Drug Influence or Medical Impairment |                                |

## A. OVERVIEW

The purpose of this module is to acquaint you with the information now becoming available on the recognition of individuals who may be medically impaired or under the influence of drugs other than alcohol, and to assist you in preparing to prosecute such cases.

It is clear that police officers responsible for traffic law enforcement will encounter drug-impaired drivers. The best available data suggest that tens of millions of Americans routinely use drugs other than alcohol. And, some of these people at least sometimes drive when they are under the influence of those drugs.

Some drug-impaired drivers look and act very much like alcohol-impaired drivers. Others look and act very differently. All of them are dangerous, to themselves and to everyone else on the road.

### 1. What is a "drug"

The word "drug" means many things to many people. The word is used in a number of different ways, by different people, to convey some very different ideas.

Some sample definitions from dictionaries:

"A drug is a substance used as a medicine or in making medicines."  
(Webster's Seventh New Collegiate Dictionary, 1971)

This definition seems to exclude any substance that has no medicinal value. But there are many non-medicinal substances that regularly are abused. Model airplane glue is one such substance.

"A drug is a narcotic substance or preparation." (Also from Webster's).

Webster's further defines a narcotic as something that "soothes, relieves or lulls". Clearly, not all drugs that are of concern to police officers are narcotics. Cocaine, for example, is very different from a narcotic.

"A drug is a chemical substance administered to a person or animal to prevent or cure disease or otherwise to enhance physical or mental welfare." (From Random House's College Dictionary, 1982)

Here again, anything that has no medicinal value apparently does not fit the dictionary notion of a "drug".

From the perspective of traffic law enforcement, a non-medical concept of "drug" is needed. The definition we will use is adapted from the California Vehicle Code, Section 312:

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

2. Categories of drugs

Within the simple, enforcement-oriented definition of "drug" that we have adopted, there are seven broad categories. The categories differ from one to another in terms of how they affect people and in terms of the observable signs of impairment they produce.

Central Nervous System Depressants This category includes a large number of different drugs, all of which slow down the operation of the brain and other parts of the central nervous system (CNS). The most familiar drug of all--alcohol--is a central nervous system depressant.

Central Nervous System Stimulants This category also includes a large number of drugs, all of which act quite differently from the depressants. Central nervous system stimulants impair by "speeding up", or over-stimulating the brain. Cocaine is an example of a CNS stimulant.

Hallucinogens This category includes some natural, organic substances, and some synthetic chemicals. All hallucinogens impair the user's ability to perceive the world as it really is. Peyote (which comes from a particular variety of cactus) is a naturally-occurring hallucinogen. LSD is an example of a synthetic hallucinogen.

Dissociative Anesthetics This category consists of the drug PCP and its various analogs (or "chemical cousins") and Dextromethorphan (DXM). Originally developed for use as an anesthetic, PCP is a powerful drug that in some ways acts like a depressant, in other ways like a stimulant, and in still other ways like an hallucinogen. Ketamine is an analog of PCP.

Narcotic Analgesics This category includes the natural derivatives of opium, such as morphine, heroin, codeine and many others. The category also includes many synthetic drugs, such as demerol, methadone and others. All narcotic analgesics relieve pain (that is what "analgesic" means) and produce addiction.

Inhalants This category includes many familiar household materials such as paint, model airplane glue, aerosol sprays, etc. None of these substances is manufactured for use as a drug. However, they produce volatile fumes that can produce significant impairment, and they are abused by some people.

Cannabis This is the category that includes marijuana hashish, as well as synthetic compounds.

Each category of drugs produces a distinct set of observable effects. No two categories affect people in exactly the same way.

### 3. Frequency of drug use

No one knows with any appreciable degree of certainty how many Americans use drugs, or how frequently the various drugs are used. Estimates of drug use vary widely, and the estimates apparently depend on the kinds of people who were surveyed, where they were surveyed and the methods used. But all estimates agree that an appreciable segment of this country's population do use drugs.

All available information shows that drug use and abuse are widespread among large segments of the American public.

A 2002 survey (National Survey on Drug Use and Health) revealed that one in seven Americans aged 12 years or older (14.2 percent or 33.5 million people) admitted driving under the influence of alcohol at least once in the past year. The same survey also revealed that in 2003, an estimated 19.5 million Americans, or 8.2 percent of the population aged 12 years or older, were current illicit drug users, and that marijuana was the most commonly used illicit drug, with a rate of 6.2 percent (14.6 million) in 2003.

In 2003, an estimated 11 million people reported driving under the influence of an illicit drug during the past year. As many as 18 percent of 21 year-olds reported having driven under the influence of drugs at least once during the past year. (NSDUH Report: Drugged Driving, 2003 Update)

## B. EYE EXAMINATIONS: IMPORTANT CLUES OF DRUG INFLUENCE

A suspect's eyes often disclose some very important, and easy-to-observe indicators of drug influence or medical impairment. Five eye examinations are especially helpful:

- o Resting Nystagmus
- o Tracking Ability
- o Pupil Size
- o Horizontal Gaze Nystagmus
- o Vertical Nystagmus

Resting Nystagmus is referred to as jerking as the eyes look straight ahead. This condition is not frequently seen. Its presence usually indicates a pathology or high doses of a drug such as PCP.

NOTE: Resting Nystagmus may also be a medical problem.

Although this observation is an important medical assessment, it is NOT an HGN administrative procedure step.

Tracking ability refers to the ability of the eyes to track together when the subject attempts to follow an object moving side-to-side. The test of tracking ability is conducted in exactly the same fashion as the check for "lack of smooth pursuit" in the horizontal gaze nystagmus test. If the two eyes do not track together, i.e., if one moves smoothly but the other moves only slightly, or in a very jerky fashion, or not at all, the possibility of a medical condition or injury exists.

Pupil size is an important indicator of certain categories of drugs. Of course, the size of a person's pupils changes naturally, in response to changing light conditions. Usually, the diameter of the pupils constricts in bright light, and dilates in dark conditions.

If the two pupils are noticeably different in size, the suspect may have a glass eye, or be suffering from an injury or medical condition.

Subjects under the influence of narcotic analgesics generally have constricted pupils. Subjects under the influence of CNS stimulants or hallucinogens generally have dilated pupils. Cannabis generally causes pupil dilation. Most CNS Depressants, Dissociative Anesthetics and Inhalants generally leave pupil size within the normal range.

It is not necessary that a precise estimate of pupil size be obtained. It is enough to estimate whether the pupils are of equal size, and whether they look noticeably small, about normal, or noticeably large.

Horizontal Gaze Nystagmus generally occurs with subjects under the influence of three categories of drugs (DID):

- o CNS depressants (including alcohol)
- o Inhalants
- o Dissociative Anesthetics

The nystagmus generally will be present with a very early angle of onset. Resting nystagmus may be evident especially with high doses. That is a distinct jerking of the eyes even as the suspect stares straight ahead.

Vertical Nystagmus is another easy-to-administer test. Position the object horizontally, approximately 12-15 inches in front of the subject's nose. Instruct the subject to hold the head steady and follow the stimulus with the eyes only. Then, slowly and steadily raise the stimulus until the eyes are elevated as far as possible. If the eyes can be observed to jerk noticeably, vertical nystagmus is present.

Vertical nystagmus usually occurs with Dissociative Anesthetics, and may occur with relatively high doses of CNS depressants or inhalants.

## C. SUMMARIES OF DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

### 1. CNS Depressants

#### Action

CNS depressants slow down the operations of the brain. They usually depress the heartbeat, blood pressure, respiration and many other processes controlled by the brain.

#### Examples

Alcohol

Rohypnol

Anti-Anxiety Tranquilizers (e.g., Valium, Xanax)

Barbiturates

Muscle Relaxants

Many Others

### General Indicators

"Drunken" behavior	Sluggish
Uncoordinated	Disoriented
Drowsy	Thick, Slurred Speech

### Eye Indicators

Horizontal Gaze Nystagmus generally present.

Vertical Nystagmus possibly present.

Pupil size usually normal (except that the drug Methaqualone and Soma usually cause pupils to dilate).

## 2. CNS Stimulants

### Action

CNS stimulants accelerate the heart rate and respiration, elevate the blood pressure, and "speed up" or over-stimulate many other processes of the body.

### Examples

Cocaine

The Amphetamines (e.g., dextroamphetamine, amphetamine sulfate, etc.)

Methamphetamine

### General Indicators

Restlessness	Grinding Teeth (Bruxism)
Talkative	Redness to Nasal Area (if "snorting")
Excitation	Runny Nose (if "snorting")
Euphoria	Body Tremors
Exaggerated Reflexes	Loss of Appetite

### Eye Indicators

Nystagmus generally will not be present.

Pupils generally will be dilated.

## 3. Hallucinogens

### Action

Hallucinogens may cause hallucinations, i.e., they cause the user to perceive things differently from the way they really are.

Examples

Peyote (derives from cactus)  
Psilocybin (derives from mushrooms)  
LSD  
MDA  
MDMA (Ecstasy)  
Many Others

General Indicators

Hallucinations	Disorientation
Dazed Appearance	Paranoia
Body Tremors	Difficulty in Speech
Uncoordinated	Nausea
Perspiring	Piloerection (goose bumps)

Eye Indicators

Nystagmus generally will not be present.  
Pupils generally will be dilated.

4. Dissociative Anesthetics

Action

Dissociative Anesthetics are powerful anesthetics. However, they also cause bizarre and sometimes violent behavior.

General Indicators

Perspiring	Blank Stare
Repetitive Speech	Incomplete Verbal Responses
Confused	Muscle Rigidity
Possibly Violent and Combative	

Eye Indicators

Horizontal gaze nystagmus generally will be present, often with early onset.  
Vertical nystagmus generally will be present.  
Pupil size generally normal.

5. Narcotic Analgesics

Action

All narcotic analgesics share three important characteristics: they relieve pain; they produce withdrawal signs and symptoms when the drug is stopped after chronic administration; and, they suppress the withdrawal signs and symptoms of chronic morphine administration.

Examples

Morphine	Fentanyl
Heroin	Demerol
Codeine	Methadone
	OxyContin
Many Other	Many Other
Opium Derivatives	Synthetic Opiates

General Indicators

"On the Nod"	Facial Itching
Droopy Eyelids	Low, Raspy Speech
Depressed Reflexes	Fresh Puncture Marks May Be
Dry Mouth	Evident

NOTE: A tolerant user who has taken their "normal" dose of narcotic analgesic may not exhibit these general indicators.

Eye Indicators

Nystagmus generally will not be present.

Pupils generally will be constricted.

6. Inhalants

Action

Some inhalants include psychoactive chemicals that produce a variety of effects. Others exert their major effect by blocking the passage of oxygen to the brain.

Examples

Volatile Substances (glue (toluene), paint, gasoline, many others)

Aerosols (hair sprays, insecticides, many others)

Anesthetics (nitrous oxide, ether, chloroform, etc.)

General Indicators

Disorientation	Slurred Speech
Confusion	Possible Nausea

Possible residue of substance on face, hands, clothing.

Eye Indicators

Horizontal gaze nystagmus generally present.  
Vertical nystagmus possibly present.  
Pupil size generally normal.

7. Cannabis

Action

Marijuana and other Cannabis products impair the attention process. Ability to perform divided attention tasks diminishes under the influence of Cannabis.

Examples

Marijuana	Marinol
Hashish	Dronabinol
Hash Oil	

General Indicators

Reddening of Conjunctiva	Disoriented
Body Tremors	Relaxed inhibitions
Odor of Marijuana	Difficulty in Dividing Attention

Eye Indicators

Nystagmus generally will not be present.  
Pupil size will generally be dilated, but sometimes can be normal.

D. DRUG COMBINATIONS

Many substance abusers apparently routinely use more than one drug at a time. For example, some like to drink alcohol while smoking marijuana. Others prefer to use PCP by sprinkling it on marijuana cigarettes, or "joints". Some prefer their heroin mixed with cocaine.

Polydrug use is defined as ingesting drugs from two or more drug categories. The prefix "poly" derives from the Greek word for "many". People who routinely use two or more drugs in combination are polydrug users.

Polydrug use appears to be very common, at least among people involved in impaired driving incidents. For example, the National Highway Traffic Safety Administration and the Los Angeles Police Department (LAPD) conducted a careful study of blood samples drawn from nearly 200 suspected drug-impaired drivers arrested in Los Angeles. Nearly three-quarters of those arrestees had two or more drugs in their systems.

It is actually more common for an officer to encounter polydrug users than single drug users. In 1985, during the Los Angeles field validation study of the DRE program, 72% of the suspects had two or more drugs in them. Alcohol was often found in combination with one or more other drugs. But, if we discount alcohol, nearly half (45%) of the field study suspects had two or more other drugs in them.

In 1989, during DRE certification training in New York City, two thirds (67%) of the suspects evaluated had two or more drugs other than alcohol in their urine.

Because polydrug use is so common, it is highly likely that police will encounter suspects who are impaired by a combination of drugs, and who use alcoholic beverages to mask drug use.

When police come in contact with a polydrug user, a combination of effects may be observed in the suspect. The effects may vary widely, depending on exactly which combination of drugs is involved, how much of each drug was ingested, and when they were ingested.

In general, any combination of drugs may act together in four general ways.

1. Null - Neither drug has an effect on the indicator.

Null Effect: The combination of no action plus no action equals no action.

EXAMPLE OF NULL EFFECTS: CNS Stimulant and Narcotic Analgesic. Neither drug causes nystagmus, therefore you will not see nystagmus with this combination.

2. Overlapping - Each drug may affect the suspect in some different way. In combination, both effects may appear.

Overlapping Effect: Action plus no action equals action.

EXAMPLE OF OVERLAPPING EFFECTS: Dissociative Anesthetic and Narcotic Analgesic. Dissociative Anesthetic will enhance nystagmus, while a Narcotic Analgesic does not cause nystagmus. Therefore, you will see nystagmus.

3. Additive - The two drugs may independently produce some similar effects. In combination, these effects may be enhanced.

Additive Effect: Action plus the same action reinforces the action.

EXAMPLE OF ADDITIVE EFFECTS: Stimulants and Hallucinogens both cause pupil dilation. Pupils would be dilated.

4. Antagonistic - The two drugs may produce some effects that are exactly opposite. In combination, these effects may mask each other.

Antagonistic Effect: Action versus opposite action can't predict the outcome.

EXAMPLE OF ANTAGONIS-TIC EFFECTS: A CNS Stimulant usually causes pupil dilation, a narcotic usually causes constriction. It is possible that someone who is simultaneously under the influence of a stimulant and a narcotic may have pupils that are nearly normal in size. It is also possible that the suspect's pupils may be dilated at one time, and then become constricted, as the effects of one drug diminish while the effects of the other increase.

## E. DEALING WITH SUSPECTED DRUG INFLUENCE OR MEDICAL IMPAIRMENT

Participants should become familiar with their agency's policies and procedures for handling drug- or medically-impaired subjects.

## F. TOPICS FOR STUDY

Test your knowledge of the subject matter covered in this module by trying to answer the following questions. Answers are given on the next page.

1. What is a "drug" as the term is used in this course?
2. What are the seven major categories of drugs?
3. What kind (category) of drug is alcohol? What about cocaine? What about heroin?
4. Name the four eye examinations that provide important indicators of drug influence or medical impairment.
5. What kind (category) of drug is PCP? What about marijuana? What about Valium?
6. What category (or categories) of drug usually causes (or cause) the pupils to constrict?
7. What category (or categories) of drug causes (or cause) the pupils to dilate?
8. What categories of drugs usually will not induce horizontal gaze nystagmus?
9. What kind (category) of drug is methamphetamine? What about LSD? What about Peyote?
10. What does the term "polydrug use" mean?

### Answers To Review Questions

1. For purposes of this training, "a drug is any substance, which when taken into the human body, can impair the ability of the person to operate a vehicle safely."
2. The seven categories are:
  - Central Nervous System Depressants
  - Central Nervous System Stimulants
  - Hallucinogens
  - Dissociative Anesthetics
  - Narcotic Analgesics
  - Inhalants
  - Cannabis
3. Alcohol is a CNS depressant. Cocaine is a CNS stimulant. Heroin is a narcotic analgesic.
4. The four key eye examinations include:
  - Tracking Ability
  - Pupil Size
  - Horizontal Gaze Nystagmus
  - Vertical Nystagmus
5. PCP is a Dissociative Anesthetic; that category consists only of PCP and its various analogs. Marijuana is Cannabis. Valium is a CNS depressant.
6. Narcotic Analgesics usually cause the pupils to constrict.
7. CNS Stimulants, Hallucinogens, and Cannabis usually cause the pupils to dilate. Sometimes Cannabis can leave pupils normal.
8. CNS Stimulants, Hallucinogens, Narcotic Analgesics and Cannabis do not cause horizontal gaze nystagmus.
9. Methamphetamine is a CNS stimulant. LSD and Peyote are Hallucinogens.
10. "Polydrug use" is the practice of ingesting drugs from two or more drug categories, i.e., combining drugs.

## CATEGORY

Signs/ Symptoms	CNS Depressants	CNS Stimulants	Hallucinogens	Dissociative Anesthetic
ACTION	Slow down the operations of the brain. Depress the heartbeat, blood pressure, respiration and many other processes controlled by the brain.	Accelerate the heartrate and respiration, elevate the blood pressure and "speed up" or overstimulate many other processes of the body.	They cause the user to perceive things differently from what they really are and they may cause hallucinations.	Powerful anesthetic. It also causes bizarre and sometimes violent behavior.
GENERAL INDICATORS	"Drunken" behavior, Uncoordinated, Drowsy, Sluggish, Disoriented, Thick, Slurred Speech	Restlessness, Talkative, Excitation, Euphoria, Exaggerated Reflexes, Loss of Appetite, Grinding Teeth (Bruxism), Redness to Nasal Area (if "snorting"), Body Tremors	Hallucinations, Dazed Appearance, Body Tremors, Uncoordinated, Perspiring, Disorientation, Paranoia, Difficulty in Speech, Nausea	Perspiring, Repetitive Speech, Confused, Possibly Violent and Combative, Blank Stare, Incomplete Verbal Responses, Muscle Rigidity
<u>EYE INDICATORS</u> Nystagmus -Horizontal	Present	Not present	Not present	Present, with early onset and very distinct jerking
Nystagmus -Vertical	May be present	Not present	Not present	Present
Pupil Size	Normal ( <u>except</u> that the drug Methaqualine Soma causes pupils to dilate)	Will be dilated	Will be dilated	Is normal

CATEGORY

Signs/Symptoms	Narcotic Analgesics	Inhalants	Cannabis
<b>ACTION</b>	All narcotic analgesics share three important characteristics: they will relieve pain, they will produce withdrawal signs and symptoms when the drug is stopped after chronic administration; and, they will suppress the withdrawal signs and symptoms of chronic morphine administration.	Some inhalants include psychoactive chemicals that produce a variety of effects. Others exert their major effect by blocking the passage of oxygen to the brain.	Marijuana and other Cannabis products apparently impair the attention process. Ability to perform divided attention tasks diminishes under the influence of Cannabis.
<b>GENERAL INDICATORS</b>	"On the Nod", Droopy Eyelids, Depressed Reflexes, Dry Mouth, Facial Itching, Low, Raspy Speech, Fresh Puncture Marks May be Evident	Disorientation, Confusion, Slurred Speech, Possible Nausea, Possible residue of substance on face, hands, clothing	Reddening of Conjunctiva, Body Tremors, odor of Marijuana, Disoriented, Relaxed Inhibitions, Difficulty in Dividing Attention
<b><u>EYE INDICATORS</u></b> Nystagmus - Horizontal	Not present	Will be present	Not present
Nystagmus - Vertical	Not present	May be present	Not present
Pupil Size	Will be constricted	Is normal	Will be dilated, but may be normal



DRUGS THAT IMPAIR DRIVING

INSTRUCTOR'S LESSON PLANS  
ADMINISTRATOR'S GUIDE

Printed 2/06

U.S. DEPARTMENT OF TRANSPORTATION  
Transportation Safety Institute  
National Highway Traffic Safety Administration



## A. Purpose Of This Document

This Administrator's Guide provides an introduction to and an overview of the one day instructional module entitled "Drugs That Impair Driving." This module is to be taught in a State which has a Drug Evaluation and Classification Program, (DEC) or a State that has legislation to be eligible for a DEC Program. The module is designed to be delivered as a stand alone curriculum or as a part of the curriculum entitled "DWI Detection and Standardized Field Sobriety Testing". The program of instruction is intended for delivery to as many as possible of the nation's traffic law enforcement officers. That curriculum is designed to help those officers become more proficient at detecting, apprehending, testing and convicting impaired drivers.

The module's subject matter relates to a second curriculum, "Drug Evaluation and Classification," which provides a seven-day classroom training program as the first step in qualifying an officer to serve as a Drug Recognition Expert (DRE). This training is intended to be delivered on a much more selective basis, e.g., perhaps to only a few percent of traffic law enforcement officers. 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 reason to believe that alcohol alone is not responsible for the impairment.

A mounting body of data suggests that an appreciable percentage of DWI violators may be under the influence of drugs other than alcohol, either alone or in combination with alcohol. Estimates of this "appreciable percentage" vary, but all estimator agree that the average DWI enforcement officer almost inevitably will encounter drug-impaired drivers from time to time. Therefore, it is important that the officer be able to recognize when they have encountered a drug-impaired suspect, and to call this to the attention of a qualified DRE. The module is designed to address that need.

This Administrator's Guide is intended for law enforcement agencies that have already trained their personnel in standardized field sobriety testing. The Guide supports delivery of the module "Drugs That Impair Driving" as a stand-alone program of instruction, e.g., for in-service training.

This Administrator's Guide facilitates planning and implementation of the module. The Guide overviews the one-day course of instruction and the documents and other materials that make up the module's curriculum package. It describes the module's administrative requirements and offers guidelines for discharging those requirements satisfactorily. It outlines the preparatory work that must be accomplished by a law enforcement agency before the module can be offered to that agency's personnel. And, it describes the follow-up work that should be undertaken to ensure the continuing delivery of the highest possible quality of instruction.

Before addressing the details of this introductory module, it is appropriate to emphasize one thing that the module will not do:

**THIS TRAINING WILL NOT QUALIFY  
AN OFFICER TO SERVE AS A DRUG  
RECOGNITION EXPERT.**

The subject matter covered touches upon some (but not all) of the factors a DRE considers in examining a drug-impaired suspect. But no one should attempt to identify drug categories based only on the knowledge acquired through this module. Any such attempt could certainly diminish the court's willingness to accept, the highly specialized knowledge and skills that a DRE must work long and hard to develop.

B. Overview of the Module

1. For Whom Is the Training Intended?

This module is designed primarily for police officers who meet the IACP/NHTSA National Standardized Field Sobriety Testing Program Standards and who have successfully completed an IACP/NHTSA approved curriculum. The officer must be able to administer and interpret the horizontal gaze nystagmus 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, and the procedures for those eye examinations derive largely from HGN procedures.

## 2. What Are The Purposes of Module?

The purpose of the module is to improve students' ability to recognize suspects who may be under the influence of drugs other than alcohol, and to take appropriate action when they encounter such suspects. In those agencies that have a Drug Evaluation and Classification Program, the "appropriate action" would be to summon a DRE. In non-DEC States, the "appropriate action" usually will be to request a medical examination of the suspect. The hope and expectation is that, due to this training, fewer drug-or medically-impaired suspects will avoid detection or be treated simply as alcohol-impaired. Note that the purpose of this module does not require that the student develop the ability to distinguish what type of drug is responsible for the observed impairment. Indeed, we assert that this module, by itself, cannot develop that ability. But, the student should become more adept to recognizing the possible presence of some drug other than alcohol, or a medical condition, and at conveying a credible basis for that suspicion.

## 3. What Will The Students Get Out of The Module?

The student who successfully completes the module will be able to:

- o define the term "drug" in the context of this course;
- o describe in approximate, quantitative terms the incidence of drug involvement in motor vehicle crashes and DWI enforcement;
- o name the major categories of drugs;
- o describe the observable signs of impairment generally associated with the major drug categories;
- o describe medical conditions and other situations that can produce similar signs of impairment; and,
- o describe appropriate procedures for dealing with drug-impaired or medically impaired suspects.

#### 4. What Subject Matter Does the Module Cover?

The principal content topics include:

- a. The concept of "drugs" in the context of DWI enforcement. Basically, as far as the traffic law enforcement officer is concerned, a "drug" is a substance that impairs driving ability.
- b. The magnitude and scope of drug use and abuse in America, and the involvement of drugs in impaired driving incidents.
- c. The role of eye examinations in disclosing the possibility of drug impairment, and in suggesting the possible category or categories of drugs, or medical conditions causing a particular suspect's impairment.
- d. The observable effects of each of seven major categories of drugs.
- e. The effects likely to result from various combinations of drugs.
- f. The department's prescribed procedures for dealing with cases involving suspected drug influence or medical conditions.

#### 5. What Activities Take Place During the Training?

The module relies primarily on instructor-led presentations. This is in keeping with its focus on information development, rather than skill development.

#### 6. How Long Does The Module Take?

The total instructional time is eight hours.

### C. Overview Of The Curriculum Package

In addition to the Administrator's Guide, the curriculum package for this module includes the following material:

- o Instructor's Lesson Plans Manual
- o Visual Aids
- o Student's Manual

## 1. Instructor's Lesson Plans Manual

The Instructor's Lesson Plans Manual is a complete and detailed blueprint of what the module covers and how it is to be taught. The lesson plans are arranged in a standard, side-by-side format. The left side page outlines the subject-matter content, i.e., what is to be taught. The "content" page presents:

- o The approximate amount of time to be devoted to each major content segment;
- o indications of what visual aids are to be used and when they are to be used;

The right side page presents "instructional notes" associated with the content. The notes outline how the content is to be taught. Typical entries under the instructional notes column include:

- o the approximate amount of time to be devoted to each major content segment;
- o indications of what visual aids are to be used and when they are to be used;
- o questions that can be posed to the students to involve them more actively in the presentation;
- o indications of points requiring special emphasis;
- o examples and other techniques for clarifying the concepts being presented.

The Instructor's Lesson Plans Manual serves, first, as a means of preparing the instructor to teach the module. He or she should review the entire set of lesson plans, and become familiar with their contents and learning activities, to develop a clear understanding of how the various segments of the module "fit" together. The instructor is expected to become thoroughly familiar with each segment that he or she is assigned to teach, to prepare the relevant visual aids, and to assemble all "props" and other instructional notes as necessary to ensure that his or her own teaching style is applied to the content.

Subsequently, the Instructor's Lesson Plans Manual serves as an in-class reference document for the instructor, to help him or her maintain the sequence and pace of presentations and other learning activities.

It is worth emphasizing that the Instructor's Lesson Plans Manual does not contain the texts of speeches. Although its outlines of content information are fairly well detailed, those outlines are not to be read verbatim to the participants.

## 2. Visual Aids

Four types of visual aids are used in this module:

- o dry-erase board/flip-chart presentations (which are indicated in the "instructional notes" of the lesson plans, and are self-explanatory);
- o overhead transparencies;
- o PowerPoint;
- o video tape/DVD.

The overhead transparencies, or "visuals", are simple displays of graphic and/or narrative material that emphasize key points and support the instructor's presentation.

Each visual is numbered, and is referenced by number in the lesson plans to indicate when and how the visual is to be used.

Paper copies of all visuals are included in the Instructor's Lesson Plans Manual. Those copies can be photocopied onto acetate to produce overhead transparencies, or they can be photographed to produce 35mm slides, or PowerPoint slides can be used.

The videos are excerpts from the videos developed for NHTSA's Drug Evaluation and Classification Training Program. They depict portions of examinations of persons suspected of drug impairment.

## 3. Student's Manual

The Student's manual is the principal reference source for this module. It contains summaries of the main points of the module's content and

guidance for further study and review by the student.

#### D. General Administrative Requirements

##### 1. Delivery Contexts

This module is compatible with a wide variety of delivery contexts. NHTSA designed the module as an integral part of the "DWI Detection and Standardized Field Sobriety Testing" curriculum. But the module can also be delivered as a stand-alone training program, e.g., as a portion of the department's annual in-service training schedule. The module is also suited to serve as briefing material for judges, prosecutors and other traffic safety personnel.

##### 2. Facility Requirements

The module requires no special instructional facilities. A standard classroom, equipped with a screen, dry-erase board, appropriate projector, video tape player and monitor and adequate seating/table space for all students will suffice.

##### 3. Instructor Qualifications

**The principal instructor(s) for this module should be a Drug Evaluation and Classification Instructor or a DRE who is a SFST Instructor.**

##### 4. Class Size Considerations

Because the module is concerned primarily with information delivery rather than skills development, reasonably large classes can be accommodated. A practical upper limit is approximately 35-40 students sufficient opportunity to interact with instructors (e.g., through questions, comments, etc.) as much as would be desired.

#### E. Planning and Preparation Requirements

The planning and preparation requirements for this module are the standard requirements associated with any classroom training:

- o Select instructors and assign them to deliver specific segments of the module. Make sure that all instructors review all portions of the module, so that they understand how their assignments "fit into" the total program.

- o Prepare all visuals.
- o Obtain the necessary instructional equipment and make sure that all equipment is in proper working order.
- o Verify that all candidate students have successfully completed (or will have completed, prior to delivery of the module) the IACP/NHTSA Standardized Field Sobriety Testing Training.
- o Arrange the classroom so that all students will have a clear view of the instructor, screen, dry-erase board and video monitor.
- o Obtain (or reproduce) sufficient copies of the Student's Manual and any other handout materials.

#### F. Follow-Up Requirements

It is highly desirable that both the delivery and impact of this module be evaluated. Evaluation of "delivery" focuses on the general question "what did the students think of this training?" Evaluation of the "impact" concerns itself with "how has the training affected students' on-the-job performance"?

Important data for evaluating training "delivery" can be obtained from the anonymous Student's Critique Form (included in the Instructor's Lesson Plans Manual). Each student should be requested to complete and submit the form immediately upon conclusion of the training. Guidelines for analyzing the students Critique Form and preparing a post-course evaluation report are covered in Section G.

#### G. Guidelines For Preparing Post-Course Evaluation

A participant's critique form is provided to document participant's initial rating of course content and activities.

The following instructions are provided to guide review, analysis and interpretation of participant's comments:

##### Section A - Workshop/Seminar Objectives

Determine raw tabulation and percentages for each objective:

- o If the "no"/"not sure" responses total 20% or more, some explanation should be provided. Assess the problem and explain

or recommend changes as appropriate.

## Section B - Course Activities

The rating choice are as follows:

1. Very Important
2. Somewhat Important
3. Un-Important
4. Not Sure

### Analysis Procedures

Step 1: Tabulate total number of responses in each category for each activity.

Step 2: The following values should be applied:

- o +2 for each "very important"
- o 0 for each "somewhat important"
- o -2 for each " un-important"
- o -1 for each "not sure"

Step 3: Determine total number of points for each activity.

Step 4: Divide the totals by twice the number of votes(N).

Step 5: The result is the final rating.

Any rating of +.5 or higher indicated the participant's consensus was that the activity (segment) was "very important."

If the rating is below +2, some explanation should be provided...assess the reason(s) and explain or recommend changes as appropriate.

If the rating is below 0 there is a serious problem...assess the problem(s) and explain or recommend changes as appropriate.

### Section C - Course Design

Determine raw tabulation and percentage for each statement.

Some comment or explanation should be provided if the inappropriate ("agree"/"disagree") or "not sure" responses exceed 20%.

### Section D & E - Topic Deletion/Additions

Prepare a summary of responses for each section. Comment as appropriate.

### Section F - Overall Quality of the Seminar

Total the numerical ratings, and divide by the number of responding participants. That gives the average rating for the seminar, on the scale from 1 ("very poor") to 5 ("excellent"). Comment as appropriate.

### Section G - Quality of Instruction

For each instructor, tabulate his or her numerical ratings, and divide by the number of responding participants. Comments as appropriate.

### Sections H - Final Comments

Prepare a summary of responses for each section. Comment as appropriate.

Note: A copy of the completed post course evaluation report should be forwarded to the appropriate State Highway Safety Office and/or NHTSA Regional Office.

### H. Requests For Information, Assistance or Materials

Requests for further assistance should be directed to the Transportation Safety Institute, via your State's Office of Highway Safety and your NHTSA Regional Office.

30 Minutes

SESSION I  
INTRODUCTION AND OVERVIEW

## SESSION I INTRODUCTION AND OVERVIEW

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

- o State the goals and objectives of the course.
- o Define the term "drug" in the context of DWI enforcement.
- o Name the seven categories of drugs.
- o Describe the observable signs generally associated with the seven drug categories.
- o Describe medical conditions and other situations that can produce similar signs.
- o Describe the applicable laws relating to driving under the influence of drugs.
- o Describe the administrative per se requirements and procedures involved in DWI drug incidents.
- o Describe the procedures for obtaining, packaging and processing toxicology samples.

### CONTENT SEGMENTS

### LEARNING ACTIVITIES

- |                                      |                                |
|--------------------------------------|--------------------------------|
| A. Overview                          | o Instructor-Led Presentations |
| B. Objectives                        | o Instructor-Led Presentations |
| C. Definition of "Drug"              | o Instructor-Led Presentations |
| D. Overview of Seven Drug Categories | o Instructor-Led Presentations |
| E. Legal Issues                      | o Instructor-Led Presentations |



30 Minutes



Display I-1

## INTRODUCTION AND OVERVIEW

- A. Welcoming Remarks and Overview
1. **If this is taught as a stand alone curriculum begin here:** Welcome to the Drugs That Impair Driving. Introduce the Instructors.  
  
Ask participants to introduce themselves.
  2. **If this is taught as part of the SFST curriculum begin here:** Session purpose.
    - a. The purpose of this session is to improve your ability to recognize suspects who may be under the influence of drugs other than alcohol or medically impaired and to take appropriate action when you encounter such a suspect.
    - b. Alcohol certainly remains the most frequently abused drug, and most impaired drivers are under the influence of alcohol.
    - c. But many other drugs also are routinely abused by many drivers.

Total Session Time:  
Approximately 30 Minutes

### Segment A: 5 Minutes

Ask participants why they are taking the course and when they were trained in SFST. If any participants have not attended a SFST training program, they can not attend this module.

Ask participants: What drug is responsible for most DWI violations in America?"

- d. It is highly likely that every experienced DWI enforcement officer has encountered at least some suspects who were under the influence of drugs other than alcohol or in combination with alcohol.
- e. Depending upon the specific types of drugs they have taken, some drug-impaired suspects may look and act quite a bit like persons who are under the influence of alcohol.
- f. But others will look and act very differently from alcohol-impaired suspects.
- g. It is important that you be able to recognize suspects who may be under the influence of other drugs, so that you will know when to summon assistance from physicians, other appropriate persons or trained Drug Recognition Experts.

**B. Goals and Objectives of Course**

**1. Goal:**

To identify and apprehend individuals who are impaired by drugs.

Point out: that not all States have Drug Recognition Experts.

Point out: Some States refer to DREs as Drug Recognition Technicians (DRT), Drug Recognition Evaluators (DRE) or Drug Recognition Specialists (DRS).

**Segment B: 5 Minutes**



**Display I-2**

**Aids**

**Lesson Plan**

**Instructor Notes**



Display I-3

- 2. Objectives:
  - a. To recognize impairment associated with drug use.
  - b. To define "drug" as it relates to highway safety.
  - c. To identify the seven categories of drugs and recognize the major observable indicators.
  - d. To successfully document the impaired driving arrest.
  - e. One important thing that this session WILL NOT accomplish: it WILL NOT qualify you to perform the functions of a Drug Recognition Expert (DRE).
  - f. Officers become DREs only after they have completed a very challenging program that includes nine days of classroom training and many weeks of closely supervised on-the-job training.

Selectively reveal the objectives.

STRESS THIS POINT



Display I-4

- C. Definition of "drug"
  - 1. The word "drug" is used in many different ways, by many different people.

**Segment C: 5 Minutes**



Display I-5

2. The corner druggist and the U.S. Drug Enforcement Administration are both concerned with "drugs", but they don't have exactly the same thing in mind when they use that word.
3. And neither the druggist nor the DEA have the same perspective as the DWI enforcement officer.
4. For our purposes, a "drug" is: any substance, which, when taken into the human body, can impair the ability of the person to operate a vehicle safely.
  - a. This definition excludes some substances that physicians consider to be drugs. Example: nicotine.
  - b. This definition includes some substances that physicians don't usually think of as drugs. Examples: model airplane glue, paint.

D. Overview of Drug Categories

1. The seven categories are organized on the basis of the physiological effects or signs that they produce.

Working definition is derived from California Vehicle Code, Section 312; 1992. This is the standard working definition as adapted by the IACP National Drug Recognition Expert Training Standards.

Ask participants: What are some things that physicians would consider to be "drugs" that would not be covered under this definition?

Ask participants: What are some common chemical substances that doctors don't usually consider drugs, but that definitely impair driving ability?

**Segment D: 10 Minutes**

Point out that some medical texts may use different numbers of drug categories, with different names for the various categories.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display I-6**



- a. The drugs that belong to a particular category produce basically the same effects.
  
- b. Basically, two different categories produce different effects.
  
- 2. Within this enforcement-oriented definition, there are seven categories of drugs.
  - a. Central Nervous System (CNS) Depressants
  - b. Central Nervous System (CNS) Stimulants
  - c. Hallucinogens
  - d. Dissociative Anesthetics
  - e. Narcotic Analgesics
  - f. Inhalants
  - g. Cannabis
  
- 3. The exact incidence of drugged driving is not actually known. However, the following facts are known about this highway safety problem:
  - a. Fact: In 2002, about 11 million illicit drug users admitted driving after using

Example: Alcohol and Valium both are CNS depressants.

A person under the influence of Valium will look, act and feel basically the same as a person under the influence of alcohol.

Example: A person under the influence of a CNS Stimulant will not look, act or feel exactly like someone under the influence of PCP.

Selectively reveal each category.

Solicit participants' questions concerning drug categories.

Source: National Survey on Drug Use and Health (NSDUH), September 2003.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display I-7**



**Display I-8**



an illicit drug.

b. Fact: A study in California of young male (15-34 years old) drivers killed in crashes in the early 1980's revealed that more than half (51 percent) tested positive for drugs other than alcohol. The most prevalent drug (other than alcohol) was cannabis at 37%. 30% of all cases had both alcohol and cannabis.

c. Fact: University of Tennessee (1988) found 40% of crash injured drivers had drugs other than alcohol in them.

d. In 2004, 19.1 million Americans (7.9% of the population) aged 12 years or older were current illicit drug users.

e. Marijuana was the most commonly used illicit drug in 2004, with 14.6 million.

f. In 2004, 6.0 million people were users of psychotherapeutic drugs taken non-medically.

g. In 2004, an estimated 2 million persons were current Cocaine users.

**E. Legal Issues**

1. Address the applicable state

Source: Compton, R. and Anderson, T. The incidence of Driving Under the Influence of Drugs: 1985, National Highway Traffic Safety Administration, 1985.

Source: **Washington Post**, February 17, 1987.

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings.

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings.

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings.

Source: Results from the 2004 National Survey on Drug Use and Health: National Findings.

Segment E: 5 Minutes

Ask participants' to discuss the

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>laws relating to DWI/Drugs with specificity.</p> <p>2. Discuss the administrative per se issues relating to ability to demand and obtain urine and/or blood tests.</p> <p>3. Discuss the procedures for obtaining, collecting and analyzing toxicology samples.</p>	<p>following questions regarding DWI/Drugs:</p> <ul style="list-style-type: none"><li>- Does the same law apply to DWI alcohol and/or drugs, or are there separate laws?</li><li>- Does the statute address operating a vehicle while under the influence or while being impaired.</li><li>- Is there an additional, separate statute making general drug intoxication or internal bodily possession illegal?</li><li>- What process is in place to obtain a urine and/or blood test for drug influence cases?</li><li>- What basis of suspicion, i.e., reasonable cause, is required?</li><li>- How is the blood or urine sample to be obtained?</li><li>- How is the sample to be processed, i.e., packaged, deposited or delivered to the toxicology lab?</li></ul> <p>Solicit participants' questions or comments concerning drug use and drug involvement in impaired driving.</p>
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2 Hours

SESSION II

THE SEVEN DRUG CATEGORIES  
AND MAJOR INDICATORS OF IMPAIRMENT

SESSION II            THE SEVEN DRUG CATEGORIES AND MAJOR  
INDICATORS OF IMPAIRMENT

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

- o      Overview the major indicators of impairment.
- o      Name examples of the drugs in each of the seven categories.
- o      Identify the indicators of impairment associated with each category.
- o      Describe medical clues that mimic drug impairment.

CONTENT SEGMENTS

LEARNING ACTIVITIES

A.    Major Indicators of  
      Impairment

o      Instructor-Led Presentation

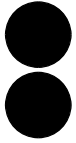
B.    Drug Categories

o      Instructor-Led Presentation

**Aids**

**Lesson Plan**

**Instructor Notes**



**120 Minutes**



**30 Minutes**



**Display II-1**

**THE SEVEN DRUG CATEGORIES AND MAJOR INDICATORS OF IMPAIRMENT**

**A. Major indicators of impairment.**

1. All drugs affect the body in predictable fashion with different categories affecting the body differently.
2. The signs and symptoms you see during the suspect's arrest will be essential to determine if they are impaired by a drug other than alcohol.
3. As the arresting officer, it will be imperative that you document your observations for use in court.
4. Most law enforcement agencies have a field note sheet to document your findings.
5. Some common observations, signs and symptoms of drug impairment have been included in your manual for a reference and may assist in preparing your field notes and arrest reports.

**THIS SESSION IS ON A VERY COMPACT TIME SCHEDULE. THEREFORE, IT IS IMPERATIVE THAT YOU DO NOT EMBELLISH THE MATERIAL PROVIDED.**

Even if an expert is called to conduct an evaluation on the suspect, the arresting officer's field observations are essential for that evaluation as well as court testimony.

Suggest that if their Agency doesn't have a field note sheet, they may want to develop one that is consistent with Phase I, II, III of the SFST program.

Refer the participants to the Field Note Sheet.

**Aids**

**Lesson Plan**

**Instructor Notes**

6. We will discuss the major indicators of impairment, then tie the observable signs of impairment with the drug category.

a. Psychophysical Tests

(1) HGN

(a) Review



**Display**  
II-1a - II-1d

(2) Walk and Turn

(a) Review



**Display**  
II-2a - II-2g

(3) One Leg Stand

(a) Review



**Display**  
II-3a - II-3e

(4) Romberg Balance

(a) The Romberg Balance is an additional test that can be administered if drug use is suspected.



**Display**  
II-4a - II-4b

(b) The test requires the suspect to stand with the feet

Note: If the instructor determines that a detailed review of the walk and turn and one leg stand is necessary, refer to the lesson plans in Appendix I.

Demonstrate the stance required of the suspect.

**Aids**

**Lesson Plan**

**Instructor Notes**

<p>HS 178B R2/06</p>	<p>together and the head tilted back slightly and with the eyes closed.</p> <p>(c) The test also requires that the suspect attempt to estimate the passage of 30 seconds; the suspect must be instructed to open the eyes and tilt the head forward and say stop when they think that 30 seconds have gone by.</p> <p>(d) The officer must record how much time actually elapsed from the start of the test until the suspect opened the eyes.</p> <p>(e) If the suspect continues to keep the eyes closed for 90 seconds, the officer should stop the test and record the fact that it was terminated at 90 seconds.</p>	<p>Emphasize that the officer must not instruct the suspect as to how he or she is supposed to estimate the passage of thirty seconds.</p> <p>Point out that some drugs tend to "speed up" the suspect's internal body clock, so that the suspect may open the eyes after only 10 or 15 seconds have gone by. Other drugs may "slow down" the internal body clock, so that the suspect keeps the eyes closed for 60 or more seconds. And, sometimes the drugs confuse the suspect to the point where he or she won't remember to open the eyes until instructed to do so by the officer.</p>
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**20 Minutes**

**B. Administrative Procedures**

1. Stand with your feet together, arms at your sides.
2. Just watch me and listen to me while I give you the instructions for this test; don't start doing the test until I tell you to start.
3. When I tell you to start, I want you to tilt your head back slightly (demonstrate), and close your eyes (don't demonstrate).
4. Once you have closed your eyes, I want you to remain in that position until you think that 30 seconds have gone by.
5. As soon as you think 30 seconds have passed by, open your eyes and tilt your head forward and say stop.

Two instructors should demonstrate the administrative procedures for Romberg Balance. One instructor will play the role of the officer, the other the "suspect".

Ask the "suspect" if he or she understands the instructions thus far. 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.

Emphasize that the officer must not close his or her own eyes, for officer safety.

Ask the "suspect" if he or she understands the instructions.

Emphasize that the officer must look at a watch as soon as the suspect starts the test, and must record the actual amount of time that passes by until the suspect opens the eyes.

**Aids**

**Lesson Plan**

**Instructor Notes**



**10 Minutes**

**C. Instructor-led demonstrations**

- o Instructor-to-instructor demonstrations.
  
  
  
  
  
  
  
  
  
  
- o Instructor-to-student demonstrations.

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

Solicit participant's questions.

Select a student to participate in the demonstration.

The instructor should administer a complete Romberg Balance test to the student.

Thank the student for his or her participation and solicit questions.

Select two participants to conduct demonstrations.

**Segment D: 20 Minutes**

Have the first student administer the test to the second student.

Offer constructive criticism, as appropriate, about the student-administrators demonstration.

Have the second student administer the test to the first student, and offer appropriate constructive criticism.

Thank the participants for their participation and solicit questions.



**20 Minutes**

**D. Student-led demonstrations**

**Aids**

**Lesson Plan**

**Instructor Notes**



**30 Minutes**



**Display II-5**

**E. Recording Results of the Romberg Balance Test.**

1. The major items that need to be recorded for the Romberg test are:
  - o the amount that the suspect sways
  - o the actual amount of time that the suspect keeps the eyes closed
2. To record swaying, the officer must estimate how many inches the suspect sways, either front to back or left to right, or both.
3. To record the suspect's time estimate, simply write the number of seconds that the suspect kept his or her eyes closed.

**F. Hand's On Practice.**

Example: if the suspect sways approximately two inches toward the left and approximately two inches toward the right, the officer should make note of that fact.

Solicit participant's questions.

Assign participants to work in pairs.

Instruct teammates to practice administering the Romberg Balance test to each other.

Monitor the practice and offer coaching and constructive criticism, as appropriate.



**20 Minutes**

## OBSERVATIONS

### SUSPECT'S BREATH

- Odor of alcohol
- Chemical odor
- Cannabis odor

### OBSERVATION OF FACE

- Normal
- Flushed
- Pale
- Other (describe)

### GENERAL APPEARANCE

- Clean
- Orderly
- Disarranged
- Bloody
- Vomit
- Urine

### EYES

- Normal
- Watery
- Bloodshot
- Pink/Red

### ATTITUDE

- Anxious
- Restless
- Agitated
- Excited
- Combative
- Disinterested
- Uninhibited
- Disoriented
- Drowsy
- Confused
- Hallucinating
- Loss of Memory
- Cyclic mood swings
- Polite
- Antagonistic
- Stuporous
- Cooperative/indifferent
- Laughing
- Insulting
- Argumentative
- Fumbling

### SPEECH

- Talkative
- Thick, slurred
- Incoherent
- Rapid
- Slow
- Non-communicative
- Repetitive

### PHYSICAL ACTIONS

- Facial itching
- Dry mouth
- Nodding
- Droopy eyelids
- Low, raspy voice
- Body tremors
- Muscle tone - rigid
- Muscle tone - flaccid
- Muscle tone - normal
- Grinding of teeth

### OTHER

- Nasal redness
- Runny nose
- Track marks
- Perspiring
- Warm to touch
- Intense headaches
- Residue of paint on person
- Debris
- Pills
- Vials
- Syringes
- Drug paraphernalia



1 Hour

SESSION III

EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE

SESSION III: EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE

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

- o Overview the major eye indicators of impairment

CONTENT SEGMENTS

LEARNING ACTIVITIES

A. Detecting Signs of Drug Influence

- o Instructor-Led Presentation



**60 Minutes**



**Display  
III-1**

## EYE EXAMINATIONS: DETECTING SIGNS OF DRUG INFLUENCE

### A. Detecting Signs of Drug Influence

1. The eyes disclose some of the clearest signs of drug influence or medical impairment.
  - a. Horizontal Gaze Nystagmus is an indication of possible alcohol influence.
  - b. There are a number of drugs, other than alcohol, that will enhance horizontal gaze nystagmus.
  - c. There are a number of other drugs that will not cause horizontal gaze nystagmus.
  - d. There are other clues that the eyes will disclose, all of which will suggest the presence or absence of drugs or medical impairment.
2. Overview of eye examinations
  - a. The eye examinations that you can conduct to assess possible drug or medical impairment include:
    - o tracking ability
    - o pupil size
    - o horizontal gaze nystagmus
    - o vertical nystagmus

Ask participants: What is one of the most reliable signs of alcohol influence that can be observed in the eyes?

Select a student to serve as a demonstration subject.

Position a stimulus in front of a student's eyes, and check for lack of smooth pursuit across both of the student's eyes.

**Aids**

**Lesson Plan**

**Instructor Notes**

- b. Watery and or redness of the eyes.
  
- c. Tracking ability will be affected by certain categories of drugs, and also by certain medical conditions or injuries involving the brain:
  - o If the two eyes do not track together, the possibility of a serious medical condition or injury is present. It may also be an old injury and not a medical emergency at the time.
  
  - o By passing a stimulus across both eyes, you can check to see if both eyes are tracking equally.
  
  - o If they don't (i.e.,if one eye tracks the stimulus, but the other fails to move, or lags behind the stimulus) there is the possibility of a neurological disorder.
  
  - o If a person has sight in both eyes, but the eye fails to track together, there is a possibility that the person is suffering from an injury or illness affecting the brain.

Explanation: This will be further explained in the individual drug categories.

Point out that this can occur because the suspect is blind (or nearly blind) in one eye. This can be checked by having the suspect cover one eye, and instructing the suspect to reach out and touch the tip of the stimulus.

Point out that unequal tracking is a condition that should alert the officer that a medical examination of the suspect may be necessary.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
III-2**

- o If the eyes track equally, but jerk while they are moving, then the possible presence of three categories of drugs should be noted.
- o The following categories of drugs enhance horizontal gaze nystagmus:
  - Central Nervous System (CNS) Depressants
  - Dissociative Anesthetics
  - Inhalants
- o The following categories of drugs do not cause HGN:
  - CNS Stimulants
  - Hallucinogens
  - Narcotic Analgesics
  - Cannabis
- d. Pupil Size will be affected by several categories of drugs, and also by some medical conditions or injuries:
  - o If the two pupils are distinctly different in size, it is possible that the subject has a glass eye or is suffering from a head injury or a

Old head or eye injuries may cause different pupil size, however, this may not depict a medical emergency.

Point out that it is sufficient to look at a suspect's pupils and estimate whether they look noticeably small, about normal, or noticeably large.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
III-3**

neurological disorder.

- o If the pupils are noticeably dilated, then the possibility exists that the subject is under the influence of certain types of drugs.
- o Pupils may be considered dilated if the radius of the pupil is larger than half way to the outside of the iris.
- o Simply a small portion of the iris is visible.
  - CNS stimulants usually cause dilation.
  - Hallucinogens usually cause dilation.
  - Cannabis usually causes dilation.

Explain how to estimate dilation

Examples: cocaine, methamphetamine, amphetamine sulfate, etc.

Examples: LSD, peyote, psilocybin, MDMA, etc.

Examples: marijuana, hashish, hash oil

Examples: Heroin, codeine, demerol, etc.



**Display  
III-4**

- o If the pupils are noticeably constricted, then the possibility exists that the subject is under the influence of a narcotic analgesic.
- o Generally the pupil is considered constricted if the pupil appears very small and a large portion of the iris is visible.

Point out that the types of drugs that usually induce nystagmus usually don't affect



**Display  
III-5**

- o CNS Depressants, Dissociative Anesthetics, and

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
III-6**

Inhalants usually do not affect pupil size.

- 3. The test of horizontal gaze nystagmus for subjects suspected of drug impairment is identical to the HGN test for alcohol impaired subjects.
  - a. First clue - lack of smooth pursuit.
  - b. Second clue - distinct and sustained jerkiness at maximum deviation.
  - c. Third clue - onset of nystagmus prior to 45 degrees.
- 4. The angle of onset becomes of special interest when a subject is under the influence of a Dissociative Anesthetic.
  - a. Dissociative Anesthetics, and high levels (for that individual) of depressants and inhalants can exhibit immediate on-set, i.e., the jerking begins as soon as the eyes start to move toward the side.
  - b. Sometimes, Dissociative Anesthetic-impaired subjects will exhibit resting nystagmus, both eyes jerk while they are looking straight ahead.

pupil size.

Major Exception:  
Methaqualone and Soma, CNS Depressants, will cause pupils to dilate.

Ask participants: (What are the 3 clues of HGN)

Write resting nystagmus on dry-erase board or flip chart

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
III-7a & III-7b

5. The Vertical Nystagmus test is very simple to administer.

- a. Position the stimulus horizontally, approximately 12 -15 inches in front of the subject's nose.
  
- b. Instruct the subject to hold the head still, and follow the stimulus with the eyes only.
  
- c. Raise the stimulus until the subject's eyes are elevated as far as possible and hold in that position for approximately 4 seconds.
  
- d. Watch closely for evidence of jerking.

Point out that vertical nystagmus typically appears in higher levels (for that individual) from the same drug categories that induce HGN - Depressants, Dissociative Anesthetics, and Inhalants.

Point out that vertical nystagmus was not examined in the research that led to the validation of the standardized field sobriety test battery which includes, the horizontal gaze nystagmus, walk and turn and one leg stand tests.

Select a student or another instructor to serve as a subject and demonstrate the vertical nystagmus test.

35 Minutes

SESSION IV  
METHODS OF INGESTION AND INJECTION

SESSION IV: METHODS OF INGESTION AND INJECTION

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

- o Describe the common methods of ingesting drugs.

CONTENT SEGMENTS

LEARNING ACTIVITIES

- |                                       |                               |
|---------------------------------------|-------------------------------|
| A. Methods of Ingestion and Injection | o Instructor-Led Presentation |
|---------------------------------------|-------------------------------|



35 Minutes



Display  
IV-1

## METHODS OF INGESTION AND INJECTION

### A. Methods of Ingestion and Injection

1. Different drugs are taken into the body in different ways.
2. If the means of ingestion of a drug can be determined, that can be a significant clue as to the drug category involved.
3. The following are common means of ingestion:
  - a. Oral
    - o Some drugs such as certain depressants, stimulants and narcotic analgesics are taken in pill or capsule form.
    - o Other drugs, such as hallucinogens are eaten in their naturally occurring form.
  - b. Nasal
    - o Stimulant drugs such as cocaine and methamphetamine are snorted nasally.
    - o Heroin, a narcotic analgesic, is also occasionally snorted.

Selectively review each item as discussed.

Also known as insufflation.

- c. Smoking
  - o A common means of ingesting cannabis is by smoking.
  - o Stimulants such as crack cocaine and methamphetamine are also smoked.
  - o Narcotic Analgesics may be smoked.
- d. Inhaling
  - o The fumes of gasoline, paints, glue and other chemicals are typically inhaled.
- e. Injection
  - o Certain drugs are commonly injected by their users, via hypodermic needles.
  - o Heroin is probably most commonly associated with injection, but several other types of drugs such as cocaine and methamphetamine also are injected by many users.
  - o Discovering injection sites on a suspect provides additional evidence that he or she may be under the influence of specific types of drugs.

Ask participants: What drug is most often associated with injection via hypodermic needle?

**Aids**

**Lesson Plan**

**Instructor Notes**

4. The use of rubber gloves when examining any suspected drug abuser is strongly recommended.

Stress the importance of always wearing rubber gloves to reduce the likelihood of contracting infectious diseases such as, hepatitis or AIDS.



5 Minutes

SESSION V  
MUSCLE TONE

SESSION V:        MUSCLE TONE

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

- o        Describe how various drug categories affect muscle tone.

CONTENT SEGMENTS

- A.        Muscle Tone

LEARNING ACTIVITIES

- o        Instructor-Led Presentations



5 Minutes



Display V-1

## MUSCLE TONE

### A. Muscle Tone

#### 1. Effects Muscle Tone

- a. Certain categories of drugs can cause the users' muscles to become markedly rigid.
- b. Evidence of this muscle rigidity may come to light when the suspect attempts to perform the divided attention tests.

#### 2. Muscle Tone - Flaccid

- a. Certain categories of drugs can also cause the users' muscles to become very relaxed, loose, or flaccid.

Typically Dissociative Anesthetics, Stimulants, and Hallucinogens cause this effect.

Typically Narcotic Analgesics and Depressants cause this effect.



3 hours 30 minutes

SESSION VI

DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

## SESSION VI: DRUG CATEGORIES AND THEIR OBSERVABLE EFFECTS

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

- o Identify the indicators of impairment associated with each category.
- o Describe the expected results of roadside observations/indicators of impairment.
- o Describe the general indicators that may be present for each drug category.

### CONTENT SEGMENTS

- A. CNS Depressants
- B. CNS Stimulants
- C. Hallucinogens
- D. Dissociative Anesthetics
- E. Narcotic Analgesics
- F. Inhalants
- G. Cannabis
- H. Drug Combinations
- I. Medically Impaired Person

### LEARNING ACTIVITIES

- o Instructor-Led Presentations

**Aids**

**Lesson Plan**

**Instructor Notes**



**210 Minutes**



**30 Minutes**



**Display  
VI-1**

**DRUG CATEGORIES AND THEIR  
OBSERVABLE EFFECTS**

**A. CNS Depressants**

CNS Depressants slow down the operation of the Central Nervous System, (i.e., the brain, brain stem and spinal cord).

1. The most familiar CNS Depressant is alcohol.
2. Other CNS Depressants include:
  - a. Barbiturates (Derivatives of barbituric acids) (GHB - Gama-Hydroxy Butarate)
  - b. Anti anxiety tranquilizers (such as Valium, librium, and xanax)
  - c. Rohypnol
  - d. Many other drugs
3. In general, people under the influence of CNS Depressants look and act much like people under the influence of alcohol.

THIS SESSION IS ON A VERY COMPACT TIME SCHEDULE. THEREFORE, IT IS IMPERATIVE THAT YOU DO NOT EMBELLISH THE MATERIAL PROVIDED.

Point out that alcohol remains the most familiar drug. In 2002, 51 percent of persons aged 12 or older were current drinkers.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-2

- 4. Expected Results of Roadside Observations/Indicators of impairment.
  - a. Psychophysical
    - (1) Divided attention impairment.
    - (2) Poor coordination and balance.
    - (3) Slowed internal clock.
  - b. Eye Indicators of CNS Depressant Influence:
    - o HGN usually will be present.
    - o Vertical nystagmus will be present (with high doses for that individual).
    - o Pupil size usually will be normal.
    - o Eye lids may be droopy and eyes watery.
  - c. Methods of ingestion:
    - (1) Oral
    - (2) Injection



**Display**  
VI-3

Point out that most depressants are taken in pill or capsule form.

Barbiturates are sometimes injected.



**Display**  
VI-3A

- d. General indicators that may be present:
  - (1) Drowsy
  - (2) Thick, slurred speech
  - (3) Uncoordinated, fumbling
  - (4) Flaccid muscle tone
  - (5) Sluggish
  
- e. Other conditions that may cause similar symptoms:
  - (1) Extreme fatigue
  - (2) Head injury
  - (3) Hypotension
  - (4) Severe depression
  - (5) Diabetic reaction
  - (6) Inner ear disorders

Abnormally low blood pressure.  
Solicit students questions concerning indicators of CNS Depressant influence.



**30 Minutes**



**Display**  
VI-4

**B. CNS Stimulants**

CNS Stimulants speed up the operation of the central nervous system, and of the various bodily functions controlled by the Central Nervous System.

1. The two most widely abused CNS Stimulants are cocaine and amphetamines.
2. Cocaine is made from the leaves of the coca plant.
3. Amphetamines are synthetically produced (manufactured) drugs.
4. People under the influence of CNS Stimulants tend to be hyperactive, indicated by

Amphetamines also include the unlawful production of methamphetamine or crank.

**Display VI-5****Display VI-6**

nervousness, talkativeness, and inability to sit still. They also are usually unable to concentrate, or to think clearly for any length of time.

5. Expected Results of Roadside Observations/Indicators of Impairment:
  - a. Psychophysical:
    - (1) Divided attention impairment
    - (2) Starts test too soon
    - (3) Accelerated internal clock
    - (4) Completes test too quickly
    - (5) Rapid and jerky movements
  - b. Eye indicators of CNS Stimulants
    - (1) Neither horizontal or vertical nystagmus will be present
    - (2) Pupils usually noticeably dilated.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-7

c. Methods of ingestion:

- (1) Smoking
- (2) Snorting
- (3) Injecting
- (4) Orally

Cocaine and Methamphetamine can be smoked - "crack cocaine" or "ice".

Point out that all stimulants may be injected.

Typically amphetamines are taken in pill or capsule form.



**Display**  
VI-7A

d. General indicators of CNS Stimulant influence that may be present:

- (1) Restlessness
- (2) Anxiety
- (3) Euphoria
- (4) Talkative
- (5) Excitation
- (6) Grinding teeth (bruxism)
- (7) Body tremors
- (8) Runny nose (if snorting)
- (9) Redness to nasal area (If snorting)
- (10) Exaggerated reflexes
- (11) Loss of appetite

e. Other conditions that may cause symptoms similar to stimulant influence:

- (1) Hyperactivity
- (2) Nervousness
- (3) Stress
- (4) Fear
- (5) Hypertension

Solicit students questions concerning indicators of CNS Stimulant influence



**30 Minutes**



**Display  
VI-8**



**Display  
VI-9**



**Display  
VI-10**

**C. Hallucinogens**

Hallucinogens are drugs that cause hallucinations, i.e. they cause the user to perceive things differently from the way that they really are.

1. One common type of hallucination caused by these drugs is called synesthesia, which means a transposition of sensory modes:
  - a. Sounds, for example, may be transposed into sights.
  - b. Sights, for example, may be transposed into odors.
2. Some hallucinogenic drugs come from natural sources.
  - a. Peyote is a hallucinogen found in a particular specie of cactus.
  - b. Psilocybin is a hallucinogen found in a number of species of mushrooms.
3. Other hallucinogens are synthetically manufactured.
  - a. LSD (Lysergic Acid Diethylamide)

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

Example: The user may see a flash of color whenever the telephone rings.

Example: The user may smell a particular fragrance when he or she looks at something red.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-11

- b. MDMA ("X" or ecstasy)
- c. many others
- 4. Persons under the influence of hallucinogens are usually extremely impaired and may exhibit bizarre behavior.
- 5. Expected Results of Roadside Observations/Indicators of Impairment:
  - a. Psychophysical
    - Uncoordinated
    - Severe divided attention impairment
    - Poor perception of time and distance
    - Poor balance
    - Distorted internal clock
  - b. Eye Indicators of Hallucinogen influence:
    - (1) Neither Horizontal or Vertical Nystagmus will be present
    - (2) The pupils usually will be noticeably dilated.

Point out that the indicators of hallucinogenic influence are very similar to the indicators of CNS Stimulant influence.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-12



**Display**  
VI-12A



**30 Minutes**



**Display**  
VI-13

- c. Methods of Hallucinogen Ingestion
  - (1) Orally
  - (2) Smoked
  - (3) Transdermal Absorption
  - (4) Injected
  - (5) Snorted

- d. General Indicators of Hallucinogen Influence that may be present:

- (1) Dazed appearance
- (2) Body tremors
- (3) Perspiring
- (4) Paranoia
- (5) Disorientation
- (6) Nausea
- (7) Difficulty in speech
- (8) Piloerection (LSD)
- (9) Hallucinations

- e. Other Conditions that may cause symptoms similar to Hallucinogen influence:

- (1) Mental illness
- (2) High fever

**D. Dissociative Anesthetics**

- 1. PCP - The chemical name for PCP is PhenylCyclohexyl Piperidine.

Absorbed through the skin.

Explain that is a term to describe hair standing on end.

Solicit students questions concerning indicators of hallucinogen influence.

Write the chemical name on the dry-erase board or flip chart, underlining the first "P", the first "C" and the last "P".

Point out that "Phencyclidine" is a contraction, or shortened form of the chemical name.

**Aids**

**Lesson Plan**

**Instructor Notes**

2. Phencyclidine or PCP, is a drug that, along with its analogs, forms a distinct category.

Point out that an "analog" is a "chemical first cousin" of PCP. That is, an analog has a slightly different chemical structure from PCP, but produces the same effects as does PCP.

3. Dissociative Anesthetics share some characteristics with each of the three categories of drugs previously covered in this training.

a. It produces some effects that are similar to the effects of CNS Depressants.

Examples of effects  
Dissociative Anesthetics share with Depressants: nystagmus, slurred speech, slowed responses.

b. It produces some effects that are similar to those of CNS stimulants.

Examples of effects  
Dissociative Anesthetics share with Stimulants: elevated vital signs, frenzied behavior.

c. In some respects it acts like an hallucinogen.

4. Analogs and Examples of Dissociative Anesthetics

a. Ketamine - continues to be manufactured and sold legitimately.

b. Common names for PCP are: Dust, Animal Tranquilizer, Peace Pill, Sherms, Super Kools and Kools.

c. Another drug in this category is Dextromethorphan. It is sometimes referred to

“DXM” and is an ingredient found in numerous over-the-counter cough and cold remedies.

- (1) DXM is a synthetically produced substance that is chemically related to Codeine, although it is not an opiate.
- (2) When ingested in recommended dosage levels, DXM generally is a safe and highly effective cough suppressant; however, when ingested in large amounts, it produces negative physiological effects.
- (3) Street names for Dextromethorphan include: “DXM”, “robo tripping”, “Skittles”, “Triple C”, “Robo dosing”, “DM”, “robo”
- (4) DXM abusers normally ingest the drug orally, although some snort the pure powdered form of the drug.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-14

5. Expected Results of Roadside Observations/Indicators of Impairment

a. Psychophysical

(1) Divided Attention Impairment

(2) May take abnormally high and slow steps as though he or she were trying to step over obstacles.

(3) Slowed internal clock.

b. Eye Indicators of Dissociative Anesthetic Influence

(1) HGN will be present.

(2) Vertical nystagmus will be present.

(3) Pupil size usually will be normal.

(4) Suspect may have a blank stare.

c. Methods of ingestion

(1) Smoked

Commonly referred to as "moon walking".

Generally will have a very early angle of onset and very distinct jerking.

Point out: Commercial cigarettes can be dipped in liquid PCP, allowed to dry and then smoked. Dark cigarettes are used to hide the PCP stains.

The white paper cigarettes will be stained and usually wrapped in foil.



**Display**  
VI-15

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-15A

- (2) Inhaled or "snorted".
- (3) Orally, in capsule or tablet form.
- (4) Injected.
- (5) Transdermal absorption.

d. General Indicators of Dissociative Anesthetic influence that may be present:

- (1) Blank stare
- (2) Loss of memory
- (3) Perspiring
- (4) Warm to touch
- (5) Slow, slurred speech
- (6) Cyclic behavior
- (7) Easily agitated
- (8) Rigid muscle tone
- (9) Disorientation
- (10) Non-responsive
- (11) Chemical odor
- (12) Slow to respond to instructions

e. Other conditions that may cause similar symptoms.

- (1) mental disorder

Point out: Liquid PCP is especially dangerous because it can be absorbed through the skin. Extreme caution should be used when handling the suspect's possessions, because liquid PCP is frequently stored in eye dropper or perfume type bottles.

Suspect alternates between periods (or cycles) of intense agitation and relative calm.

Solicit student questions concerning indicators of Dissociative Anesthetic influence.



**30 Minutes**



**Display**  
VI-16



**Display**  
VI-17

### E. Narcotic Analgesic

Narcotic Analgesic relieves pain, but also induces euphoria, alters mood and produces sedation.

1. The most familiar Narcotic Analgesic is heroin.
2. Other Narcotic Analgesics include:
  - a. Opium
  - b. Morphine
  - c. Codeine
  - d. Dilaudid
  - e. Demerol
  - f. Methadone
  - g. Darvon
  - h. Oxycontin
3. In general, people under the influence of Narcotic Analgesic tend to be very slow, with deliberate movements, unable to concentrate and slow to respond.
4. Expected Results of Roadside Observations/Indicators of Impairment
  - a. Psychophysical
    - (1) Divided attention impairment.
    - (2) Poor coordination and balance.
    - (3) Slowed internal clock.

Used as a substitute for heroin addicts undergoing therapy and treatment.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-18



**Display**  
VI-18A

- b. Eye Indicators of Narcotic Analgesic Influence.
  - o HGN will not be present
  - o Vertical nystagmus will not be present.
  - o Pupil size will be constricted.
  - o Eyelids will be droopy.

- c. Methods of ingestion.
  - (1) Injected
  - (2) Smoked
  - (3) Snorted
  - (4) Orally
  - (5) Suppositories

- d. General Indicators of Narcotic Analgesic influence that may be present:
  - (1) "Track marks"
  - (2) "On the nod"
  - (3) Slowed reflexes
  - (4) Slow, low, raspy speech
  - (5) Facial itching
  - (6) Dry mouth
  - (7) Euphoria
  - (8) Pupils constricted
  - (9) Flaccid muscle tone

Suspect may appear to be asleep, but he or she may hear everything that is said. This condition is commonly referred to as "on the nod".

Solicit student questions concerning indicators of Narcotic Analgesic influence.



**20 Minutes**



**Display**  
VI-19



**Display**  
VI-20

#### F. Inhalants

1. Inhalants are breathable chemicals that produce mind-altering results.
  - a. Inhalants vary widely in terms of the chemicals involved and the specific affects produced.
  - b. Depending on the nature of the particular inhalant, the effects produced may be similar to those of stimulants, depressants or hallucinogens.
2. Inhalants category contains substances such as:
  - a. gasoline
  - b. glues (Toluene)
  - c. paint
  - d. hair spray
  - e. anesthetic gases
3. In general, people under the influence of an Inhalant exhibits effects that are similar to alcohol intoxication.
4. Expected Results of Observations/Indicators of Impairment
  - a. Psychophysical
    - (1) Divided attention impairment
    - (2) Poor coordination and balance



**Display  
VI-21**



**Display  
VI-21a**

- b. Eye indicators of Inhalant Influence
  - o HGN will generally be present
  - o Vertical Nystagmus may be present (with high doses for that individual)
  - o Pupil size may be normal or dilated depending on the inhalant used.

c. Methods of Ingestion

- (1) Inhaling by breathing fumes
- (2) Some are ingested directly from source
- (3) Some inhalants are soaked into rags, handkerchiefs, twist lock beverage containers, plastic bags or balloons.

- d. General Indicators of Inhalant influence may be present:

The effects of inhalants vary somewhat from one substance to another and are fast acting.

**Aids**

**Lesson Plan**

**Instructor Notes**

- (1) Odor of inhaled substance
- (2) Dizziness and numbness
- (3) Possible traces of substance around face and nose
- (4) Bloodshot, watery eyes
- (5) Distorted perceptions of time and space
- (6) Confused, disoriented appearance
- (7) Light headedness
- (8) Flushed face, possibly sweating
- (9) Intense headaches
- (10) Slow, thick, slurred speech
- (11) Nausea
- (12) Non-communicative
- (13) Floating sensations

Solicit student questions concerning indicators of inhalant influence.



**30 Minutes**

- G. Cannabis
  - 1. The primary psychoactive ingredient in Cannabis is Delta-9 Tetrahydrocannabinol.
    - a. THC is found principally in the leaves and flowers of the plant, rather than in the

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-22



**Display**  
VI-23

stem or branches.

- b. Different varieties of Cannabis have different concentrations of THC.

2. The types of Cannabis are:

- a. Marijuana

- b. Hashish

- c. Hashish oil

- d. Marinol

3. In general people under the influence of Cannabis have a difficult time paying attention.

4. Expected Roadside Observations Indicators of Impairment

- a. Psychophysical

- (1) Divided attention impairment

- (2) Poor coordination and balance

- (3) Problems with divided attention tasks, i.e., getting registration, license.

- (4) Slowed internal clock

- dried leaves of plant
- concentrated version of marijuana
- liquid extraction from hashish
- synthetic form of THC

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display  
VI-24**



**Display  
VI-24A**

- b. Eye indicators of Cannabis
  - o HGN will not be present
  - o Vertical nystagmus will not be present
  - o Pupil size will be dilated or normal
- c. Methods of Ingestion
  - (1) Smoking
  - (2) Orally - baked and eaten in food.
- d. General indicators of Cannabis influence that may be present:
  - (1) Odor of marijuana
  - (2) Impaired perception of time and distance
  - (3) White (conjunctiva) of the eyes are markedly reddish
  - (4) Eyelid and body tremors
  - (5) Disorientation
  - (6) Impairs attention
  - (7) Diminished inhibitions

Solicit students questions concerning indicators of Cannabis influence.



10 Minutes



Display  
VI-25



Display  
VI-25A

## H. Drug Combinations

### 1. The Prevalence of Polydrug Use.

- a. Polydrug use means ingesting drugs from two or more drug categories.
- b. It is actually more common to encounter polydrug users than single drug users.

(1) In the Los Angeles Field Study (1985), 72% of the suspects had two or more drugs in them.

(2) In that study alcohol was often found in combination with one or more other drugs.

(3) But even if we discount alcohol, nearly half (45%) of the Field Study suspects had two or more other drugs in them.

(4) During certification training in New York City, in early 1989, two-thirds (67%) of the suspects evaluated had two or more drugs other than alcohol in their urine.

Point out that 81 of the 173 suspects (47%) in the Los Angeles Field Study had alcohol in combination with one or more other drugs.

**Aids**

**Lesson Plan**

**Instructor Notes**



**Display**  
VI-26

- c. Common combinations of drugs.
  - (1) Cocaine and cannabis
  - (2) Cocaine and heroin
  - (3) PCP and cannabis
  
- d. Many of the suspects you will see will be exhibiting the effects of two or more drugs acting together.
  
- e. When two or more drug categories are taken together, they tend to produce a combination of effects: null, overlapping, additive and antagonistic.
  - (1) Null effect: the drugs have the same effect on the suspects body, e.g. pupil size.
  - (2) Overlapping effect: one drug affects the function but the other does not.
  - (3) Additive effect: action plus the same action reinforces the action.
  - (4) Antagonistic effect: action versus the opposite action, can't predict the outcome.

2. Scenario Exercises

- a. Scenarios

Referred to as a "speedball".

Point out that virtually any possible drug combinations will be found.

Solicit students' comments and questions about the prevalence of polydrug use.

Assign the students to work in three-member teams.

Direct the students' attention to the 8 scenarios in their student manuals. Instruct the students that they have 10

**Aids**

**Lesson Plan**

**Instructor Notes**

	<p>b. Discussion of Scenarios</p> <p>3. Cumulative Drug Matrix</p> <p>a. The Matrix outlines the expected results of the roadside examination of the suspect.</p> <p>I. Medically Impaired Person</p> <p>1. Most agencies have policies and procedures to deal with the medically impaired person.</p>	<p>minutes to read the scenarios and determine the category or categories that is applicable for each one.</p> <p>Critique and correct the students' analysis of the categories, as appropriate.</p> <p>The Matrix summarizes what we usually see but doesn't guarantee we will always see exactly that.</p> <p>Segment I: Minutes</p> <p>Encourage students to review their agencies policies and procedures.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

INDICATORS CONSISTENT WITH DRUG CATEGORIES							
	DEPRESSANT	STIMULANTS	HALLUCINOGEN	DISSOCIATIVE ANESTHETICS	NARCOTIC	INHALANT	CANNABIS
HGN	PRESENT	NONE	NONE	PRESENT	NONE	PRESENT	NONE
VERTICAL NYSTAGMUS	PRESENT (HIGH DOSE)*	NONE	NONE	PRESENT	NONE	PRESENT (HIGH DOSE)*	NONE
PUPIL SIZE	NORMAL(1)	DILATED	DILATED	NORMAL	CONSTRUCTED	NORMAL(2)	DILATED(3)

\* high dose for that particular individual

**FOOTNOTE:**

These indicators are those most consistent with the category, keep in mind that there may be variations due to individual reaction, dose taken and drug interactions.

1. SOMA, Quaaludes usually dilate pupils.
2. Normal but may be dilated.
3. Pupil size possibly normal.

MAJOR INDICATORS	CNS DEPRESSANTS	CNS STIMULANTS	HALLUCINOGENS	DISSOCIATIVE ANESTHETICS	NARCOTIC ANALGESICS	INHALANTS	CANNABIS
GENERAL INDICATORS	<p>Uncoordinated Disoriented Sluggish Thick, slurred speech Drunk-like behavior Gait ataxia Drowsiness Droopy eyes Fumbling</p> <p><u>*NOTE:</u> With Methaqualone, pulse will be elevated and body tremors will be evident. Alcohol and Quaaludes elevate pulse. Soma and Quaaludes dilate pupils.</p>	<p>Restlessness Body tremors Excited Euphoric Talkative Exaggerated reflexes Anxiety Grinding teeth (bruxism) Redness to nasal area Runny nose Loss of appetite Insomnia Increased alertness Dry mouth Irritability</p>	<p>Dazed appearance Body tremors Synesthesia Hallucinations Paranoia Uncoordinated Nausea Disoriented Difficulty in speech Perspiring Poor perception of time &amp; distance Memory loss Disorientation Flashbacks</p> <p><u>NOTE:</u> With LSD, piloerection may be observed (goose bumps, hair standing on end)</p>	<p>Perspiring Warm to the touch Blank stare Very early angle of HGN onset Difficulty in speech Incomplete verbal responses Repetitive speech Increased pain threshold Cyclic behavior Confused agitated Hallucinations Possibly violent &amp; combative Chemical odor "Moon walking"</p>	<p>Droopy eyelids ("ptosis") "On the nod" Drowsiness Depressed reflexes Low, raspy, slow speech Dry mouth Facial itching Euphoria Fresh puncture marks Nausea Track marks</p> <p><u>NOTE:</u> Tolerant users exhibit relatively little psychomotor impairment.</p>	<p>Residue of substance around nose &amp; mouth Odor of substance Possible nausea Slurred speech Disorientation Confusion Bloodshot, watery eyes Lack of muscle control Flushed face Non-communicative Intense headaches</p> <p><u>**NOTE:</u> Anesthetic gases cause below normal blood pressure; volatile solvents and aerosols cause above normal blood pressure.</p>	<p>Marked reddening of conjunctiva Odor of marijuana Marijuana debris in mouth Body tremors Eyelid tremors Relaxed inhibitions Increased appetite Impaired perception of time &amp; distance Disorientation Possible paranoia</p>

## SCENARIO I

While checking an interstate rest area, you notice a vehicle parked, engine running, with the driver apparently sleeping. After awakening the driver, who claims she was not sleeping, you notice that her actions are very slow and lethargic. There is no odor of alcoholic beverage on this person's breath and she states she has not been drinking. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. You also observe that her pupils are extremely small and the eyelids are droopy. As the driver is performing the walk and turn and one leg stand tests, her movements are slow. Administration of the Romberg test disclosed that the subject has a slow internal clock.

## SCENARIO II

On a Saturday evening following a concert, you stop a vehicle for weaving down the street. During the initial conversation with the subject you notice that he is talking very rapidly, has extremely large pupils and is paranoid. The subject states that he was trying to avoid the large snails that were on the road. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are fast, then slow, then fast again; and was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a fast internal clock and goosebumps. After the Romberg test the subject stated that he was confused by the loud noise coming from the Police Officer's raincoat.

### SCENARIO III

It is August, you arrive on the scene of a serious traffic crash. You notice that the driver is wearing a long sleeve shirt and different smelling smoke escapes from the vehicle. He is not able to stay awake but is able to answer your questions. The sleeve of his shirt slides up and you notice red marks on his arms. He has no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and deliberate. Administration of the Romberg test disclosed that the subject has a slow internal clock. His eyes are reddish and pupils appear to normal.

## SCENARIO IV

On a Saturday evening following a concert, you stop a vehicle for speeding (70 in a 35). During the initial conversation with the subject you notice that she is talking very rapidly, has extremely large pupils and is anxious. There is no odor of an alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is no Horizontal Gaze Nystagmus and no Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, her movements are fast. Administration of the Romberg test discloses that the subject has a fast internal clock and muscle tremors.

## SCENARIO V

You receive a call to back-up a fellow officer who has stopped a vehicle and is now wrestling with the operator. Upon arrival, you observe that the subject is naked (the temperature is thirty degrees). He appears to be somewhat cooperative but non-communicative. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus with immediate onset and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand tests, his movements are slow and rigid. He was having difficulty dividing attention. Administration of the Romberg test discloses that the subject has a slow internal clock. His skin is warm to the touch.

## SCENARIO VI

You have responded to a one car property damage crash. In your initial conversation with the operator you observe him to be drowsy. There is no odor of alcoholic beverage on this person's breath. As you administer the standardized field sobriety tests, you observe that there is Horizontal Gaze Nystagmus and Vertical Nystagmus. As the driver is performing the walk and turn and one leg stand, his movements are slow and his muscle tone appears flaccid. Administration of the Romberg test discloses that the subject has a slow internal clock. The subject's pupils appeared normal in size.

## SCENARIO VII

You receive a call to assist a local officer and he explains that he stopped the vehicle for obvious driving impairment. The driver displayed numerous clues and indicators of impairment during the SFSTs. However, he did not demonstrate any clues in Horizontal Gaze Nystagmus or Vertical Nystagmus. Larger than normal pupils and noticeable fluttering eyelids during the Romberg were detected. His internal clock was slowed to 60 seconds. The whites of his eyes appear reddish. He seems totally unconcerned with the thought of possibly being arrested.

## SCENARIO VIII

You stop a vehicle for running a red light. As you observe the driver, he is slow to respond, perspiring, and is easily agitated. As the subject is performing the walk and turn and one leg stand, you observe that the subject is very rigid and is having a difficult time dividing attention. He has Horizontal Gaze Nystagmus and Vertical Nystagmus. His eyes are reddish and pupils are larger than normal. Administration of the Romberg test disclosed that the subject has a distorted internal clock.

## SCENARIO ANSWER KEY

Scenario I	Narcotic Analgesics
Scenario II	Hallucinogens
Scenario III	Narcotic Analgesics and Cannabis
Scenario IV	Stimulants
Scenario V	Dissociative Anesthetics
Scenario VI	Depressants
Scenario VII	Cannabis
Scenario VIII	Dissociative Anesthetics and Cannabis



45 Minutes

SESSION VII

WRITTEN EXAMINATION AND PROGRAM CONCLUSION

## SESSION VII WRITTEN EXAMINATION AND PROGRAM CONCLUSION

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

- o Complete a written examination with a passing grade.
- o Provide comments and suggestions to improve the course.

### CONTENT SEGMENTS

- A. Post Test and Critique
- B. Certificates and Dismissal

### LEARNING ACTIVITIES

- o Written Participant Exam

**Aids**

**Lesson Plan**

**Instructor Notes**



**45 Minutes**

**WRITTEN EXAMINATION AND PROGRAM CONCLUSION**



**35 Minutes**

**A. Post-Test and Critique**

1. Post-test

Note: This is a "Closed Book" test. Hand out copies of the post-test. Allow 15 minutes to complete the test.

2. Critique

Hand out copies of the Participant's Critique Form. Allow about 10 minutes to complete.

3. Review of Post-test

Go over the post-test questions. Limit this review to 10 minutes.



**10 Minutes**

**B. Dismissal**

1. Concluding remarks

a. Overall Goal

Remind participants of the enormous importance of DWI deterrence.

b. Job performance objectives

Express the expectation that the participants will strive always to obtain and clearly convey all the evidence that is present in their DWI/DWI Drug contacts.

**Aids**

**Lesson Plan**

**Instructor Notes**

c. Drug Evaluation and Classification (DEC) Program

Remind the participants that they are NOT DREs and if the subject shows signs of recent drug use, contact a DRE (if your State or area has a DRE program) as quickly as possible.

Thank participant's for their time and attention.

NOTE: IF "DRUGS THAT IMPAIR DRIVING" IS TAUGHT AS PART OF A BASIC SFST COURSE, SESSION VII COULD BE INCORPORATED INTO THE NORMAL SFST CONCLUSION BY SIMPLY ADDING THE KNOWLEDGE EXAMINATION.

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Course Location

Date

**DRUGS THAT IMPAIR DRIVING  
Participant's Critique**

A. Workshop Objectives

Please indicate whether you feel that you personally achieved the following course objectives.

	<u>Yes</u>	<u>No</u>	<u>Not Sure</u>
1. Define the term "drug" in the context of DWI Enforcement.	_____	_____	_____
2. Name the seven categories of drugs.	_____	_____	_____
3. Describe the observable signs generally associated with the seven drug categories.	_____	_____	_____
4. Improve your ability to recognize and interpret evidence of DWI/Drug violations.	_____	_____	_____
5. Enable you to administer and interpret validated psychophysical tests to DWI/Drug suspects.	_____	_____	_____
6. Describe medical conditions and other situations that can produce similar signs.	_____	_____	_____

B. Workshop Sessions and Quality of Instruction

Please rate how helpful each workshop session was for you personally. Also, please rate the quality of instruction (subject knowledge, instructional techniques and learning activities). Use a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

	<u>Session/Activity</u>	<u>Quality</u>
Legal Issues	_____	_____
Overview of Major Indicators of Impairment	_____	_____
Romberg Balance Test Procedures	_____	_____
Eye Examinations	_____	_____
Signs of Injection and Ingestion	_____	_____
Drug categories and their observable effects	_____	_____

C. Course Design

Please circle the appropriate word to indicate your agreement or disagreement with each of the following statements:

1. The program contains some information that is not needed and that should be deleted.

Agree                      Disagree                      Not Sure

2. There are some important topics missing from the programs that should be added.

Agree                      Disagree                      Not Sure

3. The program is too short.

Agree                      Disagree                      Not Sure

4. I feel this program has improved my own ability to enforce DWI/ Drug laws.

Agree                      Disagree                      Not Sure

5. The instructors did a good job.

Agree                      Disagree                      Not Sure

6. I am very glad I attended the program.

Agree                      Disagree                      Not Sure

7. The program is too long.

Agree                      Disagree                      Not Sure

8. The instructors should have been better prepared.

Agree                      Disagree                      Not Sure

9. I feel fully qualified to use the eye exam test now.

Agree                      Disagree                      Not Sure

10. I feel fully qualified to use the Romberg Balance test now.

Agree                      Disagree                      Not Sure

11. I already knew most of this information.

Agree

Disagree

Not Sure

12. This "Drug that Impair Driving" Session definitely will improve my ability to identify drug impaired drivers.

Agree

Disagree

Not Sure

13. This training will assist me in identifying and arresting the drug impaired driver.

Agree

Disagree

Not Sure

D. If you absolutely had to delete one session or topic from this course, what would it be?

---

E. If you could add one new topic or session to this course, what would it be?

---

F. Overall Course Rating

Please rate the overall quality of the seminar on a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

Overall course Rating: \_\_\_\_\_

G. Quality of Instruction

Please rate each instructor on a scale from 1 to 5 where: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor.

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Instructor

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Rating

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Instructor

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Rating

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Instructor

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Rating

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Instructor

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Rating



DRUGS THAT IMPAIR DRIVING  
Knowledge Examination

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Circle the letter(s) which correspond to the correct answer(s) for each of the following questions.

1. Which (if any) of the following are not names of the seven major categories of drugs?
  - A. CNS Stimulants
  - B. Inhalants
  - C. Hallucinogens
  - D. Cannabis
  - E. Anti-Anxiety Tranquilizers
  
2. Which of the following categories could induce vertical nystagmus?
  - A. Depressants
  - B. Phencyclidine
  - C. Stimulants
  - D. Narcotic Analgesic
  - E. Hallucinogens
  
3. Which of the following categories of drugs usually will cause the pupils of the eyes to constrict?
  - A. Narcotic Analgesics
  - B. Tranquilizers
  - C. CNS Inhibitors
  - D. Cannabis
  - E. Hallucinogens
  
4. The suspect is supposed to estimate \_\_\_\_\_ seconds during the Romberg Balance test?
  
5. Which of the following drug categories usually will cause the pupils of the eyes to dilate?
  - A. Hallucinogens
  - B. CNS Stimulants
  - C. Narcotic Analgesics
  - D. Phencyclidine
  - E. CNS Inhibitors
  
6. Which three categories of drugs usually induce horizontal gaze nystagmus?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Next to each drug in the left column, write the letter of the appropriate category in the right column. (Note: two or more of the drugs may belong to the same category; and some of the listed categories may not be appropriate for any of the listed drugs.)

- |     |                      |    |                     |
|-----|----------------------|----|---------------------|
| 7.  | ___ Methamphetamines | A. | CNS Stimulants      |
| 8.  | ___ Valium           | B. | CNS Depressants     |
| 9.  | ___ LSD              | C. | Phencyclidine       |
| 10. | ___ Demerol          | D. | Inhalants           |
| 11. | ___ Toluene          | E. | Narcotic Analgesics |
| 12. | ___ Hashish          | F. | Hallucinogens       |
| 13. | ___ PCP              | G. | Cannabis            |
14. The practice of ingesting drugs from two or more drug categories is called?
- A. Synergism
  - B. Drug loading
  - C. Speedballing
  - D. Riding the roller coaster
  - E. Polydrug use
15. True or False The normally white portion of the eyeball of a suspect under the influence of Cannabis, will be markedly reddish.
16. A person under the influence of a Hallucinogen may report that he or she "hears colors". This is an example of a phenomenon known as \_\_\_\_\_.
- A. Synesthesia
  - B. Synchronism
  - C. Synarthrosis
  - D. Synergism
  - E. Synecdoche
17. Name at least three common methods of ingesting drugs.
- \_\_\_\_\_
18. Which drug category or categories does not affect pupil size?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
19. Bruxism is most commonly associated with which drug category?
- \_\_\_\_\_
20. The phrase "on the nod" and droopy eyelids are most commonly associated with which drug category?
- \_\_\_\_\_

DRUGS THAT IMPAIR DRIVING

Knowledge Examination

ANSWER KEY

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Circle the letter(s) which correspond to the correct answer(s) for each of the following questions.

1. Which (if any) of the following are not names of the seven major categories of drugs?
  - A. CNS Stimulants
  - B. Inhalants
  - C. Hallucinogens
  - D. Cannabis
  - E. Anti-Anxiety Tranquilizers**
  
2. Which of the following categories could induce vertical nystagmus?
  - A. Depressants**
  - B. Dissociative Anesthetics**
  - C. Stimulants
  - D. Narcotic Analgesic
  - E. Hallucinogens
  
3. Which of the following categories of drugs usually will cause the pupils of the eyes to constrict?
  - A. Narcotic Analgesics**
  - B. Tranquilizers
  - C. CNS Inhibitors
  - D. Cannabis
  - E. Hallucinogens
  
4. The suspect is supposed to estimate 30 seconds during the Romberg Balance test?
  
5. Which of the following drug categories usually will cause the pupils of the eyes to dilate?
  - A. Hallucinogens**
  - B. CNS Stimulants**
  - C. Narcotic Analgesics
  - D. Phencyclidine
  - E. CNS Inhibitors
  
6. Which three categories of drugs usually induce horizontal gaze nystagmus?

CNS Depressants

Dissociative Anesthetics

Inhalants

Next to each drug in the left column, write the letter of the appropriate category in the right column. (Note: two or more of the drugs may belong to the same category; and some of the listed categories may not be appropriate for any of the listed drugs.)

- |     |                           |    |                     |
|-----|---------------------------|----|---------------------|
| 7.  | <u>A</u> Methamphetamines | A. | CNS Stimulants      |
| 8.  | <u>B</u> Valium           | B. | CNS Depressants     |
| 9.  | <u>F</u> LSD              | C. | Phencyclidine       |
| 10. | <u>E</u> Demerol          | D. | Inhalants           |
| 11. | <u>D</u> Toluene          | E. | Narcotic Analgesics |
| 12. | <u>B</u> Hashish          | F. | Hallucinogens       |
| 13. | <u>C</u> PCP              | G. | Cannabis            |

14. The practice of ingesting drugs from two or more drug categories is called?

- A. Synergism
- B. Drug loading
- C. Speedballing
- D. Riding the roller coaster
- E. Polydrug use**

15. **True** or **False** The normally white portion of the eyeball of a suspect under the influence of Cannabis, will be markedly reddish.

16. A person under the influence of a Hallucinogen may report that he or she "hears colors". This is an example of a phenomenon known as \_\_\_\_\_.

- A. Synesthesia**
- B. Synchronism
- C. Synarthrosis
- D. Synergism
- E. Synecdoche

17. Name at least three common methods of ingesting drugs.

Oral \_\_\_\_\_      Nasal (snorting) \_\_\_\_\_      Smoking \_\_\_\_\_  
Inhaling, Injecting

18. Which drug category or categories does not affect pupil size?

CNS Depressants \_\_\_\_\_

Dissociative Anesthetics \_\_\_\_\_

Inhalants \_\_\_\_\_

19. Bruxism is most commonly associated with which drug category? CNS Stimulants

20. The phrase "on the nod" and droopy eyelids are most commonly associated with which drug category?

Narcotic Analgesics \_\_\_\_\_

## APPENDIX I

### HORIZONTAL GAZE NYSTAGMUS (HGN)

This is the first of the three standardized field sobriety tests that you will administer to the suspect. Nystagmus is the involuntary jerking of the eyes. HGN is a very reliable field sobriety test by itself (77%). The test requires the suspect to follow a stimulus that is moved in front of the suspect's face.

#### Administrative Procedures

- o Have the suspect remove their glasses if they are wearing them.
- o Tell the suspect to put their feet together and place their hands at their sides.
- o Tell the suspect to keep their head still during the test.
- o Tell the suspect to look at the stimulus.
- o Tell the suspect to follow the movement of the stimulus with their eyes only.
- o Tell the suspect to continue looking at the stimulus until they are told that the test is over.
- o Position the stimulus approximately 12 to 15 inches from the nose in and slightly above eye level to commence the test.
- o Check for equal tracking of the eyes.
- o Check for equal pupil size and resting nystagmus.
- o Check the eyes for lack of smooth pursuit. Always starting with the suspect's left eye.
- o Check the eyes for distinct and sustained nystagmus at maximum deviation. Start with the left eye.
- o Check the eyes for the onset of nystagmus prior to 45 degrees. Start with the left eye.
- o Total the clues.
- o Check for Vertical Nystagmus.

## DOCUMENTING THE TEST

**Three** validated clues of impairment have been established for the Horizontal Gaze Nystagmus test.

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

A minimum of four clues are needed to determine if the suspect's B.A.C. level is above 0.10 percent.

## WALK AND TURN

This test should already be very familiar to you from your previous training. The test requires the suspect to stand in a heel-to-toe fashion with arms at the sides while a series of instructions are given. Then, the suspect must take nine heel-to-toe steps along a line, turn in a prescribed manner, and take another nine heel-to-toe steps along the line. All of this must be done while counting the steps out-loud and keeping the arms at the sides. The suspect should not stop walking until the test is completed.

### Administrative Procedures

- o Tell the suspect to place their left foot on the line.
- o Tell the suspect to place the right foot on the line, in front of the left foot, with the heel of the right foot against the toe of the left foot. **DEMONSTRATE** the heel-to-toe stance.
- o Tell the suspect to put their arms down against their sides, and to keep them there throughout the entire test.
- o Tell the suspect that they are to maintain this position while you give the instructions. **EMPHASIZE** that the suspect must not start walking until you say to "begin".
- o Ask the suspect if they understand.

**NOTE:** If at any time while you are giving the rest of the instructions the suspect should break away from the heel-to-toe stance, stop giving instructions until he or she resumes the stance.

- o Tell the suspect that, when you say to "begin", they must take nine heel-to-toe steps down the line, turn around, and take nine heel-to-toe steps up the line.

- o Tell the suspect that every time they take a step, the heel must be placed against the toe of the other foot. **DEMONSTRATE** several heel-to-toe steps.
- o Tell the suspect that, when the ninth step has been taken, they must leave the front foot on the line, and turn around using a series of small steps with the other foot. **DEMONSTRATE** a proper turn.
- o Remind the suspect that, after turning, they must take another nine heel-to-toe steps up the line.
- o Tell the suspect that they must watch their feet at all times, must count the steps out loud, and must keep the arms down at the sides.
- o Tell the suspect that, once they start walking, not to stop walking until the test has been completed.
- o Ask the suspect if they understand.
- o Tell the suspect to "begin".

**NOTE:** If the suspect fails to either look at their feet or count their steps out loud, remind the suspect to do so and note the occurrence on the evaluation form. These tasks are part of the validated clues and must be performed to properly evaluate divided attention.

### DOCUMENTING THE TEST

**Eight validated clues** of impairment have been identified for the Walk and Turn test. Two clues apply while the suspect is standing heel-to-toe and listening to the instructions:

- o Can not keep balance (i.e., suspect breaks away from the heel-to-toe stance)
- o Starts too soon (i.e., suspect starts walking before you say "begin")

At the top of the checklist portion of the Walk and Turn segment of the standardized note guide, you will record the number of times these two clues were observed while you were giving the instructions. For example, if the suspect breaks away from the heel-to-toe stance twice, put two check marks in the "Cannot keep balance" block.

The other **six** validated clues apply during the walking stage of the test. They are:

- o Stops walking
- o Misses heel-to-toe
- o Steps off the line

- o Raises the arms while walking
- o Takes the wrong number of steps
- o Turns improperly

In the checklist area, you will record the first five of those, separately for the first nine steps and the second nine steps. Below the checklist area, you will describe how the suspect turned. If he or she turned in the appropriate fashion, simply write "proper" in that space.

If the suspect "staggered to the left" or executed an "about face" turn, write that description in the space.

If the suspect was unable to begin or complete the test, explain why. Usually, this will be due either to a physical infirmity that precludes the test entirely (e.g., "suspect has an artificial left leg") or to your decision to stop the test (e.g., "suspect is in danger of being injured due to the lack of balance"). Whatever the case might be, some reason must be documented for a test that wasn't given or completed.

### ONE LEG STAND

This test requires the suspect to stand on one leg. The other leg is to be extended in front of the suspect in a stiff-leg manner, with the foot held approximately six inches above and parallel with the ground. The suspect is to stare at the elevated foot, and count out loud until told to stop, in this fashion: "one thousand and one, one thousand and two, one thousand and three, ...".

### Administrative Procedures

- o Tell the suspect to stand with the feet together and the arms down at the sides.
- o Tell the suspect to maintain that position while you give the instructions; emphasize that they should not try to perform the test until you say to "begin".
- o Ask the suspect if they understand.
- o Tell the suspect that, when you say to "begin", they must raise their leg in a stiff-leg manner, and hold the foot approximately six inches off the ground, with the toe pointed forward so that the foot is parallel with the ground.
- o **DEMONSTRATE** the proper one-legged stance.
- o Tell the suspect that they must keep the arms at the sides and must keep looking directly at the elevated foot, while counting in the following fashion: "one thousand and one, one thousand and two, one thousand and three", and so on until told to stop.

- o Ask the suspect if he or she understands.
- o Tell the suspect to "begin".

**NOTE:** It is important that this test last for thirty seconds. You must keep track of the time. If the suspect counts slowly, you will tell him or her to stop when thirty actual seconds have gone by, even if, for example, the suspect has only counted to "one thousand and twenty". Indicate/record the suspects actual internal clock time.

### DOCUMENTING THE TEST

**Four** validated clues of impairment have been identified for the One Leg Stand:

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

You will place check marks in or near the small boxes to indicate how many times you observed each of the clue.

You must pay attention to the suspects general appearance and behavior while he or she is performing this test. Take note of any body tremors or muscle tension that may be apparent. Listen for any unusual or "interesting" sounds or statements the suspect might make while the test is in progress. Make sure that any such information is documented on a SFST Field Note Sheet or in your narrative report.

### ROMBERG BALANCE

This test requires the suspect to stand with both feet together, the head tilted slighted back, the eyes closed and estimate the passage of thirty seconds. When the suspect believes that the thirty seconds have passed, he or she is to tilt the head forward, open the eyes and say "stop".

### Administrative Procedures

- o Tell the suspect to stand with the feet together and the arms down at the sides.
- o Tell the suspect to maintain that position while you give the instructions. Emphasize that they must not start the test until you say "begin".
- o Ask the suspect if they understand so far.
- o Tell the suspect that, when you tell them to, they must tilt their head back slightly and close their eyes. **DEMONSTRATE** how the head should be tilted back, but **DO NOT CLOSE YOUR EYES** while demonstrating.

- o Tell the suspect that when you say "start", they must keep their head tilted back with the eyes closed until they think that thirty seconds have gone by. DO NOT tell the suspect to "count to thirty seconds" or to use any other specific procedure to keep track of time. But on the other hand, DO NOT tell the suspect that they are not allowed to count to thirty seconds. SIMPLY SAY, "keep your head tilted back with your eyes closed until you think that thirty seconds have gone by".
- o Tell the suspect that, when they think the thirty seconds have gone by, they must bring the head forward, open the eyes, and say "stop".
- o Ask the suspect if they understand.
- o Glance at your watch and pick a convenient time to start the test.
- o Tell the suspect to tilt their head back and close their eyes.
- o Tell the suspect to begin.
- o Keep track of the time while the suspect performs the test.
- o When the suspect opens their eyes, ask them "how much time was that?"
- o If ninety seconds elapse before the suspect opens their eyes, stop the test.

Look and listen for the following:

- o suspect unable to stand still or steady with the feet together
- o body tremors
- o eyelid tremors
- o muscle tone (either more rigid or more flaccid than normal)
- o any statements or unusual sounds made by the suspect when performing the test

DOCUMENTING THE TEST

Record the estimated number of inches of sway exhibited by the suspect. You should estimate the approximate extent of swaying for both front to back and side to side.

To indicate impairment of the suspects' "internal clock", record the actual number of seconds the suspect stood with the eyes closed.

Document any of the above, or any other noteworthy observations and explain as necessary in the narrative section of your report.

## APPENDIX II

### SUGGESTED ADDITIONAL REFERENCES AND RESOURCES

ABC'S OF THE HUMAN BODY. The Reader's Digest Association, INC., Pleasantville, New York, 1987.

THE BRAIN. Richard Restak, M.D., Bantam Books, Toronto, 1984.

CHOCOLATE TO MORPHINE: UNDERSTANDING MIND-ACTIVE DRUGS. Andrew Weil, M.D. and Winifred Rosen, Houghton Mifflin Company, Boston, 1983.

COCAINE: THE MYSTIQUE AND THE REALITY. Joel L. Phillips and Ronald D. Wynne, Ph.D., Avon Books, New York, 1980.

COMPLETE GUIDE TO PRESCRIPTION & NON-PRESCRIPTION DRUGS. H. Winter Griffith, M.D. HP Books, Inc., Tucson, AZ, 1985.

COMPLETE GUIDE TO SYMPTOMS, ILLNESS & SURGERY. H. Winter Griffith, M.D. HP Books, Los Angeles, 1985.

DESIGNER DRUGS. M.M Kirsch. CompCare Publications, Minneapolis, 1986.

DRUGS AND LAW FOR THE STREET COP. Gary J. Miller, Miller Publications, Gilroy, CA 1986.

DRUGS AND SOCIETY. Weldon L. Witters PH.D & Peter J. Ventucelli Ph.D. Jones & Bartlett Publishers, Boston, 1988.

HEROIN USE: LEGAL AND MEDICAL ASPECTS. Paul R. Edholm, Jr., Richard P. Neidorf. Heroin Information Publications, Beverly Hills, CA, 1978.

LICIT AND ILLICIT DRUGS: THE CONSUMER UNION REPORT. Edward M. Brecher. Little, Brown, and company, Boston, 1972.

THE LITTLE BLACK PILL BOOK. Bantam Books, Toronto, 1985.

MARIJUANA ALERT. Peggy Mann. McGraw-Hill Paperbacks, 1985.

MEDICAL DICTIONARY FOR THE NON PROFESSIONAL. Charles F. Chapman. Barron's Educational Series, Woodbury, New York.

THE PHYSICIAN'S GUIDE TO PSYCHOACTIVE DRUGS. Richard Seymour, M.A. and David Smith, M.D. The Haworth Press, New York, 1987.

PLANTS OF THE GODS: ORIGINS OF HALLUCINOGENIC USE. Richard Evans Schultes & Albert Hogmann, Alfred van der Marck Editions, New York, 1979.

A PRIMER OF DRUG ACTION. Robert M. Julien. W.H. Freeman and Company, New York, 1985.

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PSYCHEDELICS ENCYCLOPEDIA Peter Stafford. J.P. Tarcher, Inc., Los Angeles, 1983.

PSYCHIATRIC DICTIONARY Leland E. Hinsie, M.D. & Robert J. Campbell, M.D. Oxford University Press, New York, 1970.

SIGNS AND SYMPTOMS HANDBOOK. Clinical Director Barbara McVan, R.N. Springhouse Corporation, Springhouse, PA 1986.

STEAL THIS URINE TEST: FIGHTING DRUG HYSTERIA IN AMERICA. Abbie Hoffman, Penguin Books, New York, 1987.

THE SUBSTANCE ABUSE PROBLEMS. VOLUMES ONE AND TWO. Sidney Cohen, M.D. The Haworth Press, New York, 1985.

USE AND ABUSE OF AMPHETAMINE AND ITS SUBSTITUTES. Research Issue 25. National Institute on Drug Abuse, Rockville, Maryland, 1980.

## SOURCES OF DRUG INFORMATION

1. National Institute of Drug Abuse  
5600 Fishers Lane  
Rockville, Maryland 20857

Ask for:       Research \*26-Guide to Drug Abuse Terminology  
                  Research \*27-Guide to Drug Use Research Literature

2. Vista Hill Foundation  
Drug Abuse/Alcoholism Newsletter  
3420 Camino del Rio North, Suite 100  
San Diego, California 92108

This is a newsletter which is published ten times a year and mailed about once a month. Topics deal with alcohol and drugs.

3. National Clearinghouse for Drug Abuse Info (NCDAI)  
P.O. Box 416  
Kensington, Maryland 20795

The above sources will furnish, free of charge information on drugs. Simply write to them requesting the information with a return address. Information will be mailed in about six to eight weeks.



## APPENDIX III

### OVERVIEW OF STANDARDIZED FIELD SOBRIETY TESTING RESEARCH AND DEVELOPMENT DWI DETECTION AND STANDARDIZED FIELD SOBRIETY TESTING

#### 1. First Phase: The Developmental Research

##### A. What were the research objectives?

- o To evaluate currently used physical coordination test to determine their relationship to intoxication and driving impairment.
- o To develop more sensitive tests that would provide more reliable evidence of impairment.
- o To standardize the tests and observation.

##### B. Who conducted the research?

Southern California Research Institute (SCRI)

The final report:

Burns, Marcelline and Moskowitz, Herbert Psychophysical Tests for DWI:  
June, 1977 NHTSA Report Number DOT HS-802 424 (available for National  
Technical Information Service, Springfield, Virginia 22161)

##### C. Who were the test subjects?

There were 238 volunteers, of whom 168 were males and 70 females. They were paid \$3.00 per hour, and they each participated in one testing session.

The volunteers were interviewed by SCRI staff, and on the basis of the interview they were classified as either light, moderate or heavy drinkers. They were randomly assigned to "target BAC" levels appropriate to their classifications. The following shows the distribution of BACs achieved by volunteers:

	<u>Light Drinkers</u>	<u>Moderate Drinkers</u>	<u>Heavy Drinkers</u>	<u>Totals</u>
No Alcohol (0.00%)	26	27	26	79
Approximately 0.05%	36	16	3	55
Approximately 0.075%	--	6	7	13
Approximately 0.10%	--	37	13	50
Approximately 0.15%	--	--	41	41

D. Who tested the subjects?

Ten police officers, representing four agencies in the vicinity of Los Angeles, did all of the testing. Each officer examined an average of 23-24 volunteers. While the officer was conducting the examinations, a member of the SCRI staff observed the examinations.

NOTE: Neither the volunteer, the officer, nor the observer knew the volunteer's BAC. Separate members of the SCRI staff handled the dosing and breath testing of volunteers.

E. What tests were administered?

Each volunteer was subjected to six tests:

- o One Leg Stand
- o Finger-to-Nose
- o Finger Count
- o Walk-and-turn
- o Tracing (a paper-and-pencil exercise)
- o Nystagmus (called "alcohol gaze nystagmus" in the final report)

Each officer was given one day's training in the administration and scoring of these tests prior to conducting the experiment. NOTE: Only two of the ten officers had any prior experience with nystagmus.

F. In general, how were the tests "scored"?

Each of the six tests were "scored" on a scale from 0 to 10; for the nystagmus test, each eye was "scored" independently, so that a subject's total nystagmus "score" could range from 0 to 20.

The higher the "score," the more impaired the subject appeared to be.

Whenever a volunteer was tested, the officer administering the test and the SCRI researcher observing the test independently scored the subject's performance.

G. What were the nystagmus administration and "scoring" procedures?

The volunteer was seated, with his or her chin in a chin rest, and faced a small light bulb mounted on a swing arm that could be moved to precise angles on either side.

The volunteer was instructed to cover the left eye and follow the movement of the light bulb with the right eye. The officer slowly moved the swing arm to the 30-degree mark, and left it there for several seconds, while observing the volunteer's eye for jerking. "Points" were scored as follows:

no jerking	0 point
minimal jerking	2 points
moderate jerking	3 points
distinct, easily observed jerking	5 points

Next, the officer slowly moved the swing arm to the 40-degree mark and left it there to observe the eye once again. The same scoring system was used. Then, the score for the right eye was determined by adding the scores at the 30-degree and 40-degree marks. For example, if the eye showed minimal jerking at 30- degrees (2 points) but moderate jerking at 40-degrees (3 points), the score for the eye would be 5 points.

Finally, the volunteer was instructed to uncover the left eye and cover the right eye, and the entire procedure was repeated to determine the left eye's "score." NOTE: The scores for the two eyes often were different, by a point or two.

H. What were the administration and "scoring" procedures for walk-and-turn?

The volunteer was told to stand facing the examiner (not in a heel-to-toe posture) and to "watch what I do so you will be able to do it the same way. I want you to put one foot here on the line, and then take exactly nine steps along the line, touching your heel to your toe each step."

(The examiner then demonstrated the heel-to-toe step.)

"Then, turn and take 9 steps back along the line, touching heel-toe. (NOTE: Apparently the examiner did not demonstrate the turn.) Do you understand? Come here to the line and begin."

The officer and observer independently "scored" the volunteer's performance, using the following scheme:

no problem	0 point
falls, won't attempt test, or discontinues test	10 points
slow or minor problem in performing test	1-1 points (examiner's judgment)

Or, the examiner could assign 1 or 2 points for each of the following cues (up to a maximum of 10 points, total, for the test):

- o loses balance while walking
- o loses balance while turning
- o cannot stay on line
- o extreme use of arms and/or body to maintain balance
- o does not touch heel-toe
- o incorrect number of steps
- o stops to steady self
- o requires repeat of demonstration

I. What were the administration and "scoring" procedures for One-Leg-Stand?

The volunteer was told to "watch what I do but don't begin until I tell you. Stand with your feet together, arms at your side, and hold one leg straight forward, like this."

(At this point, the examiner demonstrated the one-legged stance, holding his or her foot 8-12 inches off the floor.

"Do you understand? Ready? Being. Don't put your foot down until I tell you to."

NOTE: The subject was not required to count aloud for 30 seconds. Instead, the examiner simply terminated the test after 30 seconds.

The officer and the observer independently "scored" the volunteer's performance, using the following scheme:

no problem	0 point
slightly unsteady	2 points
moderately unsteady	4 points
extremely unsteady	6 points

And, 1 point was added for each of the following, if observed:

- o required a repeat of the instructions
- o put the foot down
- o used arms for balance

If the volunteer fell, or made no attempt to perform the test, or discontinued the test, he or she was "scored" 10 points.

J. What did the researchers learn?

The researchers analyzed their data and found that, using the scores for all six tests, they could correctly classify a volunteer's BAC as being either above or below 0.10% about 83 percent of the time.

Further, the researchers found that this same level of reliability could be achieved just by considering the scores on nystagmus, walk and turn, and one leg stand. In other words, those three tests constituted an 83% reliable battery for distinguishing BACs of 0.10% or more from BACs below 0.10%. What about the 17% of volunteers whose BACs were misclassified? How did the researchers account for them?

First, half of the volunteers who were misclassified had BACs between 0.08% and 0.12%, a "borderline" range in which it can be very hard to distinguish among slight differences in impairment. Secondly, almost all of the remaining misclassified volunteers were either light drinkers with BACs of at least 0.05% (who may well have appeared and been very impaired at that level), or heavy drinkers with BACs below 0.15% (whose experience with alcohol may have helped them mask the signs of impairment).

K. What was the overall conclusion?

The three-test battery made up of nystagmus, walk and turn, and one leg stand clearly appeared to offer a very reliable field sobriety testing procedure. But these tests were not yet standardized in their final form. That standardization was achieved in the next phase of research.

2. The Second Phase: Initial Validation Research

A. What were the research objectives?

- o To complete the development and validation of the sobriety test battery.
- o To assess in the field the battery's feasibility, and its effectiveness for estimating BAC and facilitating identification of persons with BACs above 0.10%.

B. Who conducted the research?

Southern California Research Institute (SCR).

The final report:

Tharp, V., Burns, M. and Moskowitz, H. Development and Field Test of Psychophysical Tests for DWI Arrest, March 1981. NHTSA Report Number DOT HS-805 864 (available from NTIS, Springfield, Virginia 22161).

C. Who were the test subjects?

During the first (laboratory) portion of this research effort, the test subjects were 296 volunteers, of whom 202 were males and 94 females. In the second (field) portion, the "subjects" were 3,128 drivers stopped by participating police officers (or traffic law violations and either routine causes. Of these, the officers at least initially suspected 396 might be under the influence of alcohol or other drugs; 215 ultimately were arrested for DWI.

The 296 laboratory subjects each participated in at least one testing session. And, 145 of them returned for a second session, for a total of 441 subject-days of testing. The following table shows the distribution of these subjects by drinker classification and "target BAC;" the numbers in parenthesis refer to the subjects who returned for a second session.

	<u>Light</u> <u>Drinkers</u>	<u>Moderate</u> <u>Drinkers</u>	<u>Heavy</u> <u>Drinkers</u>	<u>Totals</u>
No Alcohol (0.00%)	30(18)	32(16)	35(16)	97(50)
Approximately 0.05%	33(15)	33(16)	36(17)	102(48)
Approximately 0.11%	--	30(15)	34(14)	64(20)
Approximately 0.15%	--	--	33(18)	33(18)

D. Who tested the subjects?

For the laboratory portion of the study, ten police officers from three agencies in the metropolitan Los Angeles area did the testing. Each officer examined an average of 44 subjects (including returnees). While the officer conducted the examinations, a member of the SCRI staff observed. Neither the volunteer, the officer, nor the observer knew the volunteer's BAC.

For the field portion of the study, participating officers were drawn from four stations of the Los Angeles County Sheriff's Office. They included a group called the "experimentals" (who received training in the SFSTs), and a group of "controls" (who were not trained until the final stage of the study). Both groups were instructed to complete data forms for all of their traffic stops during the study period: in addition, SCRI researchers periodically rode with every officer to monitor their performance.

E. What tests were administered?

In both the laboratory and field portion of the study, participating officers (except the "controls") administered Horizontal Gaze Nystagmus, Walk and Turn, and One Leg Stand. Some of the officers had some prior experience with these tests, but all received one half day's training in test administration and scoring.

In addition to recording subjects' performance on the SFSTs, the officers attempted to estimate each subject's BAC.

F. How did the officers do in their estimation of subjects' BAC?

In both the laboratory and field portion of the study, the average absolute value in the difference between officers' estimates and subjects' actual BACs (as measured on a breath testing instrument) was 0.03%. The error in the officers' estimates appeared to be random, i.e., their estimates were high about half the time and low about half the time. It should be observed that a laboratory study provides a relatively "easy" context in which to estimate BACs. All participants know (or quickly learn that the research team will not expose the subjects to very elevated levels (e.g., 0.20% or more), and since the study design is based on fairly precise "target BACs" the subjects tend to "cluster" in the BACs they actually achieve. In other words, it would not be too difficult to make a fairly good educated guess of a subject's BAC if the officer has a reasonable amount of experience in DWI enforcement. Despite the favorable context, the officers' estimates were off by more than 0.03% about half the time.

In the study's field portion, the researchers concluded that most of the officers' estimates of subjects' BACs were invalid. Apparently, most of the participating officers filled out their data forms at the end of their shift, when they already knew the BACs of most arrestees.

G. What were the nystagmus administration and "scoring" procedures?

In the laboratory portion, two kinds of nystagmus measurements were made on each subject. First, the officer examined the subject to: estimate the angle of onset; check for lack of smooth pursuit; and, check for distinct jerking at maximum lateral deviation. These checks were performed in both eyes. Second, the subject was seated at the light bulb/swing arm device used in the previous study, and a measurement of the angle of onset was obtained for each eye. In their previous research, and in their review of studies conducted by other researchers, the SCRI staff found evidence that "a strong correlation exists between the BAC and the angle of onset..." They found that the mathematical expressions of the correlation are slightly different for the left and right eyes, but in either eye an angle of 41 degrees would correspond to a BAC of about 0.10%. They wanted to learn whether officers could estimate onset angles with reasonable precision, and whether the estimate can accurately distinguish subjects above 0.10% from those below that level.

The SCRI researchers did not report the actual data that would compare the officers' onset angle estimates with the swing arm device measurements of onset angle. Instead, they furnished a list of Pearson Product Moment Correlation Coefficients, for each officer and observer, that express how each officer's estimates "track" with the device measurements. A bit of explanation is needed in order to understand these coefficients.

In general terms, a correlation coefficient expresses the "closeness" of two sets of data. If a change in the value of one item is always associated with a systematic change in the value of the other item, then we can say that the two items are closely correlated. For example, in the summer months, there is probably a pretty close correlation between the highest daytime temperature and the number of people visiting beaches: the higher the temperature (i.e., the hotter it gets), the more people you'll find at beaches (trying to cool down). But if a change in one variable has nothing to do with changes in the other item, then we say that the two items are uncorrelated.

For example, the number of people visiting beaches in America on any given day probably has nothing to do with the number of loaves of bread sold in Russia on that same day. Some days, lots of bread will get sold in Russian, and lots of Americans will go swimming. But other days, just as many Russians will buy bread, but quite a different number of Americans will be at the beach. The two items just aren't related. Another common situation occurs when two items are related, but the relationship is not exact. For example, the number of runs a baseball team scores in a game in general probably is related to the number of hits the team makes in the game: in other words, the more hits you get, the more likely you are to score runs.

But this relationship is far from perfect: it is quite possible to get very few hits and still score lots of runs, if the other team makes lots of errors or gives up lots of walks. Runs and hits in a game probably are correlated, but the correlation may be weak.

The correlation coefficient gives an indication of the strength or weakness in the relationship between two items. The highest absolute value that the correlation coefficient can have is 1.00, and that occurs when the two items are perfectly correlated. That would mean that, if you know the value of one item you could exactly predict the value of the other item. The lowest absolute value of the correlation coefficient is 0. That occurs when the two items have absolutely nothing in common, i.e., when knowledge of the value of one is of no help at all in predicting the value of the other.

It is important to understand that two items could have a very high correlation without having equal values. Consider the comparison between an officer's onset angle estimations and the device-measured angles. If an officer consistently underestimated the device's angle by 10 degrees, we would not think that the officer was very accurate. That is, if the officer said "35" when the device indicated "45," and said "40" when it indicated "50," and so on, we would consider those to be bad estimates. But the correlation between the officer's estimates and the device's would be perfect, and the correlation coefficient would be 1.00, simply because the relationship between the two variables would be perfectly predictable.

In reporting only the correlation coefficients for the officers' estimates the SCRI researchers are not describing the officers' accuracy, but only are indicating whether there is some systematic relationship between the measured angles and each officer's estimates of them.

With all that preamble now accomplished, the correlation coefficients for the ten officers' angle estimates ranged from a low of 0.234 to a high of 0.719. Most of these correlations (at least) probably are statistically significant (although the report does not state that), but in practical terms the correlations would be considered weak to moderate. This can be quantified: when the correlation coefficient is squared (i.e., multiplied by itself), the resulting number expresses the percentage of variability in one item that can be related to variability in the other item. In loose terms, it tells us how useful one item is in predicting the value of the other. For example, suppose the correlation coefficient for two items were 0.500. The square of that would be 0.250. That would mean that 25 percent of the variability in one item could be related to the variability of the other, or that one item would be about 25 percent useful in predicting the other.

The best of the ten officers had a correlation coefficient for angle estimations of 0.719. The square of that is .517. That officer's estimates are about 50% useful in predicting the "true" onset angle. The worst estimating officer had a coefficient of 0.234, which means that his or her estimates are about 5% useful. The average correlation coefficient for the ten officers was 0.475, indicating an average utility of a bit less than 23 percent.

Of course, the ability of officers to estimate onset angle is only part of the story. We also have to consider how well the "true" onset angle can predict BAC. The SCRI researchers report two different correlation coefficients for onset versus BAC, one for the left eye (absolute value of 0.780) and one for the right (absolute value of 0.740). If the higher value is accepted, then the device-measured onset angle is about 60% useful in predicting BAC.

These are not encouraging words for anyone who would claim the ability to use horizontal gaze nystagmus to "predict" BAC. The so-called "true" onset angle is only about 60% useful in predicting BAC. The average officer's estimates are less than 25% useful in predicting onset angle, and even this says nothing about any systematic inaccuracy that may exist in the officer's estimates. At best, one can expect only a 25% chance of reaching something that has a 60% chance of being useful, or overall a 15% chance of getting to anything at all. Given this, it is not surprising that these officer's were off in their estimates of subjects' BACs by an average of 0.03%, despite the favorable estimation conditions of a controlled drinking experiment.

In both the laboratory and field portions of this study, officers were instructed to record the following nystagmus data, for each eye:

- o Whether onset occurred within 45 degrees, with at least 10% of the white of the eye showing;
- o The estimated angle of onset;
- o Whether the eye was unable to follow smoothly;
- o Whether the nystagmus at maximum deviation was absent minimal, moderate or heavy.

One "point" was "scored" for each eye if onset occurred within 45 degrees; if the eye was unable to follow smoothly; and if the nystagmus at maximum deviation was moderate or heavy.

#### H. What were the administration and "scoring" procedures for Walk and Turn?

Based on a review of previous research, the SCRI staff decided to modify the Walk and Turn test to incorporate a divided attention feature. Thus, the subject was instructed at the outset to "assume a heel-to-toe position on the line with your arms at your sides." The officer gave no further instructions until the subject assumed the proper stance. Then, the rest of the instructions were issued, in the same manner that they were given during the previous phase of research.

Walk and Turn "scoring" procedures also were modified, and they were slightly different for the laboratory versus field portions of this study. In the laboratory tests, officers and observers were told to "score" one "point" for each of the following behaviors.

- o cannot keep balance while listening to instructions
- o starts before instructions are finished
- o keeps balance but does not remember instructions
- o stops while walking to steady self
- o does not touch heel-to-toe while walking
- o loses balance while walking (i.e., steps off line)
- o uses arms for balance
- o loses balance while turning
- o incorrect number of steps

If the laboratory subject was "unable to do the test," the officers and observers were instructed to "score" ten points."

For the field portion of the study, the item marked above with an asterisk ("keeps balance but does not remember instruction") was dropped, and nine "points" were given for being unable to perform the test. Thus, by the time the field study began, administration and "scoring" procedures for Walk and Turn had evolved to essentially their present state.

#### I. What were the administration and "scoring" procedures for One Leg Stand?

SCRI researchers decided to add a divided attention feature to this test as well. The subject now was to be instructed to count aloud, "One thousand and one, one thousand and two....one thousand and thirty." Also, the instructions were modified to call for raising the foot about six inches off the ground, rather than the 8-12 inches specified during the previous research phase.

One Leg Stand "scoring" differed slightly from the laboratory to the field portions of this study. Laboratory subjects were assessed one "point" for each of the following behaviors:

- o Swaying while balancing
- o Uses arms to balance
- o Slightly unsteady
- o Quite unsteady
- o Starts before instructions are finished
- o Puts foot down.

If a laboratory subject was unable to do the test or discontinued the test, he or she was to be assessed seven "points."

By the beginning of the field study, SCRI researchers had dropped the two items marked with asterisks, and were assessing five "points" for being unable to perform. Thus, One Leg Stand had evolved very nearly to its present state. Subsequently, NHTSA staff recognized that the scoring factor "quite unsteady" was subjective; based on a re-analysis of the SCRI data, that factor was changed to "hops."

#### J. What did the researchers learn?

##### 1. The Laboratory Phase

Results of the laboratory study demonstrated that the battery of three tests could be used reliably to distinguish subjects with BACs of 0.10% or more from those with lower BACs. Collectively, the ten officers and two observers were correct in classifying subjects' BACs (above or below 0.10%) about 82% of the time. Subsequent to publication of the SCRI report, NHTSA re-analyzed the laboratory test data and found that the nystagmus test, by itself, could have produced 77% accurate classifications. Similarly, Walk and Turn was capable of 68% unaided accuracy, and One Leg Stand of 65%. NHTSA also found that it would be possible to combine the results of nystagmus and Walk and Turn in a "decision matrix," and achieve 80% accuracy.

##### 2. The Field Phase

SCRI reported a number of problems that plagued the field study, chief among which was a lack of consistency by participating officers in submitting data forms. SCRI concluded that the field test data would not support in-depth statistical analysis, but nevertheless disclosed some favorable trends:

- o after training on the test battery, officers tended to make more DWI arrests; and,

- o trained officers were more accurate in identifying suspects whose BACs are above 0.10%.

The overall conclusion of this study was that the test battery works well. But it remained necessary to conduct a rigorous field test.

### 3. The Third Phase: Large Scale Field Validation

#### a. What were the research objectives?

- o To develop standardized, practical and effective procedures for police officers to use in reaching arrest/no arrest decisions;
- o To secure data to determine if the tests will discriminate as well in the field as in the laboratory.

In support of the first of the objectives, the NHTSA research staff began by re-analyzing the SCRI data with a view toward systematizing the administrative and "scoring" procedures for the three tests. The intent was to ensure that the tests would be quick and easy to use; that they could each be used independently of one another, i.e., if the officer elected to use only one or two of the tests; and, that they would maximize the detection of drivers at BACs of 0.10% or more while minimizing the continued investigation of persons below that level.

#### b. Who conducted the research?

The National Highway Traffic Safety Administration (NHTSA)

The final report:

Anderson, T., Schweitz, R., and Snyder, M. Field Evaluation of a Behavioral Test Battery for DWI September 1983, NHTSA Report Number DOT HS-806 475 (available from NTIS, Springfield, Virginia 22161).

#### c. Who were the test subjects?

There were 1,506 drivers stopped for suspicion of DWI during a three-month period during late 1982/early 1983. Of these, approximately 80% were examined using all three tests.

d. Who tested the subjects?

Police officers representing four large agencies in the eastern portion of the country did the testing. All participating officers completed a one day training session prior to the beginning of the study. The training included practice in administering the tests to volunteer drinkers.

e. What tests were administered?

The officers used the three tests that make-up the Standardized Field Sobriety Testing battery. As previously noted, not all subjects were exposed to all three tests, primarily because circumstances of the stop location and/or the subject sometimes precluded use of one or two of the tests. But 89% of subjects were examined using the nystagmus test, 84% on Walk and Turn and 82% on One Leg Stand.

f. What were the test administrative and "scoring" procedures?

The procedures followed in using and interpreting the tests were essentially those spelled out in the current NHTSA training program DWI Detection and Standardized Field Sobriety Testing (1987 Update). The tests are "standardized" in the sense that:

- o they are always administered in the same way;
- o the officer administering the tests always looks for a specific set of clues on each test; and,
- o the officer always assesses a subject's performance relative to a specific criterion for each test.

g. What are the "standardized" elements of the Horizontal Gaze Nystagmus test?

(1) Standardized Administrative Procedures

- o Hold the stimulus approximately 12-15 inches in front of the subject's face.
- o Keep the tip of the stimulus slightly above the subject's eyes.
- o Always move the stimulus smoothly.
- o Always check for all three clues in both eyes.

NOTE: It does not matter whether you check for the three clues in one eye and then check the other eye, or check the first clue in both eyes, then the second clue in both eyes, etc. Either approach is acceptable as long as you always examine all clues in both eyes.

- o Check the clues in this sequence: lack of smooth pursuit; distinct jerking at maximum deviation; onset within 45 degrees.
- o Always check for each clue at least twice in each eye.

## (2) Standardized Clues

- o Lack of smooth pursuit.
- o Distinct jerking at maximum deviation.
- o Onset of jerking within 45 degrees.

No other "clues" are recognized by NHTSA as valid indicators of horizontal gaze nystagmus. In particular, NHTSA does not support the allegation that onset angle can reliably be used to estimate BAC, and considers any such estimation to be misuse of the horizontal gaze nystagmus test.

## (3) Standardized Criterion

The maximum number of clues of horizontal gaze nystagmus that a subject can exhibit is six. That would occur when all three clues are observed in both eyes. If a subject exhibits four or more clues that should be considered evidence that he or she is under the influence.

### h. What are the "standardized" elements of Walk and Turn?

#### (1) Standardized Administrative Procedures

- o Always begin by having the subject assume the heel-toe stance.
- o Verify that the subject understand that the stance is to be maintained while the instructions are given.
- o If the subject breaks away from the stance as the instructions are given, cease giving instructions until the stance is resumed.
- o Demonstrate several heel-toe steps.
- o Demonstrate the turn.

- o Tell the subject to keep the arms at the sides, to watch the feet, to count the steps aloud, and not to stop walking until the test is completed.
- o Ask the subject whether he or she understands; if not, re-explain whatever the subject does not understand.
- o Tell the subject to begin.
- o If the subject staggers or stops, allow him or her to resume from the point of interruption: do not require the subject to start over from the beginning.

## (2) Standardized Clues

- o Loses balance during the instructions (i.e., breaks away from the heel-toe stance).
- o Starts walking too soon.
- o Stops while walking.
- o Misses heel-to-toe while walking (i.e., misses by at least one-half inch).
- o Raises arms from side while walking (by six inches or more).
- o Steps off the line.
- o Turns improperly.
- o Takes the wrong number of steps.

These eight are the only validated clues of Walk and Turn. However, officers may see or hear other noteworthy evidence while the subject is performing this test, and officers should include any such observations in their reports.

Officers should note in their reports how many times each of the eight clues appears. However, for purposes of applying the standardized criterion (discussed below), a clue should be "counted" only once, even if it appears more than once.

If the subject cannot perform or complete the test, (it should be considered that he or she has exhibited nine clues. One situation that would warrant this is if the subject steps off the line three or more times.

### (3) Standardized Criterion

If a subject exhibits at least two clues on Walk and Turn, it should be considered evidence that he or she is under the influence.

#### i. What are the "standardized" elements of One-Leg Stand?

##### (1) Standardized Administration Procedures

- o Tell the subject to stand with heels together, and arms at sides.
- o Tell the subject not to start the test until you say to do so.
- o Ask the subject whether he or she understands.
- o Tell the subject he or she will have to stand on one foot, with the other foot about six inches off the ground.
- o Demonstrate the stance.
- o Tell the subject to count from 1 to 30, by thousands.
- o Demonstrate the count, for several seconds.
- o Ask the subject whether he or she understands: if not, re-explain whatever is not understood.
- o Tell the subject to begin.
- o If the subject stops or puts the foot down, allow him or her to resume at the point of interruption; do not require the count to begin again at "one thousand and one."

##### (2) Standardized Clues

- o Sways
- o Puts foot down
- o Hops
- o Raises arms from side (six inches or more)

These are the only four validated clues of One Leg Stand. However, officers may see or hear other noteworthy evidence while this test is being performed, and should include any such evidence in their reports.

If the subject cannot perform or complete the test, it should be considered that he or she has exhibited five clues. One event that would warrant this is if the subject puts the foot down three or more times.

### (3) Standardized Criterion

If the subject exhibits two or more clues on One Leg Stand, it should be considered evidence that he or she is under the influence. As with Walk and Turn, clues should be counted only once in applying this criterion.

#### j. What did the researchers learn?

The three standardized tests were found to be highly reliable in identifying subjects whose BACs were 0.10% or more. Considered individually, the nystagmus test was the most accurate of the three: among subjects who exhibited four or more clues, 82% had BACs of 0.10% or higher; but the other two tests were nearly as accurate (80% for Walk and Turn, 78% for One Leg Stand). When the nystagmus and Walk and Turn results were jointly interpreted using the decision table, they proved capable of correctly classifying 83% of subjects.

The importance of this large scale (field validation study deserves to be emphasized. It was the first significant assessment of the "workability" of the standardized tests under actual enforcement conditions, and it was the first time that completely objective clues and scoring criteria had been defined for the tests. The results of the study unmistakably validated the SFSTs.

But it is also necessary to emphasize one final and major point: this validation applies only when the tests are administered in the prescribed, standardized fashion; and only when the standardized clues are used to assess the subject's performance; and, only when the standardized criteria are employed to interpret that performance. If any of the standardized elements of the tests is changed, their validity will be threatened.



ISBN-13: 978-0-934213-66-0

